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USAID OFFICE OF FOOD FOR PEACE

HAITI

MARKET ANALYSIS

August 2010

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USAID Office of Food For Peace

Haiti

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.



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Preface

During the months of June and July 2010, the Bellmon Estimation Studies for Title II (BEST) team undertook a study of the current state of agricultural markets in Haiti to inform USAID food aid programming decisions.

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Acronyms and Notes

| | |
|-----------|--|
| BEST | Bellmon Estimation Studies for Title II |
| ACDI/VOCA | Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance |
| ACP | Africa, Caribbean, and Pacific |
| ACS | Association of Caribbean States |
| ADM | Archer Daniels Midland |
| AGD | Administration Générale des Douanes |
| AGEMAR | Agences Maritimes Réunies |
| BCC | Behavior Change Communication |
| BCMNV | Bean Common Mosaic Necrosis Virus |
| BCMV | Bean Common Mosaic Virus |
| BDM | Bureau de Monetization |
| BGYMV | Bean Golden Yellow Mosaic Virus |
| CaLP | Cash Learning Partnership |
| CARE | Cooperative for Assistance and Relief Everywhere |
| CARICOM | Caribbean Community |
| CARIFOCUM | Caribbean Forum of the ACP States |
| CASR | Chamber of Agriculture of San Raphael |
| CECI | Canadian Centre for International Studies and Cooperation |
| CF | Call Forward |
| CFW | Cash For Work |
| CIF | Cost, Insurance, Freight |
| CIMMYT | Centro Internacional de Mejoramiento de Maíz y Trigo (International Maize and Wheat Improvement Center) |
| CMSE | CARICOM Single Market and Economy |
| CNSA | Coordination Nationale de la Sécurité Alimentaire |
| COMTRADE | Commodity Trade Statistics Database |
| CROSE | La Coordination Régionale des Organisations de Sud-Est |
| CRS | Catholic Relief Services |
| CV | Coefficient of Variation |
| DAP | Development Activity Program |
| EFSA | Emergency Food Security Assessment |
| EMMA | Emergency Market and Mapping Analysis |
| EPA | Economic Partnership Agreement |
| EU | European Union |
| FANTA-2 | Food and Nutrition Technical Assistance Project |
| FAS | Foreign Agricultural Service |
| FCS | Food Consumption Scores |
| FFE | Food For Education |
| FFP | Food For Peace |
| FFW | Food For Work |
| FOB | Free or Freight on Board |
| FY | Financial Year |
| G11 | Group of Eleven |
| GDP | Gross Domestic Product |
| GFD | General Food Distributions |
| GNI | Gross National Income |
| GOH | Government of Haiti |
| HAVA | Haitian Association of Volunteer Agencies |
| HRWW | Hard Red Winter Wheat |
| HUHSA | Huileries Haitiennes S.A |
| HUNASA | Huilerie Nationale S.A |
| IDB | Inter-American Development Bank |
| IPP | Import Parity Price |
| IRC | International Rescue Committee |
| IRD | International Relief and Development |
| LMH | Les Moulins d'Haiti |
| LRP | Local and Regional Procurement |
| LZ | Livelihood Zone |
| MARNDR | Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural |
| MCHN | Maternal Child Health and Nutrition |
| MDTF | Multi-Donor Trust Fund |
| MT | Metric Ton = 2,204.62 pounds |
| MYAP* | Multi-Year Assistance Program* |
| NGO | Non-Governmental Organization |
| ODVA | Organisme de Développement de la Vallée de l'Artibonite |
| ORE | Organization for the Rehabilitation of the Environment |
| P4P | Purchase for Progress |
| PARPANASA | Projet d'Appui à la Relance de la Production Agricole Nationale et à l'Accroissement de la Sécurité Alimentaire (Oxfam-Québec) |
| PDNA | Post-Disaster Needs Assessment |
| PIA | Programme d'Intensification Agricole de la Vallée de l'Artibonite |
| PL 480 | Public Law 480 (PL-480 Title II) |
| PPP | Purchasing Power Parity |
| PRSP | Poverty Reduction Strategy Paper |

| | |
|----------|---|
| PVO | Private Voluntary Organizaiton |
| QPM | Quality Protein Maize |
| RACPABA | Rezo Asosyasyon Kooperativ pou Komes ak Pwodwi Agrikol Ba Latibonit |
| SF | School Feeding |
| SFB | Soy Fortified Bulgur |
| SME | Small and Medium Enterprise |
| SYAP | Single-Year Assistance Program |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| USAID | United States Agency for International Development |
| USDA-FAS | United States Department of Agriculture, Foreign Agricultural Service |
| USG | United States Governmnet |
| VAM | Vulnerability and Mapping Analysis |
| WB | World Bank |
| WFP | World Food Programme |
| WV | World Vision |

**MYAPs are currently referred to as "Title II Non-Emergency Programs," and this title is reflected in the report's mention of ongoing and future programs of this type.*

Exchange Rate: On July 2, 2010, the exchange rate was USD 1 = 39.75 gourdes

Units of Measurement: Marmite =2.5 kg

Chapter 1. Executive Summary

DISCLAIMER

Fintrac's Market Analysis for Haiti was originally drafted and submitted to USAID in early August 2010. The draft report was based on field visits conducted throughout the country for three weeks in June and early July 2010, and further analysis, interviews and data collection through the months of July and August 2010. At the time of the field visit, markets were still recovering from the economic shock and population displacements resulting from the January 2010 earthquake. Many market disruptions resulting from the earthquake, and detailed in the report, may have improved since July 2010. It is highly probable that the overall structure, conduct and performance of Haitian food markets, however, remains largely the same as described in this report. Nonetheless, potential Awardees will need to collect and analyze updated data and information to inform future programming decisions.

1.1. Introduction

Over the past two years, a series of shocks have disrupted Haiti's economic landscape and increased the country's level of acute food insecurity. These shocks include: a rise in global food prices which led to violent protests and the dismissal of the Prime Minister, two tropical storms and two hurricanes in 2008 which led to destruction and loss of land, and, most recently, the earthquake which struck Haiti's capital and economic nerve-center on January 12, 2010, which killed an estimated 217,000, injured an estimated 300,000, and left some one million Haitians without basic services or shelter.¹ The destruction of both human capital and physical resources drastically disrupted market operations, and created uncertainty about private sector capacity to meet basic needs of food, water, and shelter.

During and before these shocks, the U.S. Government (USG) has been the largest donor of international food aid to Haiti for both emergency and non-emergency assistance.

1.2. Objectives of this Market Analysis

To promote the post-earthquake recovery of national and regional markets, USAID/Haiti wishes to ensure that: 1) USG-imported food aid will not create a substantial production disincentive for local farmers and entrepreneurs who grow and process products similar to donated food commodities, and 2) USG food aid does not cause a substantial disruption of private markets which are critical to the recovery of the Haitian economy and to ensuring food security.

To understand the potential influences (positive and negative) of food aid on domestic production incentives and local markets, USAID requested an independent, baseline market analysis reliant upon a Structure-Conduct-Performance (S-C-P) framework. The analysis has two major objectives. First, in order to provide essential information for policy formation, this

¹ <http://news.bbc.co.uk/2/hi/americas/8511997.stm>

report provides detailed descriptions of the commodities markets critical to food security in Haiti, including: 1) strategic markets, 2) market actors, 3) market integration, and 4) how the structure, conduct, and performance of each of these markets have changed since the January 12, 2010 earthquake. Part of this assessment is expected to focus on market resilience in order to determine how vulnerable markets are to distortion, due to, for example, an increase in the supply of food aid.

Second, the analysis is intended to provide actionable recommendations for USAID/Haiti food aid programming decisions. For commodities with a potential negative impact, the objective of this analysis is to provide recommendations as to how to mitigate or minimize the impact of targeted food aid on local markets. This analysis is intended to assist USAID in developing coherent strategies to balance the inherent tension between addressing needs in the short-term versus long-term. By their nature, strategies to address an acute food security crisis may undermine longer-term development goals which are critical to increasing overall food security and resilience to future shocks.

1.3. Study Challenges and Approach

A market analysis to inform food aid programming is warranted at this time on the basis of five factors which have, at least in part, all arisen as a result of the tragic earthquake on January 12, 2010. Most of these factors revolve around the issue of uncertainty. First, the earthquake surely impacted the market, but its full effects are still unclear. Second, the earthquake surely increased the number of food insecure households, but the size and geographic distribution of affected households are still unclear. Third, the earthquake surely resulted in an increase of humanitarian assistance and food aid, but the locations and numbers of these actors are not known, nor is the total volume of food aid distributed by these actors known. Fourth, the earthquake disrupted the Title II wheat monetization program by destroying the country's only mill (Les Moulins d'Haiti), and donors have switched to monetizing wheat flour, but the feasibility and appropriateness of continuing to support FY11 programming through in-country monetization is debated. All four of these factors depend heavily on perhaps the largest gap in the post-earthquake assessment of the potential impact of food aid on Haitian markets, which is a lack of data. Figures on production, trade, food aid volumes, populations, and geography are limited and/or unreliable, which greatly hinders a well-rounded study of the market. Finally, however, the massive devastation from the earthquake has motivated donors to "build back better" and, therefore, an assessment of current Local and Regional Procurement initiatives and the feasibility of implementing and/or scaling up responses is warranted.

For detailed descriptions of these factors, please see Chapter 2.

Given the data constraints, and the inherent challenges in assessing the impact of food aid on local markets and production incentives, the study team's approach was to combine the highest-quality quantitative and qualitative information available about demand and supply factors which are likely to influence the production and market responses to food aid. This study draws from three broad types of information: needs assessments, effectiveness of targeting, and analysis of the markets which are critical for food security, including analysis of available price data. This

study places the greatest emphasis on the commodities markets and marketplaces which are most likely to be impacted by both distributed and monetized food aid.

1.4. Agricultural Sector

The economy of Haiti is considered the least-developed of the western hemisphere. As of 2008, the agricultural sector accounts for approximately 25 percent of Haiti's GDP, a decline from 40 percent in the 1990s.

In order to understand the country's agricultural struggle today and the current sensitivities surrounding certain commodities, one must acknowledge two primary factors which contributed to Haiti's agricultural decline: the trade embargo imposed on Haiti in the early 1990s, and the trade liberalization which began in the mid-1990s under the Structural Adjustment Programme.

Until the first half of the 1980s, tariff and non-tariff barriers protected Haitian agriculture from foreign competition. Customs duties were relatively high to discourage imports. The embargo imposed on Haiti from 1992-1994 destroyed the Haitian agro-industrial base; not only was the export market cut off, but imports of raw materials -- including fertilizer -- were limited. Under the recommendations of the International Monetary Fund and the World Bank, important trade barriers were removed in 1995 as part of a Structural Adjustment Programme, making Haiti the most open economy in the region and tremendously increasing the country's imports of agricultural products. Trade liberalization removed protections for domestic commodities and encouraged an increase in imports, many of which directly or indirectly competed with domestic commodities.

Although the trade embargo was lifted the next year (1996), local production continued to struggle. This struggle continues today. While locally-produced agricultural commodities are abundant on markets immediately after harvest, domestic producers are unable to meet increasing demand from a growing population for relatively inexpensive cereals. This is especially true for rice, which has become an important staple in the local diet.

Agricultural production of all crops has stabilized or declined during the majority of 2000-2008, with the exception of roots and tubers. Currently, cereals account for the majority of production, but not in volumes large enough to export. Haiti does export some agricultural products -- mostly coffee, cacao, mangos, and essential oils -- which account for six percent of the nation's total exports. Harvests are largely dependent on rainfall, as irrigation systems are either nonexistent or, in some cases, were damaged by the January 2010 earthquake. The country has many small rice and maize mills, but only one wheat mill, which was destroyed in the earthquake.

Earthquake impact. As mentioned previously, one challenge to a post-earthquake assessment of Haiti is that the effects of the earthquake are varied and still unfolding. This is particularly true for the agricultural sector, which fluctuates according to a number of variables independent of geographic shocks (such as weather). Thus, the direct causes for losses in the agricultural sector are not perfectly clear, and the amount and extent of these losses throughout the country are not well known. Post-earthquake rapid assessment findings have indicated some effects of

the earthquake on agriculture, and roughly estimate that losses and damages to the agricultural sector total about US\$34,275,000.² The table below details these estimated earthquake-related agricultural losses.

Table 1. Estimated Loss in the Agricultural Sector Due to Earthquake

| Description | Amount (\$) | % |
|--------------------------------|-------------|--------|
| Irrigation infrastructure | 2,050,000 | 5.98% |
| Agricultural roads | 200,000 | 0.58% |
| Food processing infrastructure | 375,000 | 1.09% |
| Loss of crop production | 8,000,000 | 23.34% |
| MARNDR office buildings | 23,650,000 | 69.0% |
| Total | 34,275,000 | 100% |

Source: GOH

Apart from structural damage, it is important to note that the earthquake also resulted in a loss of population and livelihoods, and damaged the physical spaces for storage and sale of goods (roads, warehouses, bakeries, shops, etc). These factors heavily impact the agricultural market and market chains; market actors pull and push supply and demand, and logistical capacity (roads, warehouses) greatly affects market integration and flow of goods.

1.5. Commodity Markets

The Haitian diet is somewhat diversified, and a number of cereals are consumed alongside a significant amount of edible oil. Some of these foods are substitutable to a certain extent (such as maize and rice, or palm and soybean oil). The degree of substitution depends on relative prices, preferences, and consumer economic status.

Importantly, each commodity has a distinct marketing chain which greatly influences market performance. These chains were distinct before the earthquake, and have altered to varying degrees since January 2010. The imbalances of some commodity market structures are strong enough to where they impact almost every section of the agricultural sector and commodity market chain (and thus, impact almost every section of this report).

When buying, selling, or distributing a commodity in Haiti, one must be aware of the commodity market's structure, conduct (especially price-setting behavior), and performance, to avoid damaging a sound market structure or intensifying an existing market imbalance.

1.5.1. Markets by Commodity

Overview. Before examining individual markets, this summary will begin with a brief overview of all commodities.

Rice, beans, and maize are imported into Haiti as well as domestically produced. As shown in the table below, domestic production accounts for almost all of the country's maize supply and a

² GOH 2010

majority of the beans supply; rice supply, however, is mostly filled by imports. Sorghum is entirely produced in-country, and cooking oil and wheat are exclusively imported.

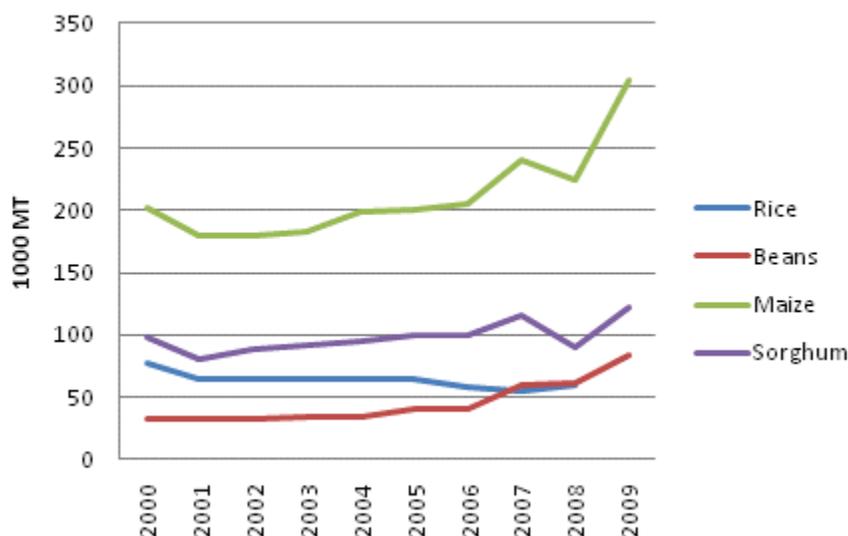
With few exceptions, locally-produced commodities are preferred by Haitians over imported. This is especially true in the case of local rice, fresh (green) maize, and red and black beans. This is not true in the particular case of maize meal, which is deemed more hygienic when produced to international food standards. However, given the significant price differential between imported and locally-produced commodities (with local varieties costing as much as double the price of imports at the retail level, depending on location and seasonality), households have to carefully balance their preference for locally-produced commodities with their binding budget constraints, particularly in response to exogenous shocks. This price differential has been exacerbated by the reduction of import tariffs in 1996, as well as increasing costs of local production.

Table 2. Five-Year Average of Local Production as a Percentage of Total Domestic Supply, 2004-2008

| Commodity | Annual Average Consumption (1000 MT) | Average Annual Production (1000 MT) | Average Annual Imports (1000 MT) | Average Domestic Production, as a Percentage of Total Supply |
|------------------|---|--|---|---|
| Rice | 393 | 61 | 308 | 12% |
| Beans | 66 | 47 | 19 | 70% |
| Maize | 233 | 214 | 20 | 92% |
| Sorghum | 100 | 100 | 0 | 100% |
| Wheat | 205 | 0 | 205 | 0% |
| Edible Oils | 115 | 0 | 115 | 0% |

Note: "Average Consumption" only reflects the sum of imports and production, and lacks food aid contributions.

Between 2000 and 2009, local rice production has been trending downwards, while sorghum, maize, and beans have been trending upwards, with particularly strong gains in maize and beans, as shown in the figure below.

Figure 1. National Production of Commodities, 2000-2009

While rice, beans, and maize are marketed as cash crops destined for large inflow markets, sorghum is a food security crop and traded primarily on local markets.

Rice. As stated earlier, the understanding of each commodity market chain is imperative to make wise market decisions. This is particularly true in the rice market chain. The Haitian rice market is profoundly distinct at different levels (import, wholesale, retail, etc), and thus transactions at any of these levels could intensify the existing imperfect market structure (especially for imported rice). The rice market is detailed in Chapter 5.

Rice is the most important crop in the food security debate in Haiti and plays a major role in influencing national and regional politics. Much of this sensitivity arises from the fact that the country was once nearly self-sufficient in rice production, but now relies heavily on imports to meet a growing demand. At a glance, this could suggest that imports have replaced (and thus discouraged) local rice production.

However, as supported by the figure above, local rice production has not drastically decreased since 2000.³ Thus, the country's surge of imports in recent years complements rather than replaces local production to meet Haitians' increasing demand. At the root of the rice debate is the fact that demand has escalated in the past three decades, and rice imports have risen to meet this demand whereas local production has not.

Of course, this begs the question of why demand for rice has skyrocketed since the mid 1980s. Here, the relationship between imported rice and increased demand is somewhat circular; demand has grown in part due to the fact that increasingly urbanized Haitian consumers seek increasing amounts of cheaper, imported rice that were not available before trade liberalization.

³ See Chapter 5 for a rice supply graph dating back to 1980, which shows the same trend as this graph- local production slightly declined or remained stagnant during these years, with increases in 1997 and 2000.

Today, the Haitien diet includes rice at almost every meal, whereas rice was consumed much less frequently before the presence of cheaper imported rice. The rice consumed regularly today is necessarily imported, as the majority of consumers cannot afford to maintain this diet with more expensive, local rice, despite strong preferences for local rice.

The import market accounts for most of the rice trade, and is highly concentrated at the import and wholesale levels. Six importers account for 70 percent of total imports, and sell to ten main wholesalers. The few actors at the import level hold a significant amount of market power, and can adjust prices irrespective of import supply.⁴ These top-level actors can take a transaction at the import level, and enhance or restrict its effect upon the retail level. This is somewhat true at the wholesale level as well. At the bottom of this market chain stand the retailers and consumers, who are involuntarily pulled and pushed according to decisions made at the top of the market chain.

The local rice market is much less concentrated than the imported rice market, with a large number of actors operating with limited investment capital. Two local markets contribute to total supply. These chains are in the Artibonite Valley and St. Raphael, Grison-Garde, Maribahoux, Torbeck, and account for roughly 20 percent of total supply.

Immediately after the earthquake, prices increased for both imported rice and locally-produced rice. The price increase immediately after the earthquake could be due to increased handling fees from port and warehouse damage, among other factors. Despite the large amount of rice distributed as food aid, and despite concerns about the impact of rice food aid on rice market prices, there seemed to be no major medium- to long-term negative effects on local rice prices, as of June and July 2010.

Beans. Local production accounts for the majority of total bean supply, rather than imports. As Chapter 5 details, the beans market is more competitive across all levels than other commodity markets in Haiti, and is challenged by issues such as seasonality and transport bottlenecks.

Beans are a highly-marketed cash crop in Haiti, with more than 80 percent of production sold on local markets immediately after harvest, and less than 20 percent of production utilized by producers as food or seed. Similar to rice, Haitians prefer local beans over imported beans, though local beans are more expensive.

Local beans production has increased significantly in recent years, and local production increasingly accounts for total marketed supply. This increase is in part due to favorable weather conditions, investments in irrigation systems and the distribution of subsidized seeds and fertilizers. However, these irrigation systems were severely damaged by the January 2010 earthquake. Combined with a poor climate conditions at the beginning and end of the planting season, the damage to irrigation systems negatively impacted bean harvests. Preliminary results of a joint FAO/WFP/MARNDR Crop and Food Security Assessment Mission (CFSAM) and field visits show a loss of 50 to 75 percent for the spring 2010 season, most of which is concentrated in the Southeast department.

⁴ See Chapter 5 for further explanation and a graph reflecting import prices in relation to volume and international prices.

The local bean market is diverse and driven by ~~Madam Saras~~.⁵ Merchants at all levels of the market -- wholesalers, Madam Saras, and retailers -- receive credit from various sources. After the earthquake, Madam Saras reported a slight decrease in demand for local beans, likely due to a shift in demand toward cheaper, imported beans.

Prices of local and imported beans vary according to geographic markets, suggesting that price changes in Port-au-Prince are not well transmitted to prices in provincial markets. Limited price transmission results mostly from transport difficulties, which increase the cost of marketing. For imported beans, transport difficulties disrupt flow from Port-au-Prince to rural markets; for local beans, transport difficulties disrupt flow from rural areas to Port-au-Prince. Price variations for local beans are also influenced by local or regional production.

After the earthquake, beans prices spiked (especially in certain markets most affected by the earthquake), Madam Saras lost sales, and credit to market actors contracted. Damage to storage facilities affected distribution. However, credit has since eased and prices have returned to pre-earthquake levels.

Maize. Maize is the second-most consumed cereal in Haiti, after rice. Similar to beans, local production of maize dominates total supply, and local production has been gradually increasing. Also similar to beans, the maize market is generally competitive across all levels, and suffers from logistical bottlenecks and seasonality. About 40 percent of maize production is marketed, and the rest is consumed at the farm household level.⁶ Imported maize accounts for a small percent of total supply (an average of eight percent from 2000-2009), and is mostly supplied by the Dominican Republic (DR) through formal and informal trade.

Although rice is preferred over maize, maize is regularly consumed, especially if rice prices are high, if rice is unavailable, or if household budgets are especially constrained. As stated earlier, local maize is preferred over imported maize, with the exception of maize in the form of maizemeal. Unlike beans and rice, local maize prices are lower than imported maize prices.

The local maize market is generally competitive, with many producers and Madam Saras conducting the majority of trade. Local maizemeal prices are not perfectly transmitted across regional markets.

After the earthquake, maize prices immediately rose, but on a smaller scale and for a shorter time period than other commodities. While post-earthquake prices of other cereals (rice and sorghum) increased by about 50 percent immediately following the earthquake, maize prices spiked by about 30 percent. Similar to other staple foods, purchase of local maize from donors after the earthquake likely contributed to the temporary increase in prices, although prices were likely driven downward when suppliers could not move their stock due to lack of consumer purchasing power. As of July 2010, local maize prices were near December 2009 levels.

⁵ Madam saras are female market intermediaries who purchase goods from producers or local markets for resell in other local markets across Haiti. Madam saras play a particularly important role in moving locally-produced commodities from surplus to deficit areas within the country.

⁶ Paul 2005

Wheat and Wheat Flour. Though not produced domestically, wheat and wheat-derived products such as flour and macaroni are ubiquitous throughout Haiti and have been part of the local diet for over 50 years. The grain is mainly consumed by low-income families, while some middle-income households occasionally eat small quantities of wheat grain to diversify their diet. Most of Haiti's wheat is imported from the US, though substantial amounts occasionally come from Argentina, Canada, France, and Pakistan.

The wheat and wheat flour markets are dominated by a small number of market actors at the import level. Currently, two large importers dominate the wheat flour market, controlling about 60 percent of imports. Prior to the earthquake, about 80 percent of the wheat available on the Haitian market was imported by LMH, who operates the sole mill in Haiti. After Les Moulins d'Haiti (LMH), the second-largest users of wheat are donor countries and organizations, such as Canada, European Union, USAID, and WFP, which provide wheat in their food aid rations. Prior to the earthquake, USAID also monetized a large quantity of wheat through the Bureau of Monetization that was used by LMH to produce wheat flour.⁷ About 37,000 MT of Hard Red Winter Wheat were monetized in 2009.⁸ For details on the distribution and monetization of wheat and wheat flour, please see Chapters 8 and 9.

A number of medium-level importers are also involved in wheat distribution in the country. The largest limiting factor for entry-level wheat and wheat flour importers is the 19 percent tax placed on wheat and wheat flour imports.

The few powerful wheat and wheat flour importers have enough market share and power to set wholesale prices to ensure generous profits above and beyond what would be expected in a competitive market. Thus, the few importers have the power to determine the impact of their transactions upon consumers and retailers.

Market actors' power at the top levels of the wheat market and wheat flour market is exemplified in the imperfect price transmission from the international market to the local market.^{9,10} That is, top-level market actors are able to purchase wheat or wheat flour at an international price, and then sell to consumers at a price non-reflective of the price they paid. Although some variability can be reasonably accounted for in retail price (e.g., the costs of transport), the starkly unparalleled rise and fall of international and local prices of wheat flour support the assumption that top-level actors hold a firm grip on the wheat and wheat flour markets. Thus, these markets' fragility is an important consideration when making market decisions.

In February-March 2010, wheat was included in the massive general distribution of foods to families affected by the earthquake. Since the earthquake and the destruction of LMH, Title II Non-Emergency Program Awardees have monetized wheat flour.

⁷ Shaw and Bailey, 2007

⁸ Interview with WVI June 2010

⁹ See Chapter 5 for a detailed description of this market structure.

¹⁰ Though local markets do not perfectly correspond with international prices, provincial market prices in Haiti seem to follow wholesale prices in Port-au-Prince.

Estimates for wheat flour demand vary, but total supply fell short of all estimates of demand in 2009. However, post-earthquake, demand for wheat flour has likely fallen as a result of loss of life and livelihoods and damage to storage facilities, stores, and bakeries.

The assumption that demand for wheat flour (and wheat) has decreased during the months following the earthquake may lead some to believe that imports could easily fill this reduced demand. However, imports alone may not satisfy national demand in the near future, precisely because of the physical and economic damages that constrain production. Nevertheless, lack of domestic production due to the destruction of Haiti's sole mill, LMH,¹¹ necessitates the importation of more wheat flour, which some importers see as an opportunity to increase their throughput in the medium-term. As noted previously, these importers hold considerable power over the market.

Oil. Haitians are one of the largest consumers of cooking oil per capita in the Caribbean and Central America.¹² All of the vegetable oil consumed in Haiti is imported, with the exception of an insignificant amount of coconut oil produced and consumed at the household level in the south and north of Haiti. Palm and soybean are the main oils consumed, with soybean oil slightly preferred over palm. Currently, demand for palm oil is greater than demand for soybean oil, though palm oil demand is falling.

Similar to wheat flour and rice, oil is imported by a small handful of actors with significant market power. Two large importers dominate the market of imported oil: Huilerie Nationale, S.A. (HUNASA) and Huilerie Hatiennes, S.A. (HUHSA). Both importers are mainly engaged in the importation of low-priced palm and soybean oil. These importers have skilled market coordination and well-organized distribution channels that target lower-income consumers. They offer credit to some wholesalers, depending on the wholesaler's history.

Similar to wheat and wheat flour, the international prices of oil are not clearly transmitted to domestic markets. The largely imperfect price transmission for imported oil in Haiti is in part due to duties and taxes, transport, storage, and labor; however, it could also be in part due to rent-seeking behavior.

Historically, food aid has accounted for very little of the country's total supply. In 2004/2005, MYAP Awardees and other donors monetized about 2,000 MT of sunflower oil.¹³ The results of this monetization are unknown but reported as "good."

The earthquake disrupted the commercial importation of oil for a period of two weeks, during which time the price of oil increased by as much as 20 percent. In later weeks, prices began to decline, largely due to the arrival of food aid which increased overall oil supply. Prices have continued to decline across all regions, though regional prices vary according to transport costs. Across the market, actors are hesitant to extend credit. The number of importers and first-level wholesalers has decreased, but the number of retailers who have become engaged in petty trade has increased.

¹¹ As of July 2010, the mill is expected to resume operations in 10 to 12 months.

¹² Bailey 2006

¹³ Bailey

Sorghum. Sorghum production accounts for most of total supply in Haiti, and has gradually increased over the past decade. Sorghum is typically produced by subsistence farmers, though three large farms produce substantial amounts for the market. Government policy is biased towards rice production at the expense of sorghum, and little data are available on sorghum production and trade.

Similar to other commodity markets that are dominated by local production rather than imports, the sorghum market is more competitive at all levels. Since no single merchant holds large quantities of sorghum, pure competition can best describe the market. Like maize and beans, the sorghum market price is largely affected by those factors limiting local production and distribution, such as weather, seasonality and transport costs. Thus, exogenous forces, rather than conscious decisions by powerful market actors, affect the market at all levels.

Sorghum prices vary across geographic markets, with lower prices near production areas. Local price changes appear to depend much more on local production, not regional or urban market prices. This suggests that Haiti's sorghum market is not well-integrated.

Although sorghum is nutritionally comparable to other grains such as maize, it is regarded as an inferior good in Haiti, and better-off urban populations are averse to the grain's texture and taste. Sorghum secures the food needs of a large majority of the population in certain areas, and its contribution to food security in Haiti is significant in terms of nutrition as well as livelihoods. With competition from products such as imported rice and maize, sorghum is infrequently consumed by middle-income, urban families. Nevertheless, sorghum is preferred over the broken rice coming from the Dominican Republic in some areas.¹⁴

Continued distribution of food aid may create a disincentive to the production and marketing of sorghum, especially in important production zones (Central Plateau, the southern region of Cayes). For example, a Food For Work program in Central Plateau (an important sorghum-producing area) includes farmers as beneficiaries. As noted in Chapter 8, effective targeting of food insecure households, and careful timing of FFW activities and ration distributions can avoid introducing production disincentives.

Since sorghum is distributed by the same actors who participate in other market chains (such as locally-produced rice, maize meal, and beans), the earthquake may have affected the sorghum market, though to a lesser extent than for the other commodities. The earthquake struck at the beginning of the main sorghum harvest season, and damage to roads and storage facilities constrained the distribution of the product, mostly in areas affected by the earthquake.

1.5.2. Market Chains- Import vs. Local

As noted above, market chains are distinct among commodities. Furthermore, within each commodity market, a distinction exists between the import market chain and the locally-produced market chain. For some commodities (such as rice, oil, or wheat flour), the distinct import and local market chains are particularly important, since imports account for the majority

¹⁴ Paul, 2005

of total supply and thus the import market chain has a strong overall impact on market performance and thus food security.

This distinction among import and local market chains becomes clearest at the import level where, for most imported staple commodities (such as rice, oil, and wheat flour), the highest gains are made by a few large importers. Importers then market to first-level wholesalers, and second-level wholesalers who usually trade in imports only; exceptions to this chain are the few Madam Saras who enter the second-level wholesale level and sell both imported and local commodities. Retailers sell a mix of imported and locally-produced commodities. On the other hand, local commodities originate with producers, and do not pass through as many market levels as imported commodities; importantly, local production does not pass through the highly concentrated import and wholesale levels that characterize the import market. Locally-produced commodities are collected by rural Madam Saras, who sell to urban Madam Saras for sale to retailers and consumers. As noted previously, however, locally-produced commodities are generally more expensive for consumers, despite the fact that the local commodity market chain holds fewer levels of actors seeking profits.

There is a greater degree of spatial market integration for imported commodities than for locally-produced commodities. Though they are more efficient in this sense, imported commodity markets exhibit a concentration of market power at the importer and first-level wholesaler level. In contrast, local commodity markets are more competitive, though highly dependent upon localized supply.

The earthquake increased the number of retailers and actors at the lower level of both the import and local markets. The country's unemployed sought income through petty trade and retail. At the top of the import market, the number of importers and first-level wholesalers remained steady or declined. For more information about market structure and market actors, please see Chapters 5 and 6.

The earthquake affected prices in all markets, though to varying degrees according to specific commodities and specific markets. Though the shock was surely responsible for some of the price increases seen in the January-July months, one must also consider normal seasonality trends and production levels as factors also affecting prices over time.

As stated earlier, the effects of the January 2010 earthquake have yet to completely unfold. Markets and market players have been impacted by a dramatic shock that may have profound long-term consequences for food security and local markets in Haiti. The short-term consequences were clearly negative for most, though certainly not all, market players. Market balance in the medium- to long-term will depend heavily on investments in the short- to medium-term reconstruction phases.

1.6. Food Aid

For many years, the U.S. Government has been the largest donor of international food aid to Haiti for both emergency and non-emergency assistance. Haiti has figured among the top ten recipient countries of US food aid administered through all USG food aid programs. Even

before the earthquake, Haiti was home to the highest number of NGO aid groups, per capita, in the world.¹⁵

In historical terms, food aid to Haiti, both globally and from the US specifically, has consisted predominantly of cereals. About half of global food aid to Haiti (317,000 MT, during 2003-2008), and two-thirds of US food aid to Haiti (318,000 MT, during 2004-2009), have been in the form of wheat grain. Over the past five years, Hard Red Winter Wheat (HRWW) comprised most of the food monetized by US NGOs, in volume terms. During the same period, bulgur wheat volumes were largest among the food aid distributed from the US (46,000 MT).

Rice has comprised the second-largest type of food aid to Haiti, in volume terms, both globally and from the US: 132,000 MT, during 2003-2008, among global food aid; and 24,000 MT, during 2004-2009, among US food aid.¹⁶

Following the aftermath of the January 2010 earthquake, even larger volumes of food aid have entered Haiti as compared to previous years. Since the earthquake, the US has provided US\$177.5 million in emergency food and resources, through WFP and current Title II Non-Emergency Program and SYAP partners. This includes US\$130 million in emergency food aid to WFP and PVOs, and US\$47.5 million in Emergency Food Security Program (EFSP) resources for cash and vouchers. Haitian customs authorities reported that from January through mid-June 2010, 214,000 MT of food aid had been imported; higher than 2008 levels (180,000 MT), which themselves were substantially higher than previous years (in the low 100,000 MTs).

Rice accounted for most food aid entering the country in the months immediately after the earthquake. WFP distributed 12,500 MT of rice to 2.9 million people in February 2010. At least 98,000 MT of food aid rice have already entered Haiti as of July 2010, with more than half having been reported as received through WFP; at least 31,500 MT of beans, with two-thirds having been channeled through WFP; at least 27,000 MT of cooking oil, having been channeled through WFP, CRS, ACDI-VOCA, and WV Haiti. Since the earthquake destroyed Haiti's only wheat mill, wheat flour replaced HRWW in Title II monetizations. Rice is not listed for monetization or distribution in current Title II Non-Emergency or SYAP projects. Donors are currently transitioning from a short-term, emergency strategy to a longer-term strategy for recovery and development.

During the field visit, some retailers reported that distributed food aid negatively impacts their business, while others reported that both distributed food aid and Cash For Work have been appropriately targeted. Retailers did have concerns about the large-scale general food distributions (GFD), but also noted that GFD helped to ease unrest and kept looting to a minimum.

Monetized food aid. From FY05 through FY10, nearly 280,000 MT of commodities have been monetized in Haiti to support DAP/Title II Non-Emergency Program activities. HRWW has been

¹⁵ WFP, Haiti homepage.

¹⁶ According to official information from AMEX and USAID/Haiti, the US rice tonnage corresponds to emergency assistance provided via WFP during this six-year period.

the main commodity monetized in volume terms, although very small volumes of vegetable oil and wheat flour have been monetized.¹⁷ Rice food aid has not been monetized to support Title II Non-Emergency Programs or SYAP activities in Haiti. For more information, see Chapter 9 and the "Monetization Methodology" section of this chapter.

Distributed food aid. From FY05 through FY10, distributed food aid volumes have been close in size to monetized volumes (270,000 MT for distributed, versus 280,000 MT for monetized). It should be noted that due to lack of required reporting of food aid imports in Haiti, discrepancies exist among sources regarding actual amounts of food aid that have been distributed. Soy-fortified bulgur has comprised the largest volume of distributed food aid under the Title II Non-Emergency Programs in recent years, and is expected to continue as the main distributed commodity under Title II programming.

Outside the emergency response, distributed food aid has had minimal to no discernible negative impact on Haiti's private sector. Prior to the earthquake, private sector actors concur that food aid was highly-targeted, and appropriately so, to beneficiaries facing chronic food insecurity. For more information, see the Chapter 8 and the "Distribution Methodology" section of this chapter.

1.7. Market Structure and Profiles

As noted throughout this report, market structure, conduct, and performance heavily influence Haiti's agricultural sector and markets, and therefore food security, and are thus crucial factors to consider when making programming decisions that may impact incentives to produce and market commodities similar to food aid commodities.

The team visited 17 market sites in nine of Haiti's ten departments, as well as the city of Port-au-Prince. The team noted that all markets have plenty of food available; however, much of the population, especially those who lost their livelihoods in the earthquake, has limited cash to purchase it. The average Haitian consumer prefers local rice, but binding budget constraints shift demand away from more expensive, high-quality local rice toward the cheaper, lower-quality substitute, imported rice. The purchase of imported food commodities diverts resources away from Haitian producers, and a significant share of the profits generated along the marketing chain for imported commodities is captured by a small, collusive group of oligopolistic importers of staple foods. The team spoke with some of these importers, who confessed that their business practices would not be fair according to US standards. The team's field observations are supported by price data (especially rice price data) that show the downward stickiness of imported prices, a fact which supports the conclusion of rent-seeking behavior among staple food importers (especially rice importers).

The team noted that formal regulations are not strong enough to control powerful market actors. Large importers can easily diversify into other goods, since there are no authorities regulating trade or imports, and no permits or licenses are required to import into Haiti. A single high-level market player generally is involved in at least two industries, ranging from food, to textiles, to

¹⁷ AMEX FFP database

cement and cell phones. Many interviewees reported that these importers evade customs taxes. Haiti's top-level market actors benefit from unregulated trade and challenge the entry of new market actors.

When making a market decision, the power of these top-level market actors must be noted. As detailed in Chapter 5, for some commodities, the price paid by importers is not necessarily reflected in the price paid by consumers. Gains made along the chain from import level, to wholesale level, to Madam Saras, to retail level can vary widely; e.g., importers and wholesalers may profit to a much larger extent than a retailer. An unwise market transaction in these market chains can intensify the market imbalance, ultimately harming the consumer.

There are a small number of major importing companies; among them are Gilbert Bigio Group (which includes HUHSA), Deka Group, Acra Industries, and HUNASA. Les Moulins d'Haiti acts as the major importer of wheat, which it milled at the country's sole mill prior to the mill's destruction in the earthquake. There are also a number of informal importers bringing in goods from Panama, Miami, and the Dominican Republic. Informal trade also includes the evasion of customs by formal traders.

Informal trade with the DR can also negatively affect the market at the producer level. The amount of informal trade passing through Mal Passe from Jimani has reportedly doubled in the aftermath of the earthquake, due to displacement and unemployment.¹⁸ The team observed large quantities of coconuts, wheat flour, maize flour, vegetable oil, spaghetti, and salami informally crossing into Haiti. The team also observed limited quantities of food commodities imported into Haiti being informally exported to Jimani. The tariff differential on imported food commodities (which are, on average, three percent in Haiti, 20 percent in DR) creates incentives for Dominican traders to come into Mal Passe on free market days to purchase lower-cost US rice from Haiti, and bring it into the Dominican Republic for resale without declaring the full value to Customs (if declaring at all). A Customs official noted that if these informal traders went through formal channels, there would be no incentive to export imported food commodities.

In addition to the points mentioned above, the following key observations were made during the field visit (for further details, see Chapter 6):

- Trading relations between Haiti and DR tend to create a disincentive for Haitian producers.
- The informal pegging of the Haitian gourde to the U.S. dollar has resulted in what many consider to be an overvalued currency.
- The earthquake's impact varies according to market level.
- Approximately 1/3 of households engaged in agriculture obtain their food from their own-production, and people in rural areas acquire food primarily via market purchases during the entire year.

¹⁸ Interview with Customs officials

- Producer associations exist, but tend to operate as social organizations, rather than to increase access to inputs or producer bargaining power.
- There is reasonable uniformity of standard weights and measures.
- The majority of key informants in the private sector advocate for cash for work/vouchers rather than food distribution.
- Local rice may be considered a different product from imported rice.
- Food insecurity in Haiti is primarily due to limited cash which constrains household capacity to purchase marketed food.
- Local markets are fairly well-integrated, though in general, the markets for imported commodities are more integrated than for local commodities.
- The lack of human capital constrains business operations and the ability of the private sector to expand.
- Food is widely available in all markets, with the marketed food supply overwhelmingly dominated by imports.
- Poor transportation infrastructure increases the costs of marketing and thereby affects integration of markets.
- Lack of access to credit negatively impacts all players along the entire value chain for locally-produced commodities.
- Access to credit for importers and large wholesalers of imported goods does not appear to have been impacted by the earthquake.
- Though there is widespread agreement that the earthquake has caused a contraction in demand, there is serious uncertainty about the cause of the decline in demand, and undue speculation that food aid has overly displaced market purchases.
- There is basic market information, but not detailed price information across commodities and across most of the value chain. Madam Saras, widely regarded as the most important players in local commodity trade, do engage in spatial arbitrage, but primarily along preferred routes.
- Rather than undercutting one another's prices, Haiti's major importers reportedly often collude to agree on prices.
- For at least some commodities, prices are fixed as a function of consumer purchasing power.
- Inter-temporal arbitrage is generally limited to larger importers and wholesalers who have private warehouses and access to credit.

- Production costs have increased over time and most producers have cut down their production acreage by more than half.

The combination of high unemployment and the lack of barriers to entry (no permits or licenses required, and no GOH authority regulating trade or imports) has increased competition at the lower end of the marketing chain, especially at the retail level. This increased competition has acted as an incentive for the five main importers to diversify, and requires them to constantly jockey for position to maintain market share.

The earthquake appears to have intensified the existing market structure of staple foods in Haiti (competitive at the bottom, collusive at the top). After the disaster, many unemployed entered the lower level of the market, increasing competition among petty traders and retailers. At the top of the market, actors merely changed business partners or consolidated with other importers to keep their businesses going. Further detail on these business relationships can be found in Chapter 6. Middlemen of the market (wholesalers, Madam Saras) were impacted by the earthquake in varying degrees. The credit market contracted after the earthquake, but is showing signs of recovery as traders are re-establishing in-kind credit, though in smaller amounts and on shorter repayment terms than previously.

Though there is widespread agreement that the earthquake has caused a contraction in demand, there is serious uncertainty about the cause of the decline in demand, and undue speculation that food aid has overly displaced market purchases. Among the possible causes of the decline in demand are:

- Decline in cash among consumers due to loss of assets and job opportunities and the reduction of remittances during the weeks following the earthquake (all the money transfer systems were closed the first three to four weeks after the earthquake).
- Increase in the number of market players, especially petty retailers, which has increased competition and therefore decreased the volumes traded by individual retailers.
- Increase in imports, especially informal (contraband) imports, primarily from the Dominican Republic.
- Decline in the number of consumers. An estimated 200,000 people lost their lives in the earthquake; another 300,000 emigrated outside the country. Under the reasonable assumption that these people were part of the consumer base of Port-au-Prince, this represents a sizeable reduction in the consumer base of the capital, the largest market in the country.
- In the case of wheat flour, for example, the decline in demand may actually represent pent-up demand which cannot be met because many small- and medium-size bakeries in the earthquake-affected areas were destroyed and therefore can no longer reach customers.

The earthquake's impact varies according to market level:

- There is overwhelming evidence that the destruction of livelihoods following the earthquake appears to have increased competition at the retail level due to a large influx of petty traders and petty retailers who were previously engaged in other professions. Combined with a decline in consumers' purchasing power, smaller retailers now trade lower volumes, which ultimately decreases these traders' incomes.
- The increase in competition at lower levels of the market is, at least in part, related to the lack of barriers to entry. There are no permits or licenses required, and no GOH authority regulating trade or imports.
- Competition among importers has decreased overall, as the number of importers declined while the volume of business remained the same or may have even increased. The fact that volumes traded are reportedly the same (if not more) as they were before the earthquake suggests that the economy has largely rebounded since the earthquake. After the earthquake, some importers began purchasing their goods from larger importers, or joined other importers in different business forms, thus altering the dimension of the marketing chain. Interviews indicate there has been further consolidation at the top of the supply chain, which may provide greater opportunities for collusion.
- At the wholesale level, the situation appears mixed, with some wholesalers reporting that their business has doubled since the earthquake since many of their competitors lost their businesses in the earthquake; while others (including secondary wholesalers and Madam Saras in Croix-des-Bossales) reporting a decrease in sales volumes. In some locations (e.g., Jeremie), the increase in business was the result of an increase in the number of consumers as IDPs moved into the area. Increases due to IDP movements are likely to be temporary, as people have already started returning to Port-au-Prince and the affected areas.

In sum, food insecurity in Haiti is not caused by the lack of food availability. Clearly, the private market has the capacity to meet localized food deficits. However, this availability is heavily dependent on imported foods, prices for which are subject to fluctuations in global food prices and, more importantly in Haiti's case, to manipulation by the oligopolistic firms that control an estimated 80 percent of Haiti's marketed food supply. Based on available evidence, these firms engage in rent-seeking behavior which results in unfair market prices for consumers.

These characteristics of the Haitian food supply create an access issue among average Haitians, an estimated two-thirds whom are unemployed, 50 percent of whom lived on less than US\$1 per day prior to the earthquake. At first blush, the availability of food, combined with the lack of consumer purchasing power, suggests that increasing poor households' income and therefore access to food is the logical answer. However, the structure of the Haitian food market, dominated by a handful of importers who collude to fix prices, is not conducive to long-term food security through increasing incomes alone. Longer-term solutions to reducing food insecurity will require reducing the dependence of the poor on the market in its current structure. This entails: 1) stimulating local production and linking local producers to markets so they can compete with imported goods, while simultaneously 2) increasing incomes so that

people can purchase from the least expensive food source -- which may often be importers but, over time, should be local producers.

While the longer-term solutions to enhancing market performance and improved food security will depend on overall investment in agriculture, infrastructure, and development of income-generating opportunities, in the near-term, continued cash and in-kind support will be necessary to ensure basic needs are met in the short- and medium-term.

1.8. Local and Regional Procurement

Since the January 12, 2010 earthquake, donor interest is shifting away from importation of in-kind food aid for distribution and towards local and regional procurement (LRP) of agricultural staples for use in food distribution programs. The rationale for LRP is that locally-purchased (or regionally-purchased), donor-financed food aid in countries affected by disasters or other food crises often arrives more quickly than food aid shipped from donor countries and is less expensive than imported food aid shipped from donor countries, allowing for greater beneficiary coverage.¹⁹

In the context of post-earthquake Haiti, LRP is a logical tool to consider adding to the donor toolbox, particularly as donors contemplate the delicate balance between addressing short-term needs with long-term food security goals. LRP can stimulate local production, increase income-generating opportunities along the marketing chain, while simultaneously reducing dependence on imported foods whose market structures are less competitive than locally-produced foods.

Before donors engage in LRP on a larger scale, however, it is critical that the goals of local procurement projects are clear. One must distinguish between the goal of promoting local agriculture versus improving access among food insecure households. At least in the short-term, improving access among food insecure households is more efficiently met through cash transfers as opposed to local procurement of food commodities. Given household expenditure patterns and the preference of poor households for cheaper, lower-quality imported food, a significant portion of the transfer spent on food will be directed towards imports, which will increase household food security but will not simultaneously stimulate domestic production. As the imported commodities markets exhibit a concentration of market power among major importers, non-negligible portions of cash transfers to households can be expected to be captured by non-competitive, price-fixing importers.

While there appears to be some capacity for procurement of locally-produced maize and beans in Haiti, as well as possibly fruits and vegetables (e.g., mango, plantains), any initiative should be viewed as developmental rather than as a source of large-scale, emergency food relief. Local procurement on a small-scale is more likely to succeed if it incorporates heavily-supported incremental investment which gives producers, traders, and transporters more time to adjust to increased demand.

¹⁹ See, for example, Tschirley and del Castillo (2007), GAO (2009), USDA-FAS (2009).

Nascent and ongoing efforts include the World Bank-funded *Programme National de Cantines Scolaires*, which purchases milk from a local dairy network to distribute in schools, as well as the French Cooperation which buys local rice and maize meal for distribution to WFP beneficiaries. With the support of the French Cooperation, WFP has been involved since 2005 in contracts with five producers groups in Artibonite, North, and South, which provide maize meal, rice and beans for school feeding, nutrition programs, and FFW. A smaller-scale initiative by Unitransfer provides a creative mechanism for members of the diaspora to purchase local rice for distribution to Haitian relatives and friends. Unitransfer procures rice from the *Rezo Asosyasyon Kooperativ pou Komes ak Pwodwi Agrikol Ba Latibonit* (RACPABA), a Haitian umbrella organization encompassing seven agricultural cooperatives. For details on these projects, see Chapter 7.

From the perspective of local markets and consumer welfare, the major risks associated with local purchase of food for distribution include:

- Inflationary pressure on the prices of foodstuffs purchased by poor consumers.

From the perspective of beneficiary welfare and donor planning, the major risks associated with local purchase of food for distribution include:

- Inability of donors/implementing partners to ensure locally-procured foodstuffs consistently meet food safety standards.
- Non-delivery or delayed delivery of locally-procured foodstuffs for distribution.

Cash transfers. If and when more local procurement initiatives come to fruition, donors must be extremely cautious about the inflationary pressures their initiatives may place on consumer prices, and must vigilantly monitor market prices so that corrective action may be taken should consumer prices show signs of inflation due to local procurement initiatives.

Numerous cash transfer initiatives are in place, and the United Nations Development Programme (UNDP) and the Cash Learning Partnership (CaLP) are the two largest umbrella groups. During the field visit, this study team found no evidence of the use of vouchers (i.e., food stamps) in Haiti. However, after the field trip, USAID/FFP provided a grant under the Emergency Food Security Program (EFSP) for cash and food vouchers. WFP received a US\$35 million grant to fund the cash component of its Cash- and Food-for-Work program. Mercy Corps received a US\$12.5 million grant to provide food vouchers that are redeemable by vendors in local market places. To avoid reinventing the wheel and benefit from any lessons learned, donors and PVOs interested in undertaking cash transfer and/or voucher programs should seek out information from these and other actors to understand challenges to successful design and implementation of such programs.

From the perspective of local markets and consumer welfare, the major risks associated with cash transfers and/or vouchers are:

- Inflationary pressure on the prices of foodstuffs purchased by poor consumers due to increased demand caused by augmenting the purchasing power of beneficiaries. This is

a very serious risk where local producers and/or traders have limited capacity and/or incentives to increase supply in response to increased effective demand.

Vouchers. This study team found no evidence of the use of vouchers (i.e., food stamps) in Haiti. However, with an estimated 10,000 NGOs currently operating in post-earthquake Haiti, it is possible that some smaller NGOs are attempting to distribute vouchers. After the field trip, USAID recently awarded MercyCorps US\$12.5 million to implement a voucher program. The program is designed to provide food vouchers for up to 20,000 households in the Lower Artibonite and Central Plateau regions.

1.9. Distribution Analysis

The BEST distribution analysis is based on the assumption that a well-designed and executed food aid program that targets the needs of beneficiaries will have little to no impact on the market or local production incentives. Once effective application of beneficiary criteria has accurately identified households in need of food assistance, maximum food security impact and minimum leakages are ensured when the ration size and composition, as well as the timing and frequency of ration delivery, correspond most closely to a household's perceived food needs.

There is broad scope for an array of Title II-funded development interventions in Haiti. Based on official USAID guidance, and field-level discussions with the Mission and awardees, the majority of food aid distributed in Haiti occurs via Maternal Child Health and Nutrition (MCHN), Food For Education (aka "school feeding") and Food For Work activities.

1.9.1. Targeting and Program Coverage

Geographic targeting. In determining the geographic target areas appropriate for development interventions, such as under a Title II non-emergency program, a departmental-level food security analysis was performed to determine the most chronically food insecure areas of the country, using secondary department-level data on food security indicators. Indicators include: percent of households reporting poor food consumption (an indicator of food availability and access); number of households reporting poor food consumption (an indicator of the magnitude of the food availability and access problem); poverty levels (a proxy for access); stunting rates for children under five (a measure of chronic malnutrition); and rainfall levels (as a proxy indicator of food availability).²⁰ The following table illustrates the results of the analysis.

²⁰ In preparation for their MYAP, CRS conducted a similar analysis, data for which was shared with and validated by counterparts at the Famine Early Warning System Network (FEWSNET). CRS used stunting rates, average rainfall, poverty rates, literacy rates, diarrhea rates in children under five (as a measure of utilization); levels of threats to floods, hurricanes, and drought (as a measure of risk); and literacy rates (as a measure of education/human capital) as indicators of food security. A ranking of these indicators indicated that the South and Northwest were the most chronically food insecure, and appropriate for targeting of the activities planned under the current MYAP. Following their departmental-level analysis, CRS conducted a commune-level analysis to determine priority communes within the most food insecure areas using additional criteria.

Table 3. Indicators of Food Security, by Department

| Department | % HHs with Poor Food Consumption Score ²¹ | % Population under poverty line ²² | Stunting (% <=2 SD) ²³ | Rainfall (mm) ²⁴ |
|-------------|--|---|-----------------------------------|-----------------------------|
| West | 4 | 32 | 3.5 | 585 |
| South East | 5 | 65 | 9.3 | 585 |
| North | 12 | 67 | 8.6 | 675 |
| North East | 8 | 84 | 5.8 | 575 |
| Artibonite | 6 | 68 | 8.2 | 625 |
| Center | 3 | 61 | 12.2 | 600 |
| South | 4 | 68 | 12.2 | 725 |
| Grande Anse | 6 | 66 | 10.1 | 725 |
| North West | 12 | 70 | 7.8 | 550 |
| Nippes | 3 | 66 | 10.1 | 675 |

The distribution of food insecurity, based on an analysis of these indicators, illustrates the inherent difficulty in using department-level data in Haiti to inform geographic targeting. Depending on which proxy for availability, access, and utilization is used, one could reasonably conclude that any of the following departments face high levels of food insecurity: North, Northwest, Northeast, South, Center, Southeast, Grand Anse, Nippes. Such department-level indicators do not capture pockets of food insecurity within each department, and therefore can act as general guidance only. It is imperative that donors and implementing partners conduct their own independent needs assessments, market analysis, and formative research -- all at a highly-localized level -- to fully understand local conditions and the range of appropriate responses.

Seasonal targeting. While timing of ration delivery is critical for the success of all activities, from the perspective of market impact, careful timing is most critical for FFW activities. Assuming FFW activities coincide very closely each year with the lean season when domestic stocks are lowest, and staple food prices highest, it is reasonable to assume there will be little to no negative impact on production incentives or local markets.

The seasonal calendar is complex in Haiti due to the variety of agro-climatic conditions and commodities grown within a relatively small geographic area. However, the main lean season for most of the crops is from April to June.

²¹ Food Consumption Scores were derived through household surveys as part of the 2007 rural CFSVA. For more details on Food Consumption Scores, please see Annex VI –Methodology for Determining Impact of *Distributed Food Aid*.”

²² HISI *Enquête sur les Conditions de Vie Haïti* (ECVH), 2003. Percentage of the population living in extreme poverty, defined as living on less than US\$1 per day.

²³ *Enquete Mortalite, Morbidite, et Utilisation de Services* (EMMUS) III, 2000. Stunting rates are widely regarded as the most reliable indicator of chronic food deficits since it captures availability, access and utilization. The prevalence of stunting among children under 5 should, therefore, be heavily weighted when conducting analysis to guide geographic targeting of assistance to chronic food insecure communities.

²⁴ FEWSNET average annual rainfall data 1948-2002.

Household/beneficiary targeting. While acute food insecurity arising from specific shocks may temporarily alter the appropriate criteria for household/individual targeting, Title II non-emergency food aid is expected to be tightly focused and directed to specific vulnerable groups who face chronic food security. In Haiti, these groups include: pregnant and lactating mothers; infants and young children, particularly those under two years of age who require additional nutritional support to ensure positive long-term human capital outcomes (including education, productivity, adult wage-earning potential, and health); and vulnerable groups, such as orphans, and people living with HIV/AIDS or TB.

Programs. Current programs demonstrate that distributed food aid can be a useful adjunct to development programs, but that the cash-based aspects of training, community mobilization, livelihood development, and disaster preparedness create the essential framework for increased food security and reduced malnutrition.

The Prevention of Malnutrition in Under Two Approach (PM2A) presents both an opportunity for long-term human capital investment, and a unique challenge to avoid disincentives in the short-to-medium term. PM2A provides food aid to all pregnant and lactating mothers, and all children between the ages of 6 to 24 months within a target geographic area. Because the key PM2A targeting criteria are based on a child's age and a women's physiological status, rather than on an estimated household food deficit, the program has greater potential to provide food aid to households for whom the food aid would not represent additional consumption. Initial geographic targeting of areas with a greater proportion of food-deficit households will help avoid disruption of local production and markets.

School Feeding (SF) activities are designed to provide food supplements to school-age children and increase school attendance. Because free meals at school represent an income transfer to the student's household, SF can make it more feasible for families to send a child to school. Key considerations to ensure Bellmon compliance of SF programs include: 1) Geographic targeting of food insecure areas; 2) Sufficient supervisory monitoring capacity for any proposed SF activities to minimize possible leakage; 3) Meals served in the school, to help ensure that food rations are consumed by the intended beneficiary, the student.

Food For Work (FFW) is intended to create food-wage employment during the hunger season when rural unemployment increases. If designed correctly, FFW can stabilize prices of staples in the market and improve food consumption and nutrition of participating households. To ensure Bellmon compliance for FFW, the following should be addressed; 1) Encourage self-targeting, by setting the income transfer value of the ration to be slightly less than the prevailing rural wage and include slightly less-preferred food aid commodities; 2) Time the food distribution to coincide with the lean season. FFW commodity distribution will be less disruptive if distributed during the lean season, when the rural households, especially the poorest, have little reserves of food from the market; 3) Sufficient supervisory capacity for any proposed FFW activities to minimize possible leakage; 4) Investigate the availability of female labor during the typical lean periods to ensure that women can participate effectively in such activities.

1.9.2. Choice of Commodities for Inclusion in Ration Package

To avoid creating a substantial disincentive to production or disrupting local markets, the selection of commodities for distribution should be based on analysis of local market conditions, and consumer preferences (particularly the strength of those preferences and beneficiary willingness to substitute foods for one another).

Consumption habits in Haiti are based primarily on regional production. For example, people consume many roots and tubers in Grand'Anse and Nippes, maize and sorghum in the South, and local rice in Artibonite, for example. Plantain and tubers are consumed in the North and Northwest. The rural population prefers to consume rice, maize, and sorghum (particularly in production areas), and rice in urban/peri-urban areas (particularly imported rice, which is relatively less expensive following trade liberalization). Maize is consumed in both areas as a substitute for rice. Sorghum is the least preferred in both urban and rural areas, and generally consumed only by the poorest households. Bulgur wheat is considered an inferior substitute for both rice and maize in both urban and rural areas.

Given the Haitian diet and consumer preferences, all the following would be appropriate commodities to ensure self-targeting: 1) bulgur wheat; 2) sorghum; 3) pulses – however, the pulse the Awardees should distribute depends on how important it is for the pulse ration to be self-targeting versus, for instance, nutritional support; 4) oil – barring local procurement of a different type of imported edible oil, Awardees do not have control over the type of oil for distribution. However, Awardees can adjust the amount of oil to include in the ration. To discourage inclusion error, the overall ration should be self-targeting (i.e., the overall value and the individual components of the ration should be self-targeting).

To encourage adoption of nutritious dietary habits among vulnerable groups (especially among PLW and children under five), and to increase the likelihood of sustainability, donors and NGOs should consider incorporating locally-available commodities such as avocados, mangos, plantains (dense in energy), root tubers, and dried fish into programming. If LRP programming is designed effectively, inclusion of local foods will have the added benefit of stimulating the local economy.

1.9.3. The Role of Distributed Food Aid in the Earthquake Response

Seven months after the earthquake, there is widespread agreement among stakeholders that distributed food aid is a “catch-22.” It is imperative that donors strike a careful and thoughtful balance between: 1) meeting immediate needs through imported distributed food aid and 2) longer-term investment strategies which increase Haiti's domestic production and resiliency to future shocks. To successfully balance these two, production data to support a cereal balance sheet and other assessments must be available and reliable. Unfortunately, production data are limited in Haiti.

Current Title II non-emergency program partners (ACDI/VOCA, CRS, WV) all undertook baselines in 2008 to guide current programming, and produced high-quality, carefully-designed surveys with transparent methodologies. Since the earthquake, there are indications that other

NGOs and PVOs have undertaken surveys with improper and/or opaque methodologies, making it impossible to interpret their 'findings.'

During the field visit, the team interviewed a number of church-based volunteers, many of whom recounted their PVO's method of targeting. When the team inquired about the type of needs assessments that had been conducted, and how targeting criteria had been established, more often than not, the answer was "none." There is a widespread notion that all poor households are in need of food, when in fact food availability is not the primary impediment to improving food security in Haiti. The lack of control over activities undertaken by people who are well-intentioned but have very little to no understanding of the complexities of Haitian society and gradations of need is undoubtedly resulting in a certain level of inappropriate targeting of food aid.²⁵

1.10. Monetization Analysis

Monetization of typical FFP commodities will be inherently difficult given the structure (number of potential buyers and their market concentration) and conduct (price-setting behavior) of the markets for FFP commodities potentially suitable for monetization (wheat, wheat flour, and vegetable oil). If monetization is necessary to fund food aid programs, it should be conducted in a regional market to avoid the risks inherent in monetization through the Haitian private sector.

Overall, food aid commodities were considered for monetization based on the following six criteria:

1. Eligibility for export from the US;
2. Eligibility for import to Haiti;
3. Significance of domestic demand;
4. Domestic supply shortfalls are filled through commercial imports and food aid;
5. Presence of adequate competition for the commodities; and
6. Expectations that fair market prices can be obtained.

The monetization analysis considered wheat, wheat flour, maize, maize flour, beans, and vegetable oil after first screening out other commodities imported in substantial volumes using the above criteria. This report analyzes the market for each of these six commodities to determine their suitability for monetization. Maize did not pass the tests required based on the methodology used across FFP/BEST analyses for monetization analysis, as detailed in Chapter

²⁵ One interviewee proudly recounted how her church group was providing imported food aid to needy school children at a Port-au-Prince school. The team was surprised to learn that the instruction at this school was in English. The young woman explained that many of the children had Haitian-born parents who lived in Florida and wanted their children to receive instruction in English, rather than Creole or French. Given that the parents of these schoolchildren had a choice to send their children to public schools in the U.S., but chose instead to enroll their children in a church-based school in Haiti which received international assistance suggests that these children may not be the neediest. This interviewee's type of story was not unusual, and seriously calls into question whether these well-intentioned groups are reaching the truly neediest.

9, section 7. Only three commodities were monetized by USAID and USDA Awardees in Haiti in recent years: vegetable oil, wheat and, more recently, wheat flour.

Rice has been an important crop in Haiti, but increasing and cheaper commercial imports have had disincentive effects to locally-produced rice in the past decade or so. Based on this fact, rice was not considered as a potential candidate for monetization in Haiti for FY11.

Haiti consumes large quantities of wheat sourced from commercial imports and food aid. Commercial imports of wheat have been limited by damage to Haiti's single wheat mill, Les Moulins d'Haiti (LMH), which has been the single buyer of Hard Red Winter Wheat (HRWW) grain. CARE, Catholic Relief Services, World Vision, and Save the Children monetized a total of 177,640 MT of wheat between FY05 and FY07. In FY08 and FY09, ACDI, Catholic Relief Services, and World Vision also monetized 80,400 MT of wheat. Prices achieved from all these monetizations were well below import parity prices, as detailed in Chapter 9, Figure 34, "Comparison of Wheat Prices Achieved and Calculated IPP."

This market analysis does not recommend the monetization of wheat because of: (1) the lack of a competitive sales environment, as there is only one large mill in the whole country; (2) poor past monetization sale prices which are strong disincentives to the marketing of wheat, and a model that donors should avoid in future monetization.

Most wheat flour, on the other hand, comes from both commercial imports and domestic production. As stated earlier, Haiti's only wheat processing mill in the country was destroyed by the earthquake, and since then the country has had to import all its wheat flour. It is recommended that wheat flour should not be monetized for at least six to nine months because: (1) the first tranche of monetized wheat flour faced a lot challenges. It would be wise not schedule any more monetization of wheat flour until the remaining shipments have been completed and assessed; (2) contract enforcement appears to be unreliable; field interviews suggest that buyers sometimes collude in the bidding process; (3) wheat flour monetization will probably not be sustainable once LMH's mill is operating again; and (4) demand for wheat flour is low and it is difficult to identify specific factors responsible for this recent change in the market.

While prices for vegetable oil are now favorable for monetization, monetization is not recommended in Haiti for FY11 for the following reasons: the oil market is thin in nature; there is a lack of information on the oil sector; and two main oil importers dominate the market.

Disincentive effects on local production are likely to result from additional importation of beans, since Haiti produces almost 76 percent of the beans consumed in the country. Therefore, this market analysis does not recommend beans for monetization in Haiti in FY11.

The maize flour market is dominated by a small number of participants (importers and large wholesalers) who are able to collectively exert control over supply and market prices. Even if there was adequate competition, the limited proceeds generated from the appropriate range of monetization tonnage of Title II maize flour sales in Haiti would constrain potential Awardees in

meeting their program resource needs. Maize flour is therefore not recommended for monetization in FY11.

As for sorghum, it is the opinion of this team that the lack of large buyers and lack of commercial import demand would make monetization sales prohibitively difficult for Awardees to raise the funds needed for programming. Therefore, this team does not recommend sorghum for monetization in Haiti in FY11.

Monetization may be an appropriate tool for the development of local markets in Haiti, but should be viewed as a long-term tool for development of local markets, and not primarily as a source of needed funds for programming. Specifically, any organization monetizing in small lots should: (1) anticipate and be prepared to finance an extensive social marketing campaign to assure Haitian consumers that smaller traders are selling legitimate, high-quality US products; (2) support access to credit for smaller traders who may not be able to access Title II monetized goods, even in small lots; (3) anticipate losses over time due to the high likelihood of unfair business practices among importers who are likely to view Title II wheat flour or vegetable oil sales as directly threatening their market share.

This market analysis recommends further investigation into the feasibility of regional monetization (RM) of maize grain, vegetable oil (soy bean oil), rice, wheat grain, or wheat flour at any of the two nearby ports (in Nicaragua and Honduras) to gauge the level of interest among potential buyers for these products. Regional monetization is a legally-compliant alternative for awardees operating in a country whose domestic commodity markets are not fully competitive. RM provides Awardees with the option of selling into a market where there is sufficient competition among buyers in order to increase the likelihood that bids will be at or near import parity. RM can generate greater revenue for food security activities and thereby increase the efficiencies of the FFP program.

Chapter 2. Motivation for Study

2.1. Introduction

For many years, the U.S. Government has been the largest donor of international food aid to Haiti for both emergency and non-emergency assistance. Haiti has figured among the top ten recipient countries of US food aid administered through all USG food aid programs, including Title II, Food for Progress, McGovern-Dole FFE, and the Bill Emerson Humanitarian Trust. Data from WFP indicate that the US accounted for nearly three-quarters of Haiti's food aid imports during the period 2004-2008. During 2006-2009, US contributions exceeded US\$210 million, including more than 315,000 MT of Title II food commodities. In 2008, current Title II Non-Emergency Program partners (ACDI/VOCA, Catholic Relief Services, and World Vision) began implementation of a five-year Title II Non-Emergency Program to support Maternal Child Health and Nutrition, agricultural interventions to increase production/productivity and/or marketing, school attendance through school feeding, vulnerable populations (HIV/AIDS, orphans, elderly) through supplementary feedings, disaster preparedness in communities vulnerable to climatic shocks, as well as participation in early warning capacity-building of the Government of Haiti.

Over the past two years, a series of shocks have disrupted Haiti's economic landscape and increased the level of acute food insecurity. In April 2008, a sudden increase in global food prices led to violent protests and the dismissal of the Prime Minister. In late August and early September 2008, two tropical storms and two hurricanes caused major flooding and widespread destruction. Over 65 percent of Haiti's arable land, including the entire harvest of the current agricultural season, was either lost or severely damaged by the flooding. By 2009, however, the food security situation had begun to improve. A favorable climate, increased harvests, and a steady supply of food grain imports contributed to a decline in staple food prices.

The earthquake which struck Haiti's capital and economic nerve-center on January 12, 2010 killed an estimated 217,000, injured an estimated 300,000, and left some one million Haitians without basic services or shelter.²⁶ The destruction of both human capital and physical resources drastically disrupted market operations, and created uncertainty about private sector capacity to meet basic needs of food, water, and shelter. With widespread destruction of livelihoods throughout the earthquake-affected areas, massive internal movements of displaced populations, and few income-generating opportunities in any of these areas, the prospects for ongoing humanitarian assistance needs are high.

Since the earthquake, the U.S. has provided Haiti with US\$125 million in emergency food resources for distribution through partners of the World Food Program and current Title II Non-Emergency Program and SYAP partners (World Vision, Catholic Relief Services, and ACDI/VOCA). The Government of Haiti requested and collaborated with the World Food

²⁶ <http://news.bbc.co.uk/2/hi/americas/8511997.stm>

Program to respond with large-scale general food distributions in Port-au-Prince. In February, WFP distributed 12,500 MT of rice to 2.9 million people in Haiti through its PVO partners. In March and early April, the final months of general food distribution, approximately two million vulnerable and earthquake-affected people were targeted with a 30-day mixed commodity ration. By mid-April, WFP and PVO programs transitioned to targeted food distributions to IDPs and host communities, including areas outside of the directly-impacted zones which had received a large influx of IDPs. All three current Title II Non-Emergency Program partners took on additional beneficiary caseloads through SYAPs to address immediate humanitarian needs of earthquake-affected populations.

A market analysis to inform food aid programming is warranted at this time on the basis of five factors which have, at least in part, all arisen as a result of the tragic earthquake on January 12, 2010.

The full impact of the earthquake on Haitian food markets is unclear. An understanding of the structure, conduct, and performance of the commodity markets which are critical to food security can improve donor responses. In particular, an understanding of how prices are formed, and therefore how distributed or monetized food aid may impact local markets by increasing the supply of donated food commodities, is critical to make informed programming decisions.

The number and location of food insecure households are unclear. Following the earthquake, a number of food security assessments have been conducted to rapidly inform programming adjustments. Nonetheless, seven months after the earthquake, the food security situation remains highly fluid and will require close monitoring over the near term. Reports from the field indicate that many IDPs who fled to areas outside of the Port-au-Prince area have since returned, but no firm numbers are available. Both the rainy season, which began in March/April, and the hurricane season, which began in June, could increase the number of food insecure Haitians. Current estimates indicate that approximately 2.5 million people are food insecure in Haiti, including 1.5 million people that will need long-term assistance beyond 2010 to address chronic poverty and food insecurity.

Both the number of humanitarian actors, as well as the overall volume of food aid, have increased dramatically since the January 12 earthquake; however, neither the number and location of actors, nor the volume of food aid or cash these actors are distributing, are known. The enormous humanitarian response from the international community, and the huge influx of humanitarian agencies and PVOs, both large and small, has, beyond doubt, saved both lives and livelihoods. Yet the influx of many more actors, many of whom do not collaborate or coordinate with either the GOH or each other, has created additional concern about negative impacts of food aid. Though individual agencies generally have information about their own distribution activities, there is currently no clearinghouse of information to inform donors about how much food aid other donors are currently distributing, or to whom.

The combination of these first three factors -- uncertainty about market performance (especially how market prices are formed), lack of clarity about actual needs among food insecure households across the country, and the impact of the enormous influx of humanitarian assistance on both the level of need and production incentives and local markets -- has resulted in a natural tension between critics who argue that donors are not distributing enough food to adequately address the humanitarian crisis, and critics who argue that donors are destroying the private sector by distributing too much food aid. A better understanding of the complex interplay of the supply and demand factors affecting food markets is critical to address these legitimate concerns as donor efforts shift towards reconstruction.

Donors have a broader set of tools with which to respond to the challenge of reconstruction. Both large and small donors exhibit tremendous interest in alternative responses to assist in Haiti's effort to "build back better". Cash transfers, Cash For Work, and local procurement of commodities for distribution, have all captured the attention of the international donor community. An assessment of current initiatives and the feasibility of implementing and/or scaling up these alternative responses is therefore warranted.

The earthquake disrupted the Title II Non-Emergency Program monetization program. Until the earthquake, Title II programming in Haiti had been funded through in-country monetization of wheat, which was sold to Les Moulins d'Haiti, the country's sole mill. The mill was destroyed on January 12, 2010 and will not be operational for another 10-12 months. The Awardees conducted a study to assess the feasibility of switching to wheat flour for the immediate term. The sale and delivery of the first tranche was effected on or about June 24, 2010. It is necessary at this time to assess the feasibility and appropriateness of continuing to support FY11 programming through in-country monetization.

2.2. Objective of this Market Analysis

In order to promote the post-earthquake recovery of national and regional markets, USAID/Haiti wishes to ensure that USG-imported food aid will not create a substantial production disincentive for local farmers and entrepreneurs who grow and process products similar to donated food commodities. USAID/Haiti also wishes to ensure USG food aid does not cause a substantial disruption of private markets which are critical to the recovery of the Haitian economy and to ensuring food security.

In order to understand the potential influences (positive and negative) of food aid on domestic production incentives and local markets, USAID requested an independent, baseline market analysis. The analysis has two major objectives. First, the report provides detailed descriptions of the commodities markets critical to food security in Haiti, including:

- Strategic markets;
- Market actors, including producers, importers, wholesalers, and traders;
- The level of market integration; and

- How the structure, conduct, and performance of each of these markets have changed since the January 12, 2010 earthquake.

This assessment of each major market's performance is intended to provide essential information for policy formation, including how prices in each market are determined, the competitive structure of each market, and the approximate number of traders in each market which is an important indicator for monitoring expansion or contraction of markets, possibly due to the influence of food aid. Part of this assessment is expected to focus on market resilience in order to determine how vulnerable markets are to distortion due to, for example, an increase in the supply of food aid.

Second, the analysis is intended to provide actionable recommendations for USAID/Haiti food aid programming decisions. For commodities with a potential negative impact, the objective of this analysis is to provide recommendations as to how to mitigate or minimize the impact of targeted food aid on local markets. This objective is intended to assist USAID in developing coherent strategies to balance the inherent tension between addressing needs in the short-term when there is an acute food security crisis, which may, by their nature, undermine longer-term development goals which are critical to increasing overall food security and resilience to future shocks.

Chapter 3. Methodology

3.1. Introduction

This chapter provides a brief overview of the methodological challenges in assessing the impact of food aid on markets and producer incentives, highlights the unique challenges of undertaking such a study in present-day Haiti, and outlines the approach adopted by the study team to conduct this Market Analysis. For further details on the methodologies to assess the impact of distributed and monetized food on local markets and production incentives, please see Annexes V and VI, respectively.

3.2. The Challenge of Assessing the Impact of Food Aid on Markets and Producer Incentives

The extent to which distributed food aid has the potential to disrupt private markets or introduce production disincentives rests fundamentally on whether food aid will represent "additional consumption" for beneficiary households, i.e., food consumption which would not have occurred in the absence of the food aid distribution program. The only certain method to determine whether food aid represents (or would represent) additional consumption is to conduct household surveys to determine whether a household would consume the food aid rations without changing its household production and market purchasing behavior. However, because household surveys are expensive and time-consuming, proxy indicators of 'additionality' must be used to assess the potential for leakage. As detailed in Annex V, analysis must rest on the availability of high-quality household surveys such as needs assessments and income and expenditure surveys from which to draw appropriate proxy indicators of additionality. This makes assessing the impact of food aid on markets and producer incentives an inherently problematic undertaking even in relatively stable economies.

A review of recent needs assessments should be complemented by a review of the challenges implementers face in targeting because even the most effectively-targeted programs can never prevent all inclusion errors (leakage).²⁷ Although perfect targeting theoretically prevents the leakage which can negatively impact markets and producer incentives, effective targeting is both expensive in terms of human and financial capital and extremely difficult to implement and sustain. Moreover, even where targeting reaches the most food insecure households, precisely because poor people are both food-poor and cash-poor, beneficiary households will always face an incentive to sell some of the food aid to meet cash needs.²⁸ Therefore, decision-makers inevitably have to strike a balance between exclusion and inclusion errors. Exclusion errors are an obvious humanitarian concern. Inclusion errors are a concern because they can negatively impact markets, and may become a humanitarian concern if they result in a diversion of scarce resources to people who are less in need of assistance.

²⁷ For more background on targeting, see Hoddinott (1999), Barrett (2002), and EU/FAO (2008).

²⁸ Importantly, in the absence of food aid, many food insecure households may suffer by not getting enough food (quantity and quality) or may use coping strategies that adversely affect their health, or productive capacities.

Whether a donor provides food aid to food insecure households across the breadth of a country or only in a localized area, the donor must have an understanding of the current functioning of agricultural markets critical for food security, as those are the markets most likely to be impacted by the introduction of food aid. When attempting to assess the potential impact of food aid in a localized area (whether distributed in kind, in cash, or procured locally by donors for eventual distribution to beneficiaries, for example), it is especially important to understand (1) the functioning of local markets and (2) how well-integrated local markets are with markets outside of the food aid intervention area, and therefore how any changes in food prices might be transmitted to other markets. The impact of food aid on the local market will depend on how strong consumer preferences are for various foodstuffs, how responsive producers are to price changes, and how sensitive traders are to changes in market conditions -- all of which become evident from a study of the structure, conduct, and performance of the markets.

Together, an understanding of 1) indicators of additionality, 2) targeting challenges, and 3) the current state of the country's agricultural markets (as determined by a study of the structure, conduct, and performance of markets) can provide sufficient information to allow some generalizations to be made about the type, form, timing, and geographic targeting of food assistance that would unlikely harm markets and production incentives.

3.3. Unique Challenge in Post-Earthquake Haiti

While availability of data is an ever-present challenge in nearly all developing countries, the lack of even the most basic demand and supply data creates an unparalleled challenge to the analyst attempting to assess the impact of food aid on markets and incentives in present-day Haiti.

There are no reliable supply data. The construction of a national cereal balance sheet, which provides a gross approximation of a country's overall cereal deficit and therefore can provide a starting point for needs assessments, requires data on each component of overall food supply, including domestic production, imports, exports, and food aid. However,

- **There are no production data.** At present, production figures for Haiti's major crops are estimated by GOH MARNDR. The methodology by which these figures are derived is opaque, however. The absence of such data makes it impossible to construct even a national cereal balance sheet, let alone estimates of food supply deficits on a more localized level. Faced with the lack of data, and time constraints for their assessment, the recent FAO/MOA/WFP Crop and Food Security Assessment Mission nevertheless relied on estimates provided by MARNDR regional offices to derive production estimates but lacks faith in the utility of the results.
- **There are no data on volumes traded formally or informally in local markets -- either domestically or cross-border.** The portion of the food supply derived from commercial imports (estimated at perhaps 80-90 percent of marketed food supply²⁹) is dominated by a small collusive group of family-owned businesses, who have incentives

²⁹ This estimate is based on interviews during June and July 2010 among key informants involved in commercial import sector.

not to reveal their true market share. Moreover, observations and interviews during the field visit affirmed findings from published studies³⁰ that there is an enormous volume of informal trade (i.e., contraband) that is not recorded in official trade data.³¹ Combined with the imports and exports of a large number of unmonitored local and regional ports, the overall flow of goods is likely substantial but, by definition, estimated flows are simply 'best guesses.'

- **There are no reliable data on the overall volume of food aid.** Imports of food aid for distribution through WFP and the Title II Non-Emergency Program partners are recorded by Customs, and can be triangulated through multiple data sources.³² However, there is a lack of oversight, coordination, and/or regulation of the majority of INGOs and PVOs operating throughout Haiti. Many of the estimated 10,000 organizations are importing food in addition to non-food items, yet there is no clearinghouse to indicate how much the total food supply has increased because of their imports.

There are limited reliable data on demand.

- **The continual movement of IDPs has created additional uncertainty about the size of the consumer base (i.e., demand) in each market catchment area.** The near constant movement of IDPs since initial displacement in January suggests the need for frequent adjustments in programming, and raises concerns about the validity of needs assessments over time.
- **There are limited reliable data on needs among different geographic and demographic groups.** Needs assessments are critical to designing appropriate responses; however, thus far, reliable needs assessments with broad coverage are becoming outdated (WFP's 2007 rural CFSVA is the last national survey); more recent assessments have, by design, been very focused geographically and demographically (e.g., WFP's 2010 EFSAs). The plethora of needs assessments conducted by small PVOs based on questionable and/or unpublished survey methodologies limits the usefulness of these data at best, and provides inappropriate guidance for programming at worst.
- **There are extremely limited data on the volume of cash injected into local economies through unconditional cash transfers and Cash For Work activities.** Although implementing partners under USAID/OFDA-funded CFW activities generally coordinate and share basic information, they are an exception among the perhaps hundreds or even thousands of humanitarian actors involved in cash and CFW activities. This lack of coordination complicates any analysis of demand and supply, and therefore price formation, because there are simply no data on just how much additional cash (i.e., effective demand) the market is reacting to.

³⁰ Damais, 2007; LAREHDO, 2008.

³¹ The team interviewed a Customs official at Mal Passe who noted that the level of informal trade spiked post-earthquake, and has stabilized at twice the previous level.

³² These sources include FAOSTAT, ITC, FARES, and AMEX.

3.4. Study Approach

In order to understand the potential influences (positive and negative) of food aid on domestic production incentives and local markets, and to provide actionable recommendations for USAID/Haiti food aid programming decisions, the Market Analysis team undertook a baseline Market Analysis to assess the current state of agricultural markets as of June 2010. The baseline was accomplished through a combination of desk study, key informant interviews, and intensive field work. The goal of the market analysis is to present USAID decision-makers (1) with sufficient information to allow determination of whether or not inclusion errors from distributed food aid will substantially impact markets³³ and (2) to generate specific recommendations for possible monetization of food aid given market conditions.

Given the data constraints, and the inherent challenges in assessing the impact of food aid on local markets and production incentives, the study team's approach was to combine the highest-quality quantitative and qualitative information available about demand and supply factors which are likely to influence the production and market responses to food aid. This study draws from three broad types of information: needs assessments, effectiveness of targeting, and analysis of the markets which are critical for food security, including analysis of available price data. This study places the greatest emphasis on the commodities markets and marketplaces which are most likely to be impacted by both distributed and monetized food aid. Without an understanding of how markets are currently structured and performing, it is not possible to provide guidance on the type, form, timing, or geographic targeting of food aid that is not likely to negatively impact markets or producer incentives. (For a detailed description of the study methodology employed for this Market Analysis, please see Annexes V and VI.)

The choice of markets was determined in consultation with USAID, with the specific objective to develop a picture of the state of markets in a cross-section of urban and rural areas, both near and far from the border, and in both surplus and deficit areas. To maximize coverage of the broadest cross-section of markets possible, the study team split into two teams. Nineteen market sites were visited across eight of nine departments³⁴ as well as the city of Port-au-Prince. Teams employed a Rapid Assessment Tool and used a Structure-Conduct-Performance (S-C-P) Framework as a lens through which to investigate the state of markets across the country. (See more on SCP in Section 3.5 below.) Team members conducted hundreds of interviews with subsistence farmers, small-scale and large-scale producers, importers, traders, processors and millers, wholesalers, and retailers. In geographic areas where food aid interventions are currently taking place, team members also interviewed representatives of INGOs and PVOs, and a sample of beneficiaries and non-beneficiaries of food aid.

The resulting framework for the study accomplishes the following objectives:

³³ Importantly, whether the effect is substantial is quite subjective and will likely vary quite widely across contexts. While the BEST study will strive to provide adequate information about the type and proportion of market players that may be affected by distributed food aid, ultimately the determination of whether the impact might be "substantial" will rest with the informed judgment of the relevant USG decisionmaker (typically the USAID Mission Director).

³⁴ The team was unable to visit the Northeast department due to time constraints during the June/July field visits. One of the study team members had previously conducted extensive studies of the markets in the Northwest, however, so the team was able to draw on that prior experience for the present study.

- Provides an overview of the agriculture sector, highlighting: trends and policies which have impacted agricultural production and food security, the role of food aid in supporting food security, and how these have changed since the January earthquake (Chapter 4)
- Provides an overview of the commodity markets most critical for food security and therefore most likely to be impacted by food aid (Chapter 5)
- Summarizes the key findings from the market visits undertaken in June/July 2010, and emphasizes the current structure, conduct, and performance of markets throughout the country (Chapter 6)
- Examines the past, present, and potential future role of Local and Regional Procurement (LRP) in Haiti (Chapter 7)
- Provides general guidance for targeting of food aid interventions in order to avoid disrupting markets or creating production incentives, summarizes observations made during the field visit regarding current food aid programming, and examines the evidence of market impact based on price analysis (Chapter 8)
- Provides specific recommendations regarding the monetization of commodities to support programming objectives during FY11 (Chapter 9)

3.5. Structure-Conduct-Performance (S-C-P) Framework

As noted above, this study relies upon the Famine Early Warning Systems Network's (FEWS NET) Structure-Conduct-Performance (S-C-P) model, as adapted from Industrial Organization Theory³⁵ to the realities of markets in developing countries.³⁶

According to traditional neo-classical economic theory, a market is “performing” if an increase in demand or a decrease in supply results in a new equilibrium characterized by a higher price which clears the market by equating quantity supplied and quantity demanded. This definition of market performance is insufficient from a food security perspective because a price increase which substantially diminishes the purchasing power of households, though an equilibrium, has undesirable social outcomes which threaten food security. For this reason, we turn to the S-C-P concept of market performance.

Within the S-C-P framework, markets are said to perform well if they achieve socially-desirable goals such as availability of a sufficient quantity, diversity, and quality of goods to satisfy demand at prices which are “fair” to traders, producers, and consumers. Fair prices ensure reasonable margins to traders, enabling them to continue engagement in that market. Fair prices to consumers assure that a cross-section of the population is able to access goods via the market. Short and long-term price stability, as well as market efficiency, are

³⁵ See Bain (1959).

³⁶ Readers interested in more details about a Structure-Conduct-Performance framework for analysis in the context of food security in developing countries, please see FEWS NET (2008b).

indicators of market performance. **Market performance** is derived from basic conditions, market structure, and market conduct.

Basic conditions broadly describe basic traits of the country and economy, including seasons and seasonality, infrastructure, consumption characteristics such as elasticities³⁷ and income distribution, stability, government policies, and incentives for producers and traders.

Basic conditions set the parameters for **market structure**, which comprises the relatively stable features that influence the behavior of market participants. Features of market structure include the number and concentration of buyers and sellers, barriers to entry and exit, vertical and horizontal coordination, and licensing requirements.

In conjunction, basic conditions and market structure influence **market conduct**, or the behavior of market actors. Price setting behavior, buying and selling practices, informal norms of trade, and information use are all aspects of market conduct.

³⁷ Elasticities are a common way to describe the responsiveness of demand or supply to changes in prices or income. For example, the price elasticity of demand describes the percentage change in quantity demanded resulting from a percentage change in the price of a good, while the price elasticity of supply describes the percentage change in quantity supplied resulting from a percentage change in the price of a good. The income elasticity of demand describes the percentage change in quantity demanded in response to a percentage change in income. Importantly, price and income elasticities are very rarely available, and extremely difficult to collect. Elasticities are mentioned here solely for the purpose of tying these important concepts of supply and demand price responsiveness from economic theory to the qualitative indicators often relied upon in practice. For more details, please see Annex I and FEWS NET (2008b).

Chapter 4. Overview of Agricultural Sector, Food Aid, and Policy

4.1. Overview of the Agricultural Sector

4.1.1. Pre-Earthquake Situation

Production Base and Trends

As of 2008, Haiti's population was estimated at 9.8 million, 54 percent of which was estimated as rural. Between 1983 and 2003 (the year of the last general census), the Haitian population grew by 2.3 percent per year; the annual growth rate of the urban population was 4.7 percent, as opposed to one percent in rural areas. Over the past two years, a smaller economic growth of two percent has accompanied this population growth. However, these two years of small economic growth are rare among the country's overall economic decline over the past 20 years. The economy of Haiti is considered the least-developed of the western hemisphere.

The agricultural sector accounts for 25 percent of Haiti's GDP as of 2008, a decline from 40 percent in the 1990s. Still, the sector provides jobs to 60 percent of Haiti's labor force. Smallholder agriculture is the major economic activity in rural areas and has been a key contributor to economic growth. As of 2005 (the latest IDB study available) agriculture is the primary activity for about 800,000 small farm households in Haiti, each of which holds an average of 1.8 hectares.³⁸

In recent years, and particularly in the wake of the January 12, 2010 earthquake, the agricultural sector has been considered the key driver of future economic growth by the GOH and multilateral donors. Growth in the smallholder agricultural sector is critical for economic growth and poverty reduction, especially in the short-term.

Haiti produces a large number of crops across its variety of agro-ecological zones. The multiple agro-ecological zones include: humid and very humid mountains (47 percent), humid and semi-humid plains and plateau (19 percent), dry and semi-arid plains (15 percent), dry and semi-arid mountains (16 percent), and irrigated plains (2 percent). The main crops produced are cereals (maize, sorghum, and rice), legumes (beans, pigeon peas, cowpeas), roots and tubers (yams, sweet potatoes, cassava, potato), plantain, sugar cane, coffee, fruits, and fresh vegetables.

Only 1.5 million of the 2.75 million hectares of total land (55 percent) are cultivated in Haiti, though only 20 percent of the total lands are located in plains.³⁹

Farmers have limited use of improved technologies. A small number of farmers operating in irrigated areas and humid hillsides, where water is abundant, use mineral fertilizers. Over

³⁸ MARNDR/BID 2005

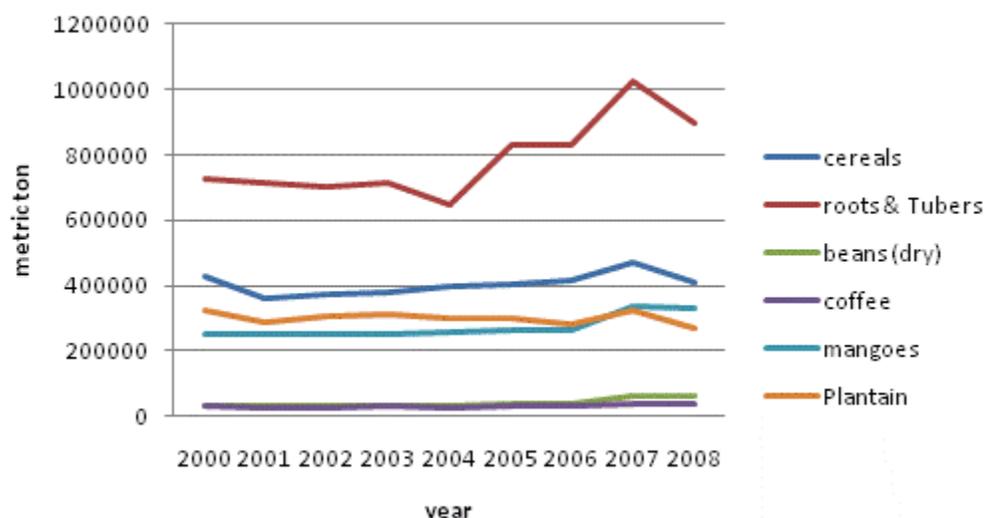
³⁹ Bellande 2005a

20,000 MT of mineral fertilizers are used each year by about five percent of Haitian farmers, mainly in rice-producing areas and high-elevation humid zones where vegetable production predominates.⁴⁰ Farmers typically rely upon traditional seeds (those that are not researched/improved) conserved from the previous harvest. Physical labor runs most farm operations, though the Organisme de Développement de la Vallée de l'Artibonite (ODVA) owns some mechanized tractors and plows which are used in rice production. ODVA manages the equipment and farmers pay a fee for plowing their plots.

Agricultural production of all crops has stabilized or declined for the most part of the 2000-2008 period, with the exception of roots and tubers, which has fluctuated, as shown in the figure below. The figure below also illustrates the relative importance of the Haitian staples: cereals (including paddy rice, maize, and sorghum), roots and tubers, and plantains. Cereal production during this period was highest, at an average of 405,833 MT, followed by roots and tubers (with an average of 788,532 MT), and plantains (with an average of 300,511 MT). Increases in roots and tubers could be partially due to the increased production of sweet potatoes over the last 10 years as a result of improved production techniques diffused by the Ministry of Agriculture with the support of FAO.

From 2008 to 2009, the Haitian Ministry of Agriculture reports that production of all crops increased by approximately 35 percent, except for coffee which slightly decreased. According to Haitian authorities, the significant rise in agricultural production in 2009 was due to the availability of affordable seeds and fertilizer, improvement in irrigation systems, and favorable weather conditions.

Figure 2. Evolution of Agricultural Production in Haiti



⁴⁰ Bayard and Shannon 2010

Fresh fruit and livestock are two other important parts of Haiti's agricultural sector. In 2005, total fruit production was estimated at 796,650 MT;⁴¹ from 2000 to 2008, beef production averaged 42,000 MT per year, pig 32,252 MT and goat 6226 MT.

Seasonality

Given the diversity of agro-ecological zones, crop production is possible all year long in different parts of the country. However, Haiti's agricultural sector is mostly rain-fed; thus the main cropping seasons follow the rainfall pattern. Approximately 70 percent of the country receives rains averaging 1200 mm per year.⁴² However, rainfall is highly variable at different times and in different areas of the country.

Beans are cultivated during three main seasons, with harvests in February, May, and September. Approximately 48 percent of the beans are produced during the spring season, 22 percent in summer, and 33 percent in winter. About 49 percent of maize is produced during the spring season, 33 percent in summer, and 18 percent in winter.⁴³ Rice can be produced all year long, but harvests for the two main seasons take place in July/August and November/December, respectively. Sorghum is harvested in January/February. For further information, including price analysis, please see Annex III.

Locally-produced agricultural commodities are abundant on markets immediately after harvest. The abundance periods may last one to two months depending upon harvest, which itself varies with weather conditions. Lack of post-harvest infrastructure such as collection points, storage, and processing facilities often result in major product losses.

Domestic Production and Processing

The agro-industrial sector in Haiti flourished in the early 1980s with four sugar cane companies, six pasta and tomato companies, and vibrant dairy and poultry industries. The embargo imposed on Haiti from 1992-1994 destroyed the Haitian agro-industrial base; not only was the export market cut off, but imports of raw materials were limited. Trade liberalization exacerbated the damage as cheap commodities flooded into the country, competing with local production. Today, the agro-processing sector is no longer well-developed; only a few small, undercapitalized entrepreneurs process specialized commodities such as fruits, sugar cane, milk, and honey.

Before the earthquake, the formal agro-industrial sector, located primarily in the Port-au-Prince area, included 12 mango exporters, four producers/exporters of essential oil, and five food-processing enterprises.⁴⁴ In recent years, farmer associations and cooperatives supported by NGOs have undertaken initiatives such as the processing of milk, fruits, coffee, and honey. Currently about 12 mini-dairies across the country process milk under the label of Lèt Agogo. Their production has increased over the past five years with the technical support of the NGO

⁴¹ Bellande 2005b

⁴² Bellande 2005

⁴³ CFSAM 2010

⁴⁴ MARNDR/BID 2005

Veterimed. The fruit processing industry holds less than 10 small enterprises which produce marmalade and jelly.

There are between 450 and 500 small rice mills in the country. More than 80 percent of the mills are located in the lower Artibonite region, where 60 percent of the local rice is produced.⁴⁵ Maize mills are located near markets and frequently grind sorghum as well.

Impediments to the agro-industrial sector include: deficiencies in infrastructure of communications and basic services (roads, electricity), limited access to formal sources of capital, and limited access to external markets due to sanitary and phyto-sanitary barriers.

Key Constraints to Expansion

Despite the importance of agriculture to the Haitian economy, the sector has not received adequate support for its development. The key constraints to agricultural development in Haiti include:

- **Environmental degradation.** Three-fourths of the country is mountainous with slopes greater than 30 percent and forests covering only one to three percent of the land. Land degradation is a major constraint to agricultural production. About 85 percent Haiti's watersheds are severely degraded, resulting in soil erosion, loss of fertility, and reduction of water quantity and quality. In this situation, crop yields are low in the absence of fertilizer.
- **Lack of irrigation.** Agriculture in Haiti is mainly rain-fed, and consequently is often affected by drought. According to MARNDR, the potential for irrigation is between 135,000 ha and 150,000 ha; however, only 60,000 ha are currently irrigated, though 90,000 ha have irrigation infrastructure. Existing irrigation systems are not well-maintained and managed.
- **Lack of infrastructure.** Lack of transport and communications infrastructure and poor maintenance of physical infrastructure limits access to internal and external markets. Poor infrastructure impedes the availability of market information, ultimately reducing farm prices, producer share, and profitability. In rural areas, poor roads hinder the evacuation of agricultural products and the marketing of perishables, resulting in significant post-harvest losses, as well as huge marketing margins to cover risks. Lack of post-harvest infrastructure such as collection points, storage, and processing facilities increases transactions along the chain and is an overall constraint to the agricultural sector.
- **Structural weakness of the production, processing, and trading systems of agricultural products.** Both farm capacity and competitiveness are low, as compared to other agriculture in the region.

⁴⁵ Bayard, 2007

- **Lack of access to credit.** The rural sector does not receive much bank credit, and small farmers generally rely on local moneylenders for high-interest loans. Investment and working capital for agriculture and agro-industry are very scarce. The weakness of the intermediary and processing sector is a handicap to develop linkages between producers and the market.
- **Lack of technical expertise.** Haiti's agricultural sector lacks applied research, training, and extension for appropriate farming systems to promote efficient utilization of land and labor resources. Other technical gaps include conservation of the natural resources, and risk-management skills
- **Lack of support.** Integrated supply chains for crop and livestock productions are underdeveloped. This is due to the negligible support services dedicated to agriculture and the lack of partnerships between economic agents (producers, public, and private actors) to facilitate integrated supply chains. Also, farmers lack of managerial skills and are poorly organized to better develop their activities.

Exports and Imports

The embargo imposed on Haiti between 1992 and 1994 limited the amount of fertilizer the country could import, reducing production of rice and vegetables across the country. Furthermore, fuel was high and costly, and irrigation pumps that relied on diesel frequently weren't operating. Donor support for investment in agriculture and other sectors dropped, and food products were entering the country informally, hurting the agriculture sector and the economy as a whole. After the embargo was lifted, Haiti faced strong international competition and struggled to recover from years of inadequately-supported agriculture. The decline of the agricultural production has reduced the country's exports and its ability to feed itself.

Coffee, cacao, mangoes, and essential oils are the main agricultural commodities currently exported by Haiti. Production of those crops has been declining for several decades. Between 15,000 MT and 20,000 MT of fruits are exported every year to the US, the Dominican Republic, and other Caribbean countries. The value of fruit exports amounted to US\$10 million in 2005.⁴⁶ Informal exports of various products in small quantities to the Dominican Republic are substantial. Agricultural exports fluctuated between 2000 to 2007, averaging US\$23.12 million per year during that seven-year period. Agricultural exports represent on average six percent of Haiti's total exports, as shown in the table below.

Table 4. Agricultural Trade Balance (US\$ millions)

| Year | Total exports | Agricultural exports | Agricultural exports as a % of total exports | Total imports | Food imports | Food imports as % of total imports | Trade deficit | Food trade deficit |
|------|---------------|----------------------|--|---------------|--------------|------------------------------------|---------------|--------------------|
| 2000 | 343 | 24 | 7% | 1156 | 266 | 23% | -813 | -242 |
| 2001 | 300 | 15 | 5% | 1116 | 279 | 25% | -816 | -264 |
| 2002 | 286 | 20 | 7% | 1073 | 236 | 22% | -787 | -216 |

⁴⁶ Bellande 2005b

| Year | Total exports | Agricultural exports | Agricultural exports as a % of total exports | Total imports | Food imports | Food imports as % of total imports | Trade deficit | Food trade deficit |
|---------|---------------|----------------------|--|---------------|--------------|------------------------------------|---------------|--------------------|
| 2003 | 360 | 18 | 5% | 1218 | 268 | 22% | -858 | -250 |
| 2004 | 420 | 21 | 5% | 1250 | 325 | 26% | -830 | -304 |
| 2005 | 483 | 29 | 6% | 1379 | 331 | 24% | -896 | -302 |
| 2006 | 500 | 30 | 6% | 1673 | 368 | 22% | -1173 | -338 |
| 2007 | 560 | 28 | 5% | 1609 | 370 | 23% | -1049 | -342 |
| Average | 406.5 | 23.12 | 6% | 1309.25 | 307.37 | 23% | | |

Source: MARNDR/FAO

Until the first half of the 1980s, tariff and non-tariff barriers protected Haitian agriculture from foreign competition. Customs duties were relatively high to discourage imports, as shown in the table below. Under the recommendation of IMF and the World Bank in the structural adjustment framework important barriers were removed in 1995, making Haiti the most open economy in the region and tremendously increasing the country's imports of agricultural products. This is especially true for rice, the country's primary imported commodity. In 2007, Haiti's import value was evaluated at US\$1,609 million, resulting in a trade deficit of US\$1,049 million. Food imports average US\$307 million annually, or about 23 percent of total imports between 2000 and 2007. The food trade deficit increased from US\$242 million in 2000 to US\$342 million in 2007, as shown in the table above.

Table 5. Evolution of Tariffs on Selected Commodities in Haiti

| Commodities | before 1995 | 1995-2009 | December 2009-June 2010 |
|------------------------|-------------|-----------|-------------------------|
| Rice | 50% | 3% | 3% |
| Corn | 50% | 15% | 15% |
| Sorghum | - | 0% | 15% |
| Beans | 50% | 5% | 3.5% |
| Wheat | - | 0% | 4% |
| Wheat flour | 50% | 0% | 3.5% |
| Prepackaged edible oil | - | 0% | 5% |

Source: Iram & Ecosof 1998; AGD 2010

Key Market Chains

Numerous actors are involved in the market chain of agricultural products. Producers are the starting point of the market chain. Lack of storage capacities and pressing needs for cash forced small farmers to supply their product on small markets immediately after harvest when prices are at the lowest levels.

A varying estimate of 5,000 to 20,000⁴⁷ intermediary market actors collect and distribute agricultural commodities across the country. These actors include:

- Local or rural Madam Saras, who purchase from producers on small markets to sell to urban merchants. With limited purchasing capacity, these rural Madam Saras travel short distances to buy and sell agricultural commodities.

⁴⁷ Paul, 2005

- Madam Saras, who purchase large stocks on the most accessible markets to sell in the primary consumer centers such as Port-au-Prince and Cap-Haitien. These intermediaries are the pivot of agricultural trade in Haiti. Though not formally organized, Madam Saras often agree to set purchase and sale prices. Madam Saras (rural or urban) are commonly known to arrive in a market and refuse to buy until the seller agrees with their price.
- Retailers, who purchase goods from wholesalers and Madam Saras to distribute to consumers. Many petty traders act in the informal sector as retailers.

In addition to these intermediaries, transporters, depot owners, and warehousemen (who unload/load and transport goods) all play important roles in the distribution of goods throughout the country.

Consumers are the largest category of actors engaged in trade. Demand for food commodities is growing rapidly in the country, particularly in urban areas.

4.1.2. Post-Earthquake Update

In recent years, Haiti has experienced severe external shocks which affected economic growth and consequently exacerbated poverty. IHSI estimated a negative growth of 7.4 percent of the agricultural sector in FY07-08 when the country was affected by three major hurricanes, the food price crisis, and political turmoil. The latest shock came from the powerful 7.0 earthquake that struck the country on January 12, 2010.

Although much has been said about the disaster's impact on the economy of the affected areas, losses in the agricultural sector are not well known. Post-earthquake rapid assessment findings have indicated some effects of the earthquake on agriculture, and roughly estimate that losses and damages to the agricultural sector are about US\$34,275,000.⁴⁸ The table below details earthquake-related agricultural losses.

Table 6. Estimated Loss in the Agricultural Sector due to Earthquake

| Description | Amount (\$) | % |
|--------------------------------|-------------|--------|
| Irrigation infrastructure | 2,050,000 | 5.98% |
| Agricultural roads | 200,000 | 0.58% |
| Food processing infrastructure | 375,000 | 1.09% |
| Loss of crop production | 8,000,000 | 23.34% |
| MARNDR office buildings | 23,650,000 | 69.0% |
| Total | 34,275,000 | 100% |

Source: GOH

Irrigation infrastructure was damaged in areas directly struck by the earthquake, including Léogane, Jacmel, Petit Goave, and Gressier. About 12 irrigation systems totalizing 3,500 ha were affected by the earthquake in the West, Southeast, and Nippes departments. The value of the damage to irrigation infrastructure was estimated at US\$2,050,000. Storage and crop processing facilities were also destroyed in several areas. Sugar cane mills in the plains of Léogane and Cul-de-Sac were affected by the earthquake.

⁴⁸ GOH 2010

Total value of crop loss is estimated at US\$8 million. The EMMA report on bean markets in Port-au-Prince notes that earthquake struck the bean crop during its flowering stage, which damaged roots and decreased yields. The team spoke with a honey producer/processor who estimated that honey production is down 50 percent this year compared to normal.

Population displacement has also affected the agricultural sector as well as increased food insecurity. An estimated 600,000 people left the earthquake-affected areas to settle in other communities. The average number of people living in a household has increased from five to more than 10 in several regions in the country. According to the GOH, the population displacement resulted in:

- A food deficit in rural areas causing a rise in food insecurity;
- Consumption of seed stocks, which reduces investments in the next cropping season. The CFSAM reported a diminution of the area planted during the spring season.
- A reduction in household livestock holdings and other assets as a response to increased demand for food. This situation was aggravated by the closing of formal money transfer systems during several weeks following the earthquake.

The earthquake also damaged marketplaces, roads, and warehouses.

Table 7. Haiti Crops and Livestock Production 2000-2008 (MT)

| Commodity | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Rice (paddy) | 130000 | 103000 | 107000 | 108500 | 105000 | 105000 | 110000 | 118000 | 95000 | 128250 |
| Maize | 202500 | 180000 | 179400 | 182000 | 198000 | 200500 | 205000 | 240000 | 225000 | 303750 |
| Sorghum | 98000 | 80000 | 89600 | 91000 | 95000 | 100000 | 100000 | 115000 | 90000 | 121500 |
| Beans (dry) | 33150 | 32900 | 32500 | 35000 | 34000 | 90000 | 40000 | 60000 | 62000 | 83700 |
| Yams | 200000 | 197000 | 189700 | 191000 | 99000 | 220000 | 220000 | 260000 | 232000 | 313200 |
| Sweet potatoes | 180000 | 174000 | 175000 | 180000 | 200000 | 200000 | 200000 | 268850 | 269000 | 360450 |
| Cassava | 337740 | 332000 | 330000 | 330000 | 340000 | 400000 | 400000 | 480000 | 378000 | 510300 |
| Potatoes | 9600 | 11000 | 10200 | 10500 | 11500 | 13000 | 13000 | 16900 | 17800 | 24030 |
| Plantain | 322500 | 290000 | 308000 | 310000 | 300000 | 300000 | 280000 | 325000 | 270000 | 364500 |
| Vegetables (fresh) | 200000 | 180000 | 180000 | 183500 | 180000 | 180000 | 180000 | 180000 | 180000 | --- |
| Mangoes | 250000 | 250000 | 249000 | 250000 | 260000 | 261000 | 265000 | 335000 | 330000 | 445500 |
| Avocados | 45000 | 42000 | 44000 | 47000 | 42000 | 42000 | 54000 | 58000 | 58000 | --- |
| Coffee (green) | 30000 | 28000 | 27000 | 30000 | 29000 | 35000 | 35000 | 40000 | 37000 | 49950 |
| Beef | 40300 | 40500 | 42000 | 42494 | 42494 | 42494 | 42000 | 42000 | 42000 | --- |
| Pork | 28000 | 31200 | 33000 | 33060 | 33000 | 33000 | 33000 | 33000 | 33000 | --- |
| Goat | 6480 | 6500 | 6525 | 6533 | 6000 | 6000 | 6000 | 6000 | 6000 | --- |
| Milk (Cow/whole/fresh) | 41250 | 42000 | 42500 | 44000 | 44500 | 44500 | 44750 | 44500 | 44500 | --- |

Source: MARNDR; FAO

4.2. Food Security and the Role of Food Aid

4.2.1. Introduction

Haiti has been receiving food aid intermittently since the mid-1950s.⁴⁹ Still, as of 2007, more than 25 percent of the population could not meet its caloric requirements.⁵⁰ Currently, food aid

⁴⁹ International Development Research Center, "Chapter 3. Alternative Food Aid Strategies and Local Capacity Building in Haiti"

⁵⁰ Haiti Bellmon Analysis, 2007

accounts for five percent of the country's national needs.⁵¹ Most of this food aid, both emergency and non-emergency, comes from the US. Other primary actors include the Canadian International Development Agency (CIDA), the EU, the French Cooperation Mission, and the WFP.

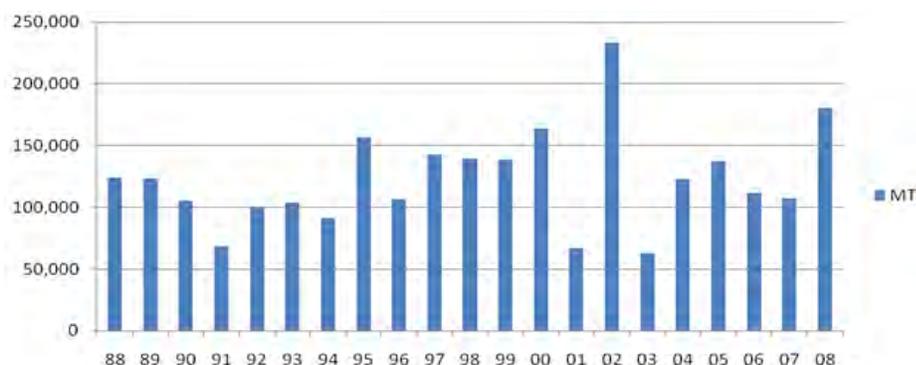
Even before the earthquake, Haiti was home to the highest number of NGO aid groups, per capita, in the world.⁵² After the earthquake, more NGOs have poured into the country, totaling an estimated 10,000 groups. Though well-intentioned, some of these efforts may bring long-term harm alongside short-term help. The humanitarian response has been criticized for its lack of coordination and guidance. Specific issues related to food aid noted by the team include delayed or disrupted aid shipments and donors' lack of keeping or sharing records. The sense that 'everyone and no one is in charge' increases the possibility of overlap, and over-provision of food aid which may negatively impact the market and production incentives. Efforts by major donors and agencies, primarily WFP and USAID, to encourage coordination and central reporting, have been hampered by weak central government and a lack of understanding and appreciation among the multitude of smaller agencies for the importance of coordination.

Since the earthquake, the US has provided US\$177.5 million in emergency food and resources, through WFP and current Title II Non-Emergency Program and SYAP partners. This includes US\$130 million in emergency food aid to WFP and PVOs, and US\$47.5 million in Emergency Food Security Program (EFSP) resources for cash and vouchers. Donors are currently transitioning from a short-term, emergency strategy to a longer-term strategy for recovery and development.

4.2.2. Historical Overview

Total food aid to Haiti has fluctuated over the years, as shown in the figure below.

Figure 3. World Food Aid to Haiti, 1988 to 2008



Source: WFP

⁵¹ WFP, Haiti homepage.

⁵² WFP, Haiti homepage.

World food aid¹ data since 2003 shows that cereals dominate food aid to Haiti, with Hard Red Winter Wheat (HRWW) accounting for nearly half of food aid, followed by rice.

Table 8. Overview of World Food Aid to Haiti (MT): Top Food Aid Imports, Relative to Total Food Aid

| Commodities | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|-------------------------------------|--------|---------|---------|---------|---------|---------|---------|
| World Food Aid | 62,758 | 122,425 | 137,408 | 111,262 | 107,390 | 180,384 | 721,626 |
| HRWW | 13,935 | 66,340 | 90,062 | 57,180 | 55,113 | 34,690 | 317,320 |
| Rice | 12,923 | 18,576 | 14,128 | 19,714 | 15,708 | 50,719 | 131,768 |
| Veg oil | 2,886 | 6,354 | 4,253 | 3,429 | 2,375 | 7,190 | 26,486 |
| Wheat/rice/oil, % of total food aid | 47% | 75% | 79% | 72% | 68% | 51% | 66% |

Source: WFP

Examining US food aid to Haiti from a historical perspective, figures from FFP show that two-thirds of US food aid over the past few years has comprised wheat and wheat products, with most of the wheat delivered through monetization. Rice is the next-largest food aid import, in volume terms, according to data from FFP for the period 2004-2009, though rice represents less than eight percent the volume that wheat food aid represented during that period. Note that the FFP figure for rice food aid imports from the US is slightly lower than IGC's estimate (25,000 MT), and slightly higher than USDA-FAS (19,000 MT) and WFP (21,000 MT) estimates. For further details related to rice food aid and imports, please see Chapter 5.1 and Chapter 9.3.

Table 9. Haiti's Top Food Aid Imports from the US, by Commodity (MT)

| Commodity | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | Total |
|-------------------------------------|--------|--------|--------|--------|--------|--------|---------|
| Total US Food Aid to Haiti | 83,240 | 88,800 | 76,490 | 69,340 | 80,760 | 83,020 | 481,650 |
| HRWW | 60,000 | 70,000 | 57,180 | 50,460 | 34,690 | 45,710 | 318,040 |
| Rice | 1,790 | 2,600 | 2,580 | 0 | 13,560 | 3,870 | 24,400 |
| Vegetable Oil | 2,100 | 1,780 | 1,770 | 3,330 | 5,860 | 4,340 | 19,180 |
| Wheat/rice/oil, % of total food aid | 77% | 84% | 80% | 78% | 67% | 65% | 75% |

Source: AMEX FFP database

Available food aid data from the International Grain Council (IGC) and WFP illustrate historical trends in food aid by donor country. Although there are slight discrepancies in the data (likely due to differences in classification or typographical errors), the overall trend clearly indicates the US and European Community contribute the largest food aid volumes to the Caribbean nation.

Table 10. Food Aid Contributions to Haiti, by Donor, per International Grain Council

| Yea | Brazil | Canada | European Community | Japan | Switzerland | US | Dominican Republic | Turkey | Total |
|------|--------|--------|--------------------|-------|-------------|--------|--------------------|--------|---------|
| 2003 | | 560 | 7,019 | 250 | 13 | 95,973 | - | - | 103,880 |
| 2004 | | 755 | 9,657 | 3,134 | 2,254 | 73,170 | - | - | 88,970 |

¹ Differences in total reported food aid volumes across data sources are not uncommon. These discrepancies in figures across sources can arise due to differences in the point in time when a food aid shipment or arrival is recorded, which can impact which calendar or fiscal year the data fall under; whether data are recorded in fiscal or calendar years; whether reported data are planned or actual.

| Year | Brazil | Canada | European Community | Japan | Switzerland | US | Dominican Republic | Turkey | Total |
|-------|--------|--------|--------------------|-------|-------------|---------|--------------------|--------|---------|
| 2005 | | 6,934 | 7,290 | 1,870 | 198 | 85,310 | | | 102,862 |
| 2006 | | 7,535 | 31,620 | | 1,362 | 81,566 | | | 122,548 |
| 2007 | | 8,880 | 7,167 | 184 | 1,817 | 77,460 | | | 95,534 |
| 2008 | | 15,762 | 13,862 | 1,000 | 1,257 | 88,867 | | | 121,348 |
| 2009 | 15,000 | 1,233 | 15,595 | | 679 | 64,285 | | | 81,792 |
| 2010* | 946 | 41 | 10,736 | 0 | | 184,097 | 22,766 | 12,197 | 230,783 |
| Total | 15,946 | 41,700 | 102,945 | 6,438 | 7,580 | 750,727 | 22,766 | 12,197 | 947,715 |

Source: *International Grains Council*

Table 11. Food Aid Contributions to Haiti, by Donor, per WFP Interfais

| Year | Brazil | Canada | European Community | Japan | Switzerland | US | Dominican Republic | Turkey | Other | Total |
|-------|--------|--------|--------------------|--------|-------------|---------|--------------------|--------|--------|-----------|
| 2003 | 0 | 162 | 9,921 | 8,433 | 0 | 40,162 | | 0 | 4,079 | 62,757 |
| 2004 | 0 | 1,165 | 7,786 | 4,073 | 2,206 | 94,617 | | 0 | 12,578 | 122,426 |
| 2005 | 0 | 6,133 | 5,213 | 4,297 | 170 | 115,076 | | 0 | 6,518 | 137,408 |
| 2006 | 0 | 6,384 | 11,882 | 6,777 | 1,110 | 83,173 | | 144 | 1,791 | 111,262 |
| 2007 | 0 | 10,017 | 6,383 | 5,594 | 2,267 | 77,493 | | 0 | 5,636 | 107,390 |
| 2008 | 294 | 16,473 | 0 | 14,182 | 1,257 | 130,084 | | 0 | 20,383 | 182,672 |
| 2009 | 15,000 | 2,002 | 5,261 | 1,000 | 678 | 85,600 | | 0 | 29,103 | 138,644 |
| 2010* | 946 | 41 | 10,736 | 0 | | 184,097 | 22,766 | 12,197 | 0 | 230,783 |
| Total | 16,240 | 42,378 | 57,182 | 44,357 | 7,688 | 810,303 | 22,766 | 12,341 | 80,088 | 1,093,342 |

Source: *WFP Interfais*

4.2.3. Past and Current Initiatives

US food aid has been channeled through NGOs including ACDI/VOCA, CARE, Catholic Relief Services, Save the Children, and World Vision.⁵⁴ Currently, the Title II Non-Emergency Program awardees (CRS, World Vision, and ACDI/VOCA) are the main channels of US food aid in Haiti. These Awardees were also issued SYAPs after the earthquake, as detailed in section 3.1.4.

Monetized food aid. From FY05 through FY10, nearly 280,000 MT of commodities have been monetized in Haiti to support DAP/Title II Non-Emergency Program activities. HRWW has been the main commodity monetized in volume terms, with the exception of very small volumes of vegetable oil and wheat flour.⁵⁵ The largest volumes of monetized food aid have gone through World Vision and CRS. CRS led Title II monetization between FY04-FY08, and in FY09-present, ACDI, CRS, and WV are the partners involved in the monetization of wheat and wheat flour, with WV as the lead agency. Rice food aid has not been monetized to support Title II Non-Emergency Program or SYAP activities in Haiti.

Table 12. Monetized Food Aid, by Cooperating Sponsor (MT)

| Cooperating Sponsors | FY05 | FY06 | FY07 | FY08 | FY09 | FY10 | Total |
|----------------------|--------|--------|--------|--------|--------|-------|---------------|
| ACDI | 0 | 0 | 0 | 6,250 | 16,310 | 4,650 | 27,814 |
| CARE | 18,460 | 14,750 | 8,576 | 0 | 0 | 0 | 41,786 |
| CRS | 16,600 | 11,760 | 12,981 | 12,615 | 6,430 | 2,650 | 63,030 |
| SCF | 8,970 | 8,630 | 8,917 | 0 | 0 | 0 | 26,517 |

⁵⁴ USDA FAS shipped food aid database

⁵⁵ AMEX FFP database

| Cooperating Sponsors | FY05 | FY06 | FY07 | FY08 | FY09 | FY10 | Total |
|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| WV | 25,970 | 22,040 | 21,486 | 15,825 | 22,970 | 11,700 | 119,993 |
| Total MTZ | 70,000 | 57,180 | 51,960 | 34,690 | 45,710 | 19,000 | 279,140 |

Source: AMEX FFP database

In the past, HRWW comprised the largest volume of monetized food aid under Title II Non-Emergency Programs. The planned pipeline for current monetized food aid through the Title II Non-Emergency Programs was primarily to be HRWW, with a very small amount of vegetable oil. However, due to the earthquake and the destruction of Les Moulins d'Haiti mill, 19,000 MT of wheat flour is now scheduled for monetization for FY11, and ACDI/VOCA's pilot vegetable oil monetization has been suspended indefinitely.

Distributed food aid. From FY05 through FY10, distributed food aid volumes have been close in size to monetized volumes (270,000 MT for distributed, versus 280,000 MT for monetized). It should be noted that due to lack of required reporting of food aid imports in Haiti, discrepancies exist among sources regarding actual amounts of food aid that have been distributed. According to recorded figures, the largest volumes of distributed food aid have gone through WFP, CRS, and World Vision.⁵⁶

Table 13. Distributed Food Aid, by USAID Partners (MT)

| Cooperating Sponsors | FY05 | FY06 | FY07 | FY08 | FY09 | FY10 | Total |
|----------------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| ACDI | 0 | 0 | 0 | 130 | 1,400 | 5,220 | 6,750 |
| CARE | 2,030 | 1,490 | 2,740 | 0 | 870 | 0 | 7,130 |
| CRS | 6,410 | 7,470 | 8,440 | 11,440 | 8,410 | 23,520 | 65,690 |
| SCF | 3,810 | 4,000 | 3,650 | 0 | 0 | 0 | 11,460 |
| WV | 3,650 | 3,190 | 2,550 | 14,440 | 10,520 | 29,020 | 63,370 |
| WFP | 2,900 | 3,160 | 0 | 20,060 | 16,110 | 72,640 | 114,870 |
| Total DD | 18,800 | 19,310 | 17,380 | 46,070 | 37,310 | 130,400 | 269,270 |

Source: AMEX FFP database

Soy-fortified bulgur has comprised the largest volume of distributed food aid under the Title II Non-Emergency Programs in recent years, and is expected to continue as the Title II Non-Emergency Program's main distributed commodity, followed by CSB, pulses (green peas, yellow peas, and lentils), and vegetable oil.

Table 14. Distributed Food Aid through Title II Non-Emergency Programs 2009-2011

| Mechanism | Bulgur - Soy-Fortified (MT) | CSB - Corn Soy Blend (MT) | Peas, Yellow (MT) | Veg. Oil, 4l (MT) | Wheat, Hard Red Winter, bulk (MT) | Peas, Green (MT) | Beans, Pinto (MT) | Lentils (MT) |
|---------------------|-----------------------------|---------------------------|-------------------|-------------------|-----------------------------------|------------------|-------------------|--------------|
| Direct Distribution | 8,700 | 3,850 | 560 | 1,940 | 0 | 2,160 | 0 | 930 |

Source: This table was compiled by summing together the most recently available Title II Non-Emergency Program pipeline figures from the USAID FFP pipelines spreadsheets for WV (2009-2010), ACDI/VOCA (2010-2011), and CRS (2009-2010).

4.2.4. Earthquake Response

Food aid came in general distributions immediately after the earthquake. WFP distributed 12,500 MT of rice to 2.9 million people in February, and general distributions continued through

⁵⁶ Based on figures in AMEX FFP database.

March and early April.⁵⁷ Targeted distributions followed in mid-April, as donors attempted to reach Haiti's many displaced people.

From January to mid-June 2010, 214,000 MT of food aid have entered Haiti, with nearly three-quarters of this food aid having been channeled through WFP, WV, CRS, and ACDI/VOCA,⁵⁸ according to data from Customs authorities, collected by Agences Maritimes Réunies S.A. (AgeMar).⁵⁹ Among the remaining one-quarter, the largest volume of food aid (over 7,700 MT) has been channeled through Food for the Poor.

Rice accounted for at least 98,000 MT of all food aid imports to Haiti from January 2010 to mid-June 2010, more than half of which was distributed through WFP. Of the remainder, Food for the Poor accounts for 1,351 MT; the rest was distributed by unidentified organizations. Beans account for at least 31,500 MT, with two-thirds of this amount distributed through WFP. Vegetable oil accounts for at least 27,000 MT, distributed through CRS, WFP, ACDI/VOCA, and WV. At least 11,600 MT of wheat grain have been delivered thus far.

As noted above, Title II Non-Emergency Program partners were awarded SYAPs to target households affected by the earthquake. There is no proposed monetization of food commodities under the SYAP. Soy-fortified bulgur accounts for the most distributed food aid under the SYAP, followed by pulses (yellow peas, green peas, and lentils), and CSB, as shown in the table below. Very small amounts of wheat grain and flour have entered the country since the earthquake, and rice will not be included in the SYAP.

Table 15. Distributed Food Aid through SYAPs, 2009-2011

| Mechanism | Bulgur - Soy-Fortified (MT) | CSB - Corn Soy Blend (MT) | Peas, Yellow (MT) | Veg. Oil, 4l (MT) | Wheat, Hard Red Winter, bulk (MT) | Peas, Green (MT) | Beans, Pinto (MT) | Lentils (MT) |
|---------------------|-----------------------------|---------------------------|-------------------|-------------------|-----------------------------------|------------------|-------------------|--------------|
| Direct Distribution | 23,281 | 10,521 | 410 | 3,109 | 0 | 6,468 | 500 | 6,530 |

Source: This table was compiled by summing together the most recently available SYAP pipeline figures from the USAID FFP pipelines spreadsheets for WV (2010-2011), ACDI/VOCA (2010-2011), and CRS (2009-2010). No commodities reported as monetized under SYAPs during this period.

4.3. Policy

This section examines the trade agreements that Haiti is party to, the informal trade that Haiti engages in, as well as the national policies pertaining to the reconstruction and development after the January 12, 2010 earthquake.

⁵⁷ WFP's general distributions were scheduled to close at the end of March, but interviewees stated that distributions continued slightly past deadline.

⁵⁸ Source of data: AgeMar database, data gathered from Haiti Customs Authority. 29,000 MT of food aid imports do not include details on the type of food imported.

⁵⁹ We constructed a database based on food aid imports figures collected by AgeMar, and data collected directly from the Haitian Customs Authority.

4.3.1. Trade Agreements

Haiti is a party to the following trade agreements: the World Trade Organization (WTO), the Caribbean Community (CARICOM) Customs Union, the Caribbean Forum of the ACP States (CARIFORUM), and the Association of Caribbean States (ACS).

WTO. The WTO's guiding principles are the reduction of trade barriers and the promotion of free trade. Established in 1995, the WTO is the world's premier trade organization with 153 members and 30 observer governments.⁶⁰ Haiti has been a WTO member since January 30, 1996.

The WTO provides a forum for negotiating agreements which reduce barriers to international trade. The WTO provides a legal and institutional framework for the implementation and monitoring of these trade agreements, and for settling disputes arising from their interpretation and application. Haiti has not been involved in any WTO trade disputes.

Across categories of agricultural products, Haiti's average import tariffs range from 10.4 percent (other agricultural products) up to 40 percent (sugar and confectionary). For partners with Most Favored Nation status, including the U.S., these average tariffs range from two percent (other agricultural products) to 15 percent (cotton).

CARICOM. Established in 1965 the Caribbean Free Trade Association transformed from a free trade zone to the Caribbean Community (CARICOM) in 1973, which creates a common market, and the facilitates the coordination of agricultural, industrial, and foreign policies between members.

The 15 CARICOM members include: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.⁶¹ Five associate members include: Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks and Caicos Islands.

As of 2004, Haiti's trade relationships with CARICOM members were underdeveloped, with export values to CARICOM members only 0.037 percent of Haiti's total exports.⁶² Reviewing COMTRADE data from 2003 through 2009 suggests that Haiti's trade relationships with CARICOM members in agricultural commodities are underdeveloped; values of exported agricultural commodities to CARICOM members accounted for only 0.36 percent of Haiti's total agricultural exports, while values of imported agricultural commodities from CARICOM members accounted for 1.33 percent of Haiti's agricultural imports.⁶³

The CARICOM Single Market and Economy (CSME) was launched on January 1, 2006, and includes the CARICOM members, with the exception of the Bahamas, Haiti, and Montserrat. Key elements of the Single Market and Economy include: free movement of goods and

⁶⁰ Source: www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm, accessed 7 August 2010

⁶¹ Source: www.caricom.org/jsp/community/member_states.jsp?menu=community, accessed 7 August 2010

⁶² Source: www.acs-aec.org/Trade/Statistics/2004/CARICOM.htm, accessed 7 August 2010

⁶³ Comtrade database, 2003-2009

services; common external tariff and trade policy; free circulation of goods, capital, and labor; and harmonization of economic policies, monetary policy, fiscal policy, and intellectual property laws.

Haiti is not a member of CSME due to economic inequities between itself and the signatories. While the average 2009 estimated gross domestic product per capita in CSME member states is US\$12,825, Haiti's is only US\$1,300.⁶⁴ Given that free movement of labor is a founding principle of the CSME, members are concerned that allowing Haiti into the single market would result in an exodus out of Haiti in search of economic opportunities.⁶⁵

CARIFORUM. Established in October 1992, the CARIFORUM Secretariat is involved in the coordination and monitoring of the European Development Fund resources and has been, to date, the European Commission's main partner for all regional cooperation matters.⁶⁶

The 15 member states of CARIFORUM are: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.⁶⁷

Former colonies have been allowed non-reciprocal, preferential trade access to the EU since the 1970s, but these agreements, deemed incompatible with WTO regulations, were phased out by December 31, 2007. The CARIFORUM Economic Partnership Agreement (EPA) replaces these trade preferences and has been designed to ensure WTO compatibility by being reciprocal and non-discriminatory in nature.⁶⁸ The CARIFORUM EPA allows duty-free, quota-free access for goods coming from the signatory states into the European Community market, as of January 1, 2008 (except for rice and sugar which are subject to short transition periods). The CARIFORUM EPA covers trade in goods, services, investment and e-commerce, competition policy, innovation and intellectual property, transparency in public procurement, environmental and social aspects, and personal data protection. The CARIFORUM EPA also establishes a range of institutions necessary for the implementation and monitoring of the agreement.

The CARIFORUM EPA was signed on the October 15, 2008, by all CARIFORUM States apart from Guyana and Haiti. Guyana signed on the October 20, 2008, and Haiti was the last to sign on December 10, 2009,⁶⁹ delayed partly by the hurricane damage of 2008, ongoing security issues, and the food crisis of 2007-2008.

ACS. Formed in 1994, ACS promotes regionalism by accentuating common interests and working to eliminate lingering trade barriers erected during members' shared colonial past. ACS has four areas of interest: trade and economic cooperation, air transport, tourism, and natural disasters.

⁶⁴ CIA World Factbook, www.cia.gov, accessed 7 August 2010.

⁶⁵ Carrington, Edwin W., 2007. "Significant work to make Haiti CSME-ready". CARICOM Press Release, 256/2007.

⁶⁶ Source: www.delbrb.ec.europa.eu/en/irtr/caricom_overview.htm, accessed 7 August 2010.

⁶⁷ Source: www.sice.oas.org/TPD/CAR_EU/CAR_EU_e.ASP, accessed 7 August 2010.

⁶⁸ Source: www.fco.gov.uk/en/about-us/publications-and-documents/treaty-command-papers-ems/explanatory-memoranda/explanatory-memoranda-2009/150.Cariforum.EU.EC, accessed 7 August 2010.

⁶⁹ Source: www.sice.oas.org/TPD/CAR_EU/CAR_EU_e.ASP, accessed 7 August 2010.

The 25 ACS members include all the signatories to CARICOM (with the exception of Montserrat), plus Columbia, Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, and Venezuela⁷⁰. The four associate member states include: Aruba, France, Netherlands Antilles, and Turks and Caicos Islands.

Critics suggest that unlike CARICOM, ACS had failed to establish a track record of a developmental coalition by the end of the 1990s.⁷¹

4.3.2. Informal Trade

Haiti's primary partner in informal trade is the Dominican Republic, the only country with which the island nation shares a border. Once or twice a week, towns sharing a common border across the two countries allow for free market days, during which authorities allow Haitians to cross into the Dominican Republic, and vice versa, without papers or proof of identity, in order to visit family and friends, as well as to conduct business. On these days the level of trade between the two neighbors increases noticeably, on both the formal and informal level. The team visited the Mal Passe, Haiti and Jimani, Dominican Republic markets, as well as the Ouanaminthe, Haiti and Dajabon, Dominican Republic markets.

Mal Passe/Jimani. A Customs official in Mal Passe said that while dozens of trucks pick up informal traders in Mal Passe daily, that number jumps to hundreds on free market days (Mondays and Thursdays). Officials find it impossible to properly tax informal traders because they declare only about 20 percent of their cargo (as opposed to an estimated 80 percent declaration rate for formal traders), and the quantities that each trader carries are so small that it is not worth the transaction costs of pursuing the traders.⁷²

Informal markets lead to corruption due to lack of standardization. Though informal trade invites corruption, smuggling and security problems, it also provides livelihoods to the unemployed, and therefore the GOH is reluctant to crack down on informal trade because of the potential political backlash.

The amount of informal trade passing through Mal Passe from Jimani has reportedly doubled in the aftermath of the earthquake, due to displacement and unemployment.⁷³ The team observed large quantities of coconuts, wheat flour, maize flour, vegetable oil, spaghetti, and salami informally crossing into Haiti, as well as styrofoam and plastic containers, and other consumer goods. The team also observed limited quantities of food commodities imported into Haiti being informally exported to Jimani. The tariff differential on imported food commodities (which are, on average, three percent in Haiti, 20 percent in DR) creates incentives for Dominican traders to come into Mal Passe on free market days to purchase lower-cost US rice from Haiti, and bring it into the Dominican Republic for resale without declaring the full value to Customs (if declaring at

⁷⁰ Source: www.acs-aec.org/members.htm, accessed 7 August 2010.

⁷¹ Erisman, H. Michael, 2003. *International Relations*—in Hillman, R.S. and D'agostino, T.J. (eds.) *Understanding the Contemporary Caribbean*. London: Lynne Rienner.

⁷² Personal communication, 21 July 2010.

⁷³ Interview with Customs officials

all). A Customs official noted that if these informal traders went through formal channels, there would be no incentive to export imported food commodities.

At the Mal Passe/Jimani border point, informal trade volumes have stabilized at twice the previous equilibrium, as have formal trade volumes.⁷⁴ After the earthquake, officials at Mal Passe were ill-equipped for the increased volume of formal imports (primarily food aid) which require parking, containers, and paperwork, and even less prepared for the increase in informal trade.

Ouanaminthe/Dajabon. Ouanaminthe is separated from Dajabon by the Massacre River. The two large markets are connected by a bridge, and informal market days (Mondays and Fridays) are characterized by an unrelenting flow of goods and bodies from the Dominican Republic into Haiti. Porters mentioned bringing up to 50 loads from Dajabon to Ouanaminthe on free market days, and the team observed informal cargo trickling into hundreds of trucks parked in Mal Passe, destined for Cap-Haitien.

Goods informally crossing into Haiti include: wheat flour, pasta, bananas, black beans, sugar, carrots, peppers, lime, coconuts, toilet paper, and alcohol. Few goods cross informally from Haiti into Dajabon, as the Dominican Republic posts military police at the border to prohibit the informal import of Haitian goods. Traders said that those who are caught are sent back to Haiti after their goods are confiscated. To evade DR border officials, informal traders risk their lives by carrying goods (clothes and shoes) atop their heads while wading across the Massacre River, especially at night.

According to Schwartz,

—The political, military, and economic hegemony of Dominicans means that they have an advantage in (trading) with their Haitian neighbors. Along the entire 366 kilometers of the border, the Haitian police are present at only five posts; in contrast, the Dominican military has a guard post and watchtower every ten kilometers. The Dominican Republic annually exports US\$350 million worth of building materials and eggs to Haiti; in return, Haiti exports only US\$3 million worth of goods to the Dominican Republic. Haitians sometimes suffer as a consequence of the Dominican advantage. The drastic differences in wealth, services, and police-military power give way to discrimination and abuses.⁷⁵

A Customs official mentioned that while the earthquake did not cause an increase in trade through this corridor, the road paved between Ouanaminthe and Cap-Haitien by the European Union in 2008 increased both formal and informal trade imports from the Dominican Republic by approximately 200 percent.⁷⁶ Goods formally entering into Haiti from Dajabon are limited to cement and wheat flour.

⁷⁴ Interview with Customs officials

⁷⁵ Source: http://open.salon.com/blog/timotuck/2010/03/08/the_haitian-dominican_border_misunderstandings, accessed 7 August 2010.

⁷⁶ Personal communication, 25 June 2010.

4.3.3. Overview of the Reconstruction Effort

Subsequent to the earthquake of January 12, 2010, a post-disaster needs assessment (PDNA) was carried out under the supervision of High Level Management Team, led by the Prime Minister and including the United Nations (UN) Humanitarian/Resident Coordinator, a representative of the UN Special Envoy for Haiti, the World Bank (WB) Mission Leader, the Resident Representative of the International Development Bank (IDB), three Group of Eleven (G11) representatives, and the European Union (EU) Head of Delegation.⁷⁷ Over 200 national and international experts worked on the assessment across eight themes: governance, production, social sectors, infrastructures, regional development, the environment and disaster risk management, cross-cutting themes, and macro-economic analysis.

In preparation for the International Donors' Conference, technical meetings at the senior official level took place from March 16 to 17, in Santo Domingo, to align the initial conclusions of the PDNA with the Action Plan for National Recovery and Development of Haiti. In addition, a technical working group produced the National Plan of Agricultural Investment.

On March 31, 2010, the United States and the UN co-hosted the International Donors' Conference Towards a New Future for Haiti at the United Nations in New York. At the conference, the GOH presented the Action Plan for National Recovery and Development of Haiti, and countries, international organizations, and other partners pledged US\$5.3 billion for emergency operations over the next 18 months, and an additional US\$4.6 billion in support of Haiti's long-term recovery.⁷⁸

National Plan of Agricultural Investment.⁷⁹ Building upon the National Recovery and Development Plan, the National Plan of Agricultural Investment identifies the following strategic objectives: to increase local production of staple foods to assure food security, to increase producer and export revenues, to improve sanitation and nutrition, and to decrease vulnerability to natural disasters.

The framework focuses on three main areas:

- Rural infrastructure development with a concentration on irrigation, rural roads, and reconditioning forests and water basins.
- Boosting production via improved access to inputs, urban and peri-urban agriculture, strengthened market linkages, rural credit, and local procurement by humanitarian agencies.
- Developing agricultural services and institutional support through research, dissemination, and training of staff and farmers.

The National Plan of Agricultural Investment distinguishes between short-term programming (2010-2011) and long-term planning (2012-2016). The total cost of the National Agricultural

⁷⁷ GOH, 2010. "Haiti Earthquake PDNA: Assessment of damage, losses, general and sectoral needs."

⁷⁸ Source: www.haiticonference.org/story.html, accessed 8 August 2010.

⁷⁹ All information in this section is sourced from: GOH, MARNDR, 2010. "Haiti plan national d'investissement agricole."

Plan is estimated at US\$772,000,000, of which US\$224,120,000 is destined for short-term financing, and the remaining US\$547,850,000 for medium- to long-range planning (2012 – 2016). The plan envisages contributions from the GOH (US\$110.5 million), the private sector (US\$105 million), and donors (US\$559.6 million). Significant line items include forest and green basin management, agricultural inputs (fertilizers and equipment), irrigation, and institutional support to public agricultural services.

Action Plan for National Recovery and Development of Haiti.⁸⁰ The plan proposes a Haiti Interim Commission for the Reconstruction, which will eventually become the Haiti Development Agency, to implement the Haiti Development Plan and to provide effective coordination and deployment of resources in response to concerns about accountability and transparency.⁸¹ Also proposed is the Multi-Donor Trust Fund, (MDTF) enabling the assembly of funds for programs whose scale exceeds the capacities of a single donor. The MDTF will mobilize funds, increase fluidity of financial flows, expedite payments to implementing agencies, reduce transaction costs, and provide due diligence to donors. The GOH requested that the World Bank govern the MDTF.

The framework for reconstruction coordinated by the Haiti Interim Commission for the Reconstruction and financed by the MDTF focuses on four main areas:

- Territorial rebuilding including renovating affected areas, implementing economic infrastructure (roads, energy, and communication), and managing land tenure.
- Economic rebuilding through modernization of the agricultural, manufacturing, construction, and tourism sectors.
- Social rebuilding to guarantee access to education, including vocational schools and universities, and to develop a health system ensuring minimum coverage and social protection.
- Institutional rebuilding by prioritizing essential functions, improving the legal and regulatory framework, implementing the Haiti Development Agency, and establishing a culture of transparency and accountability within state institutions.

The plan is divided into two phases: immediate needs are addressed in the 18-month emergency period, while the development programming has a 10-year time horizon. Priority programming during the emergency period includes improving accommodation for the homeless, returning pupils to school, preparing for the current hurricane season, creating jobs, guaranteeing stability in the financial sector and access to credit for small and medium enterprises (SMEs), and continuing to reorganize state structures.

The estimated costs of the eighteen-month emergency programming total US\$3,864,000,000, of which US\$1,180,000,000 is direct budget support to the GOH.

⁸⁰ All information in this section is sourced from: GOH, MARNDR, 2010. –Haiti plan national d'investissement agricole."

⁸¹ GOH, 2010. –Action plan for national recovery and development of Haiti: Immediate key initiatives for the future."

In addition, it is estimated that the additional budgetary aid requirements following the earthquake for the remainder of FY09/10 fiscal year total US\$350,000,000, which include funds for payroll, agricultural support, disaster mitigation, schools, housing, and other immediate needs.

According to the AP, as of August 6, 2010, only Brazil, Norway, Australia, Colombia, and Estonia had paid into MDTF, for a total of US\$506 million, which is less than 10 percent of the US\$5.3 billion emergency funding pledged at the March Donors' Conference.⁸² Though President Barack Obama signed a law approving at least US\$770 million for Haiti's reconstruction, the funds are tied up in the congressional appropriations process.

⁸² Source: www.washingtonpost.com/wp-dyn/content/article/2010/08/06/AR2010080606590.html, accessed 8 August 2010.

Chapter 5. Commodity Markets Critical for Food Security

This chapter provides an overview of commodity markets critical for food security in Haiti. Following are sections that assess rice, beans, maize, wheat, oil, and sorghum, according to a Structure, Conduct, Performance (S-C-P) framework.

5.1. Rice

5.1.1. Introduction

Rice is now the most important crop in the food security debate in Haiti, and it plays a major role in influencing national and regional⁸³ politics. The regional opposition to imports of cheaper rice is an important consideration in agricultural development plans, and an understanding of the history of local and imported rice in Haiti is beneficial. In the 1970s, Haiti was nearly self-sufficient in rice production. However, the quantities of local production that easily met “self-sufficiency” standards in the 1970s would not be at all close enough to meet the Haitian demand for rice today, as explained below.

In the 1970s and early 1980s, the majority of the Haitian population lived in rural areas and ate a diversified diet of roots and tubers, maize meal, and sorghum. Rice was occasionally consumed in these rural areas, but as a luxury item. A farmer would have to sell three to four marmites of maize in order to buy one marmite of rice. In urban areas, rice consumption was slightly higher, and middle-income to wealthier families ate the locally-produced and expensive good about once a week, and diversified their diet with maize and plantains. Thus, producers met the demand of a general population who ate rice once a week, or less. Rice imports were limited by trade barriers (tariffs, quotas, and licensing requirements).

When the country liberalized trade in the mid 1980s, imported rice began entering the country in large amounts and was sold at a cheaper price to a growing and increasingly urban population, who began incorporating the cheap and available good into their diets more frequently. The average Haitian consumer was no longer demanding one rice-based meal a week, but rather, six to seven rice-based meals a week. Against a backdrop of rapidly increasing demand and rapidly increasing (and cheap) imports, local production remained stagnant or declined.

By 1988, rice imports had risen to account for 53 percent of the country’s total rice supply. In 2004, commercial imports had risen to 80 percent of the country’s total rice supply and local production accounted for only 16 percent. The remaining four percent was met by international food aid, a statistic that remains valid today.⁸⁴ The increase in rice consumption has changed

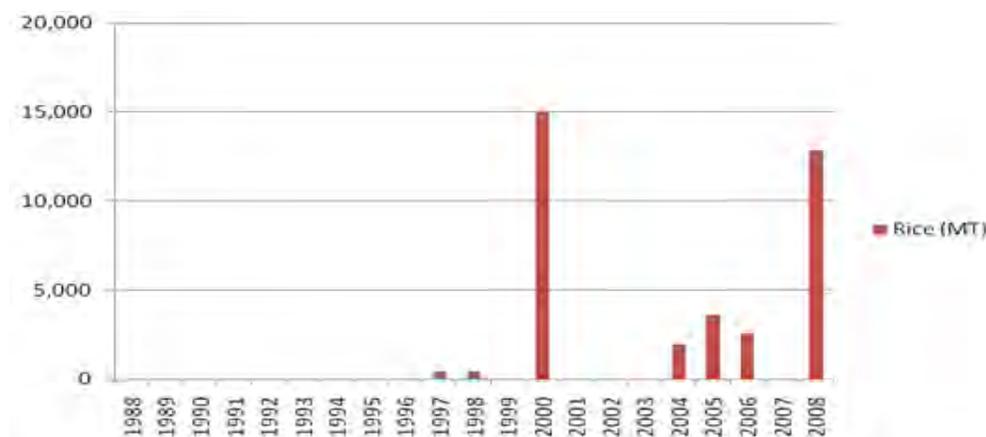
⁸³ According to Chery (2001) The rural people of Artibonite have been politically-opposed to the importation of rice; they produce about 60 percent of rice grown in Haiti and are of the opinion that the politics of trade liberalization in the 1980s favored urban consumers over rural rice producers.

⁸⁴ PIA, 2005

the Haitian diet, which is less diversified than it was before the mid 1980s. Cheap, imported rice has taken the place of the staple maize, for example, in certain sections of the rural market.^{85, 86} Trade liberalization, poor conditions of irrigation canals, deteriorating environmental conditions, and lack of access to capital are all cited as contributing to the struggle (or decline) of local production to meet demand.⁸⁷

US food aid in the form of rice has a shorter and less narrative story. As shown in the figure below, food aid as rice has fluctuated. From 2004 to 2006, rice food aid to Haiti ranged from 1,957 MT to 2,575 MT. In 2007, the US did not import any rice as food aid to Haiti; in 2008, however, US rice food aid imports to Haiti jumped to 12,877 MT. This rice was distributed through WFP in response to the world food price crisis and after Haiti was hit by devastating hurricanes.

Figure 4. Rice Food Aid from the US, 1988-2008, MT



Source: WFP Interfais

5.1.2. Basic Conditions

Varieties and Substitution

Two types of rice are grown in Haiti: mountain and swamp rice. Mountain rice is grown for subsistence, while swamp rice is produced for local consumption and sale in urban areas. With an area of cultivation hovering around 3,000 ha, mountain rice production is rapidly declining due to environmental degradation.⁸⁸ Marketed surplus of mountain rice is insignificant and traded only in neighboring local markets. Further data on mountain rice production is not available.

⁸⁵ Maize is still largely consumed especially in production areas, but the yield has decreased while population has grown. So consumers eat cheaper imported rice as well as maize.

⁸⁶ Paul, 2005

⁸⁷ Bayard, 2007

⁸⁸ Bayard, 2007.

Swamp varieties are grown in rice paddies across about 15 zones in the country, though the Artibonite Valley accounts for the majority.⁸⁹ Other regions producing swamp rice include the south (Torbeck, Saint-Louis du Sud), the north (Saint-Raphael, Grison-Garde), the northeast (Maribaoux), and the Nippes (Abraham, O'Houk). Swamp rice varieties include Sheila, Shelda, TCS-10, Prosequisa, Madam Gougousse, Bogapote, and Sica. The TCS-10 is the most commonly-grown variety in the Artibonite Valley area, and plays a large role in determining market price. The Sheila and Madam Gougousse varieties are of superior quality, and are sold at a very high price; however, their share of the market is too small to affect overall local price movements.

Table 16. Varieties of Rice Cultivated in the Artibonite Valley, 2005

| Variety | Area cultivated |
|------------------|-----------------|
| TCS-10 | 61.2% |
| Bogapote | 40.1% |
| Malaika | 30.8% |
| Sheila | 14.2% |
| Sherline | 13.5% |
| Ti Haitienne | 13.1% |
| Tididji | 12.5% |
| Berha | 6.6% |
| Shelda | 6.2% |
| Ti Zepon | 4.2% |
| Madame Gougousse | 1.7% |
| Trifepote | 1.4% |
| Palmira | 1.0% |
| Grigri | 1.0% |
| ICC | 0.7% |
| Gina | 0.7% |
| Sekirite | 0.3% |
| Madame Blanc | 0.3% |
| Gronég | 0.3% |
| Elsina | 0.3% |
| Buffalo | 0.3% |

Source: PIA 2005

From this point forward, any mention in this report of “local rice” refers to swamp rice.

Policy

After food prices spiked in 2008, violent riots in some cities such as Les Cayes and Port-au-Prince led to the resignation of the Prime Minister, and consequently the resignation of many more members of the government. In response to the global food price crisis, the President of the Republic implemented a US\$17 million rice consumer subsidy program from April to September 2008, funded by the World Bank (US\$10 million) and CARICOM (US\$7 million). The objective of the program was to stabilize rice prices in light of the rising world price.

⁸⁹ Paul, 2005

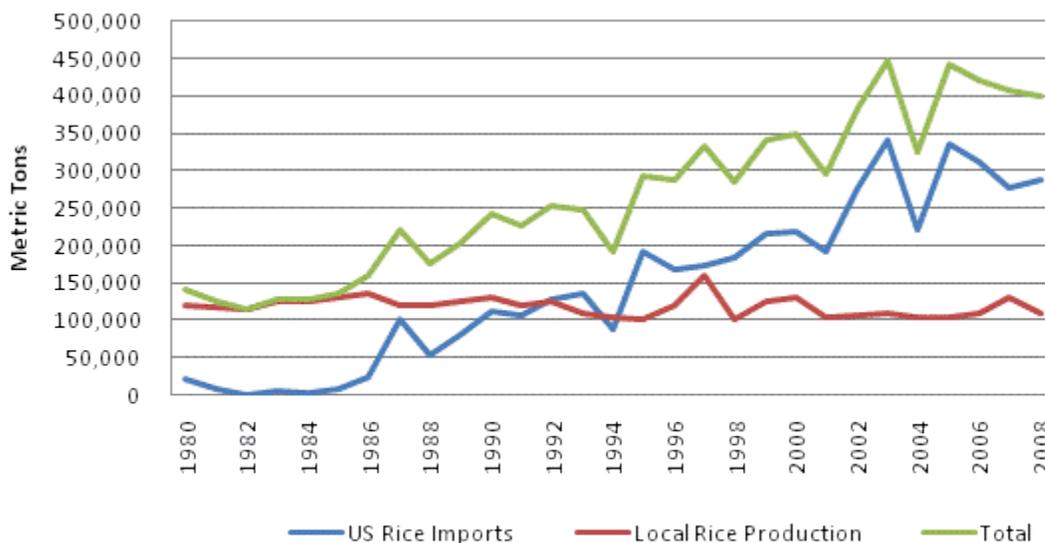
Importers were asked to lower the price (US\$51) of a 50 kg bag of imported rice back to the pre-riot price of US\$43. The government (with some international donor funding) paid for the difference in these prices; however, these efforts were only maintained over a six-month period.

In 1995, Haiti lowered its Customs fees for rice imports to three percent, which is well below the Dominican Republic's 20 percent tariff. Although Haiti has a number of additional taxes and verification fees that bring the total costs of importing up to 18.8 percent, Haiti's porous and corrupt borders encourage informal re-exportation of rice from Haiti to the Dominican Republic.

5.1.3. Supply

Production. In recent years, rice production has generally remained stable or slightly decreased, ranging from 100,000 to 160,000 MT, with an exceptional few years (1996-1997) of increased production, as shown in the figure below.

Figure 5. Haiti Rice Production and US Rice Imports, 1980-2008



Source: USDA - FAS and FAO

Imports. Imports (including food aid) account for 82 to 85 percent of Haiti's total rice supply. Food aid alone accounts for four percent of total rice supply. The remaining supply of rice is met by local production.⁹⁰ The US accounts for about 89 percent of Haiti's imported rice, the rest of which is provided by Argentina, Guyana, Surinam, Thailand, the Dominican Republic, and other countries.⁹¹

Three types of rice are imported in the country, as shown in the table below. In 2009, hulled rice accounted for 88 percent of total imports, and white/semi white and broken rice accounted for nine percent and three percent, respectively. From January to June 2010 hulled rice

⁹⁰ Weisbrot et al., 2010

⁹¹ Paul, 2009

represented 93 percent of total imports and white/semi white and broken rice accounted for six percent and one percent, respectively. About 45 MT of paddy rice was imported in 2009, likely for use as seed.

Table 17. Types of Rice Imported in 2009 and January-June 2010 (MT)

| Type | 2009 | % of total imports | January-June 2010 | % of total imports |
|------------------|---------|--------------------|-------------------|--------------------|
| Hulled | 347,642 | 88% | 144,914 | 93% |
| White/semi-white | 36,265 | 9% | 10,011 | 6% |
| Broken | 13,270 | 3% | 1,700 | 1% |
| Total | 397,177 | 100% | 156,625 | 100% |
| Paddy rice | 45 | | 0.046 | |

Source: AGD

Table 18. Origin of Rice Imports in 2009-2010

| Country | 2009 Hulled | 2009 White/Semi-White | 2009 Broken | 2010 Hulled | 2010 White/Semi-White | 2010 Broken |
|-----------|----------------------|-----------------------|------------------|----------------------|-----------------------|-------------|
| USA | 86% | 28% | 1% | 90% | 44% | 0% |
| Brazil | 4% | 0% | 2% | 0.10% | 9% | 0% |
| Japan | 4% | 0% | 0% | 0% | 0.003 | 0% |
| Guyana | 2% | 28% | 71% | 3% | 10% | 65% |
| India | 1% | 0% | 0% | 0% | 0% | 0% |
| Pakistan | 1% | 0.37% | 0% | 0.08% | 1% | 0% |
| Surinam | 1% | 16% | 0% | 3% | 20% | 0% |
| Dom. Rep. | 0.03% | 0% | 3% | 3% | 0% | 24% |
| Canada | 0.04 | 1% | 1% | 0.04% | 0.02 | 0% |
| Uruguay | 0% | 14% | 17% | 0% | 3% | 11% |
| Others | 0.93% (17 countries) | 13.63% (10 countries) | 4% (2 countries) | 0.78% (10 countries) | 13% (7 countries) | 0% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

Source: AGD

Several varieties of both local and imported rice are offered on the markets, but price data rarely distinguish between varieties. At the wholesale level, the team did not notice spoilage of imported rice. No formal estimates of spoilage of local rice at milling and at harvest levels were taken, though the team did observe a noticeable amount of rice on the ground during the milling process. Despite anecdotal reports that improper storage of some of the emergency rice food aid resulted in spoilage, amounts were not officially tallied.

5.1.4. Demand

Consumption. Currently, Haitians are among the largest consumers of rice in the Caribbean, with a per capita consumption of about 42 kg per annum (467,000MT/9.5 million people).⁹² Local and imported rice is generally preferred over maize and millet, among both rural and urban populations, and imported rice is consumed more than maize and millet. Though Haitians prefer to consume locally-produced rice over imported rice, the low prices of imported lower-

⁹² FAO and COMTRADE, 2010

quality rice have encouraged low-income consumers to eat more imported rice. Areas such as St. Raphael, Grison-Garde, Maribahoux, and Torbeck produce rice for local consumption. Some individuals stated that they consume lower-priced imported rice most days (usually weekdays), and eat local rice with certain meals and/or on certain days (usually weekends). All types of rice (yellow local, white local, and imported) are eaten mixed with beans, and imported and white local are also eaten with pureed beans. Some wealthier Haitians consume imported rice of higher quality (such as Uncle Ben's) on weekends or with guests.

The significant increase in cheap, imported rice in the late 1980s led to an increased demand from a growing population (whose diet was becoming less diversified). Against a backdrop of stagnant or declining local production, rice imports continue to soar. The increase in world prices for food, including the price spikes in 2007 and 2008, only marginally diminished rice imports, suggesting that demand for imported rice is price inelastic to the extent that imported rice remains less expensive than local rice, as shown in the figure "Haiti Rice Production and US Rice Imports, 1980-2008" above.

5.1.5. Market Structure

Flow. Rice entering Port-au-Prince is distributed throughout Haiti across large cities and rural towns. Rice entering Miragoane is transported to Port-au-Prince, depending on the quantities of rice and other goods landed. Rice entering Miragoane is also transported to the Southeast and the South. Rice entering Cap-Haitien usually remains there, complemented by rice entering the city via the border town Ouanaminthe. Rice imported from the Dominican Republic is sold and consumed in the plateau and frontier areas.

Four market chains can be found in Haiti:

1. A small market chain around the production areas of St Raphaël, Grison-Garde, Maribahoux, Torbeck where the rice produced is consumed locally. This represents around eight percent of the rice produced in Haiti.
2. A second market chain imports two types of rice from the Dominican Republic: processing rice scrap (cabecit) sold on the local markets of département du Centre and on the border area, and long rice (Milly). This accounts for less than one percent percent of the rice consumed in Haiti.
3. The third market chain is the one starting in Vallée de l'Artibonite. Here, producers are selling the rice to a network of Madam Sara¹ that organise the processing and delivery of the rice to main urban areas. This accounts for around 12 percent of the rice consumed in Haiti.
4. The last market chain is the one of the rice imported in bulk and bagged in the main ports. This represents 75 to 80 percent of the rice consumed in Haiti. However, up to 10,000 MT are typically re-exported to the Dominican Republic.

Actors. After rice is imported into Haiti, it passes through a number of hands before finally reaching the consumer, as shown in the figure below. The majority of rice imports first arrives in

bulk, and is then packaged into 100 and 50 kg bags. Seventy percent (about 17,500 MT per month)⁹³ of these imports are handled by Haiti's six main importers based in Port-au-Prince. The rest goes to another 14 smaller importers operating in various ports (Cap-Hatien, Miragaone, St. Marc, Gonaives, and Port de Paix).⁹⁴ Importers sell the rice to ten main wholesalers, who deal with up to 1,000 bags of rice per day. According to IDB research, the margins of these actors are the highest along the marketing chain, suggesting that the main wholesalers have both the capacity and incentive to speculate on the market. Large wholesalers hold a large amount of stock that serves the market directly, and thus the ability to impact retail prices to a greater degree than importers can. These wholesalers purchase in US dollars and sell in gourdes, facing exchange rate risks and contributing to price volatility, especially if they rely on the informal exchange rate. These wholesalers then sell to smaller, second-level wholesalers and retailers, who, combined, number about 200 in Port-au-Prince. Next, the second-level wholesalers sell about 100 bags per day to a network of an estimated 10,000 Madam Saras and retailers. These retailers then sell to smaller, second-level retailers who sell the rice in local markets by the marmite, cup, or tin. Sometimes the last seller in the chain is an unemployed person, carving out a livelihood by peddling small amounts in the informal market.

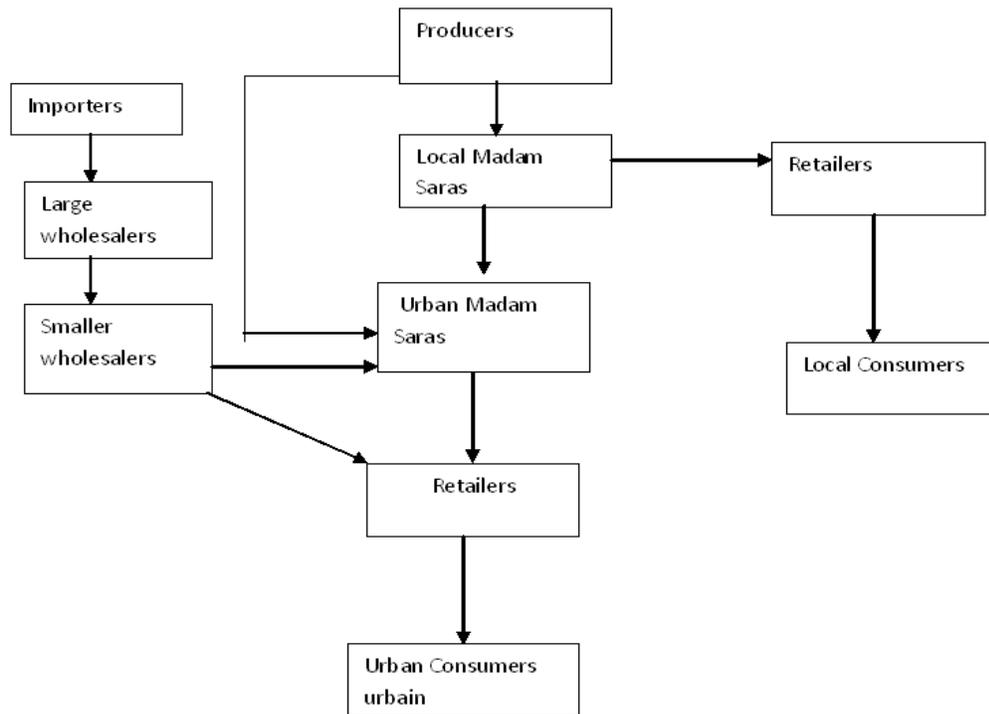
For local rice, the market chain starts with producers, the majority of who (130,000) live in the Artibonite area. These producers employ approximately 30,000 laborers. Post-harvest, rice is sold at the farm gate as paddy to rural Madam Saras, who collect, dry, mill, transport, and redistribute the rice in L'Estere and Pont Sonde to urban Madam Saras from Port-au-Prince, Gonaives, and Cap-Haitien. It is estimated that there are 221 mills, 116 warehouses, and 31 women's groups involved in the marketing process in the Artibonite Valley.⁹⁵

Profits made from second-level wholesalers down to the second-level retailers are difficult to determine, as units of measure vary among different actors. Market vendors said that their net returns were positive and negative on different days; however, they are able to get by from the sales of other food products.

⁹³ WFP and FEWSNET, 2010.

⁹⁴ Bayard, 2007

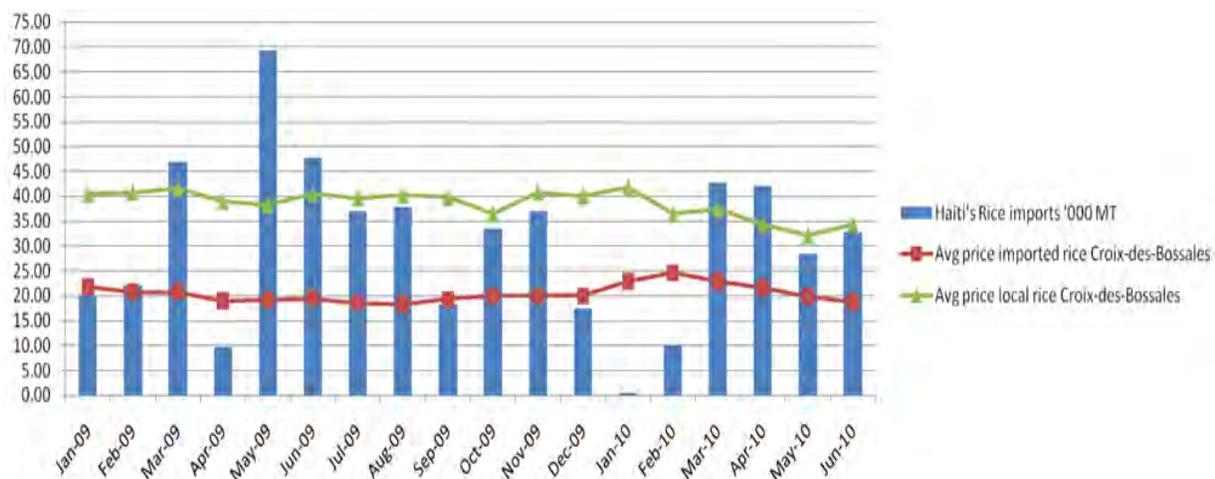
⁹⁵ EMMA, 2010

Figure 6. Marketing Channel of Imported and Local Rice in Haiti

5.1.6. Market Conduct

A number of importers indicated that a small handful of market participants hold a significant amount (about 70 percent) of power in the imported rice market. This group has some power to set prices. As the figure below shows, the prices set by importers are not determined by import volumes. However, the prices set by importers do reflect the international price of rice, as shown in the figure in the next section titled "International Price of Rice, and Imported and Local Prices of Rice in Croix-des-Bossales, in Haitian Gourdes per lb."

Figure 7. Price Changes in Imported and Local Rice in Croix-des-Bossales (Haitian Gourdes per lb), Relative to Haiti's Rice Imports



Source: import and local prices from USAID/Haiti and CNSA, import volumes from Haitian Customs

At the wholesale level, the large number of wholesalers does not immediately suggest a concentration of market power; however, in some areas there are limited amounts of wholesalers, and these small groups may marginally benefit.

Wholesalers with capital gain entrance to the rice market. Wholesalers at markets visited indicated that they received credit from importers, and that some credits were extended to small wholesalers/retailers in regional areas.

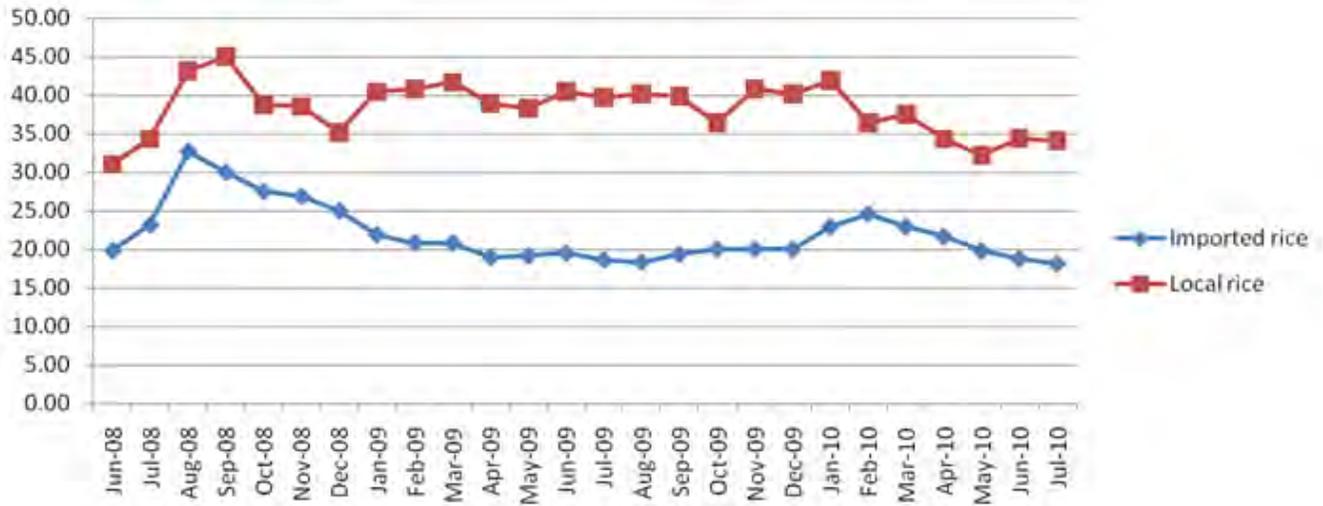
At the retail level, many retailers and petty traders are selling imported rice. The team observed a number of retailers at the same market, selling the same rice, at the same price. Thus, the market at the retail level is competitive in regards to total number of actors, but it should be noted that these actors have little power to determine the market price they sell at.

The local rice market holds numerous wholesalers and retailers, operating at various levels. With the exception of a few large producers, most of the participants operate with limited investment capital. All market participants of local rice seem to be price takers as none exert significant market power.

5.1.7. Market Performance

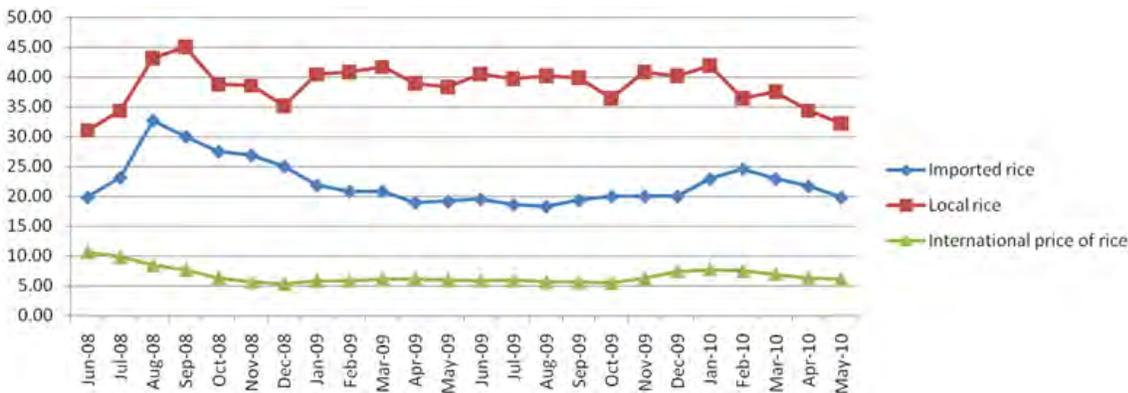
Imported and local rice. Local rice prices vary with seasonality and production levels, and vary across markets to a larger extent than imported prices do across markets. Despite this variance, the price of local rice has always been higher and is currently higher than imported rice. In Port-au-Prince, local rice prices have remained higher than imported rice prices for the past two years. As shown in the figure below, the two prices generally rise and fall together.

Figure 8. Imported vs Local Rice Retail Prices in Croix-des-Bossales (Port-au-Prince), Haitian Gourdes per 1lb



Imported rice. Price transmission from the international, to import, to local level is not perfect, as shown in the figure below. Price changes the most between import and local level, which could be due to transport, storage, and other handling costs. As stated earlier, however, about 70 percent of the rice market at the import level is handled by six importers who may have some power to set prices.

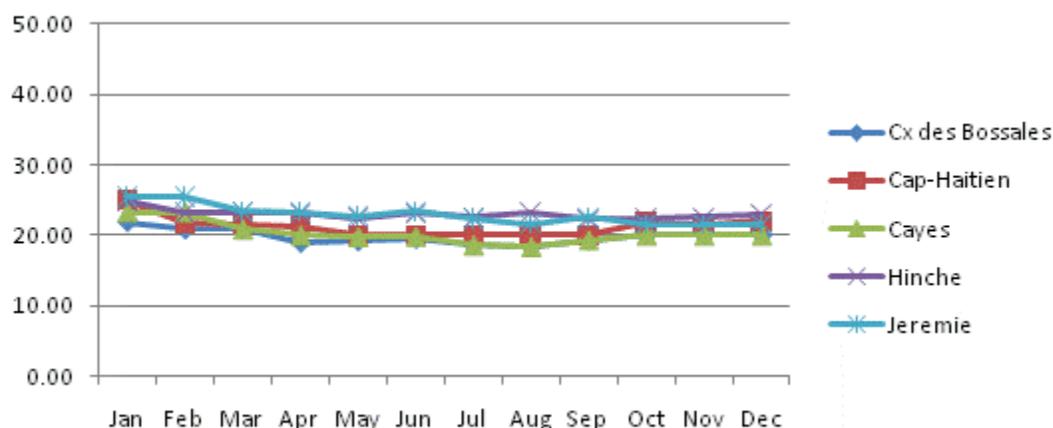
Figure 9. International, Imported, and Local Price of Rice, in Croix-des-Bossales, in Haitian Gourdes per lb



Source: Import and local prices from USAID Haiti and CNSA; world prices from World Bank pink sheets (for Thai A-1 rice, the least expensive rice variety)

Retail prices of imported rice vary among different regions. The nominal retail price of imported rice is lowest in Port-au-Prince, which is in large part due to the fact that areas outside of Port-au-Prince face higher transport, handling, and storage costs.

Figure 10. Average Monthly Price of One Pound of Imported Rice, in Haitian Gourdes, 2009

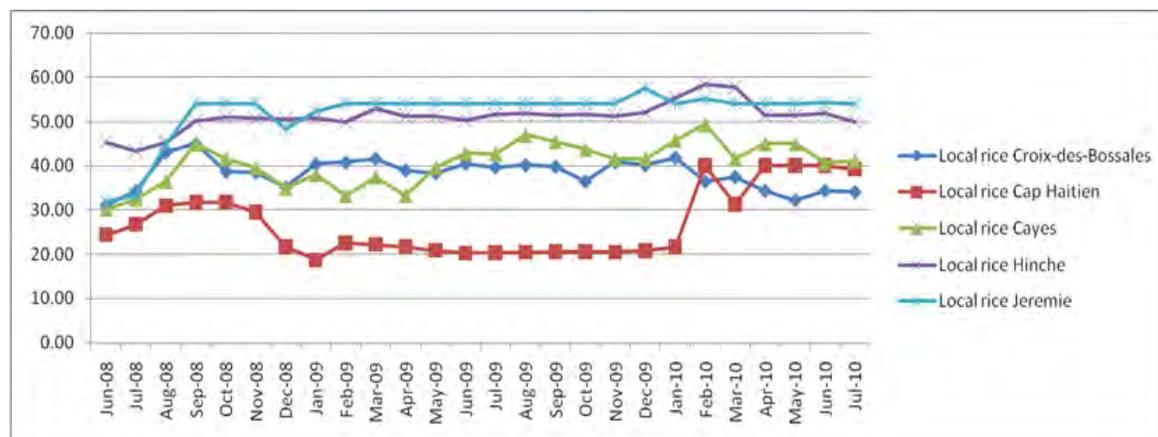


Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Local rice. Usually, retail prices of local rice remain low during the harvest periods and begin to rise two months later, remaining high until the next harvest. The price variations are more important in rural markets of the production area; in urban areas, prices vary less drastically according to seasonality. The rise in the price of local rice corresponds with the lean period, when demand for rice increases because other crops, such as maize, are not yet harvested. For further details regarding local rice prices and seasonality, see Annex III.

Local rice prices also vary according to transport, storage, and handling costs. As shown in the graph below, the price of local rice is usually highest in Jeremie. These higher prices reflect the relatively high costs of marketing to the destination market for rice produced in other regions, as Jeremie is located on the coast on the southern peninsula, and reachable only via poorly-maintained roads or via barge from Port-au-Prince. Retail price for local rice also varies according to seasonality, as detailed in Annex III.

Figure 11. Comparison of Local Rice Retail Prices, Haitian Gourdes per lb



Source: USAID Haiti and CNSA

5.1.8. Impact of Earthquake on Rice Market Structure, Conduct, and Performance

Structure. The earthquake destroyed many storage facilities, which in turn deterred many rice importers. However, according to individuals from the Seaboard Corporation, rice import quantities in months immediately following the earthquake remained steady or even increased despite fewer importers. For example, total rice imports from January to June 2010 reached 116,123 MT,⁹⁶ which represents about 29 percent of total rice imports for the entire year of 2009 (395,928 MT).⁹⁷ Rather than dropping out of the market completely, some of the importers became wholesalers, buying rice from the remaining importers. Hence, fewer participants with larger orders imported the same quantities.

In part due to the influx of donated rice after the earthquake (though other factors, such as loss of storage, security, and/or household purchasing power also played a role) some small wholesalers/retailers developed strategies for survival such as temporarily closing shop, reducing employed labor, and/or diversifying their product stock. The immediate need after the earthquake forced importers and wholesalers to purchase local rice from Madam Saras and stockers.

Conduct. Custom officers revealed that donor groups and NGOs, both registered and unregistered, frequently arrived with large quantities of food aid requesting tax exemption from customs, especially after the earthquake. Almost all aid providers included rice in their donation. CNSA data shows that the European Community, Canada, Spain, Germany, France, Italy, Japan, Food for the Poor, and the World Food Program all distributed rice in the aftermath of the earthquake; it is likely that other agencies also distributed rice, though the data are incomprehensive and receipts remain unrecorded. A number of donors also distributed local rice, which they purchased from wholesalers, to IDPs. If this demand from donors is sustained into the future, prices of local rice could potentially increase (See Chapter 7). Price increases in local rice would likely cause poorer consumers to switch to imported rice or different staples, while wealthier consumers with less elastic demand curves for local rice would likely diminish their quantities purchased.

The nature of the marketing chain after the earthquake may be completely altered and/or may influence local production. Consolidation among the even fewer large importers could lead to further collusion and/or the disappearance of small importers. There is now considerable social and political pressure on donor groups to purchase local rice, which, as stated earlier, could result in price rises for local rice, assuming local rice production remains constant.

Performance. Available data indicate that from January to June 2010, 58 percent of rice imports were food aid.⁹⁸ A number of factors could have contributed to the decrease in commercial imports, including: 1) traders' reluctance to ship rice to Haiti in fear they would not

⁹⁶ Agemar, 2010

⁹⁷ Haiti Customs

⁹⁸ Agemar, 2010

be paid,⁹⁹ 2) importers' fear of displaced demand due to the disruption of livelihoods and decreased household purchasing power, 3) importers' fear of displaced demand due to food aid, 4) importers' loss of liquidity due to credit extended but not repaid after the earthquake, 5) temporary closure of port, and 6) priority given to food aid along transport networks.

The table below shows commercial and food aid rice shipments to Haiti after the earthquake. The following table shows the donors and companies importing rice after the earthquake. However, note that these are rough determinations, as import differentiation was temporarily suspended after the earthquake.

Table 19. Comparison of Commercial and Food Aid Rice Shipments to Haiti, January-15 June 2010 in kilograms

| Month | Commercial | Unknown Designation | Food Aid |
|----------|---------------|---------------------|---------------|
| January | 204361 | 0 | 0 |
| February | 636421 | 6625000 | 5997878 |
| March | 10934305 | 14306000 | 18253080.79 |
| April | 267667 | 15063000 | 5229338 |
| May | 14625039 | 0 | 1831030 |
| June | 2,799,456 | 0 | 200480 |
| Total | 29,467,249.00 | 35,994,000 | 31,511,807.00 |

Source: AGEMAR

Table 20. Rice Importers from January to 15 June 2010

| Commercial imports Company | Percent of total commercial imports | Food Aid | Percent of total food aid imports |
|-------------------------------|---|------------------------|--------------------------------------|
| Unknown | 55% | WFP | 95% |
| Caribbean Grain Company SA | 10% | Food for the Poor | 4% |
| National Bag and Trading Co. | 10% | Jamaican Defense Force | 0.5% |
| Riceco SA | 9% | MINUSTHA | 0.24% |
| Brunvil Leptune Export/Import | 7% | Others | 0.26% |
| Haiti Commerce SA | 4% | | |
| Caribbean Center SA | 2% | | |
| Others (11 importers) | 3% | | |
| Total | 100% | Total | 100% |

Source: AGEMAR Jan.-15 June 2010

Despite the large amount of rice distributed as food aid, there seemed to be no major medium- to long- term negative effects on local rice prices, as of June and July 2010.

Immediately after the earthquake, the price for imported rice and local rice rose. The price increase immediately after the earthquake could be due to increased handling fees from port and warehouse damage, among other factors. For example, port operators now have to rent two barges at US\$7,000 per barge per day, and pay a grounding fee of US\$150 per container of 20 cubic feet or equivalent of goods landed, among other charges.¹⁰⁰ These transfer costs to consumers may decline slowly.¹⁰¹ As of July 2010, both local and imported rice prices were decreasing or stable, but these changes vary among regions. Overall, imported rice prices have declined more slowly than local prices.

⁹⁹ FEWSNET, 2010

¹⁰⁰ Communication with Seaboard Representative, 2010

¹⁰¹ FEWSNET, 2010.

The largest increase in imported rice prices, one week after the earthquake, was in Les Cayes. The price level for imported rice at the end of July had declined from its level at the beginning of December in most markets. For further details, see Annex III.

Local rice prices also increased in weeks immediately following the earthquake, with the largest increase in Les Cayes. By July 2010, local rice prices in most markets were lower or equal to their December 2009 levels, with the exception of Cap-Haitien, where prices were higher than their December 2009 levels. Note that the price of local rice, like other commodities discussed in this chapter, varies to some degree according to seasonality. When examining price increases of local rice post-earthquake, price increases due to seasonality should also be considered.

For details on price changes of local and imported rice across markets, please see Annex III.

5.2. Beans

5.2.1. Basic Conditions

Haiti produces numerous varieties belonging to the genus *Phaseolus*, including white and yellow beans, pigeon peas (*pois congo*), black-eye peas (*vigna*), green peas, and lima beans. The varieties grown the most, however, are the black and red mottled beans. These locally-produced beans are preferred over imported beans and, therefore, imported beans are viewed by consumers as imperfect substitutes for local beans.

Beans are grown in humid and sub-humid mountainous regions and in irrigated plains throughout Haiti. There are three main seasons of bean harvest: February/March (lowlands), May/June (highlands), and September/October (highlands). Highland harvests cover 100,000 ha, and lowland harvests cover 20,000 ha.¹⁰² Haiti's main areas of bean production are: South (20 percent), Southeast (15 percent), Central Plateau and West (12 percent each), Artibonite (11 percent), and Grand'Anse (10 percent). Other regions produce less than 10 percent each, with the lowest contribution coming from the Northwest (3 percent).¹⁰³

As mentioned above, imported beans are not perfect substitutes for local beans, and require separate analysis. As detailed later in this chapter, the price of local beans does not follow the price of imported beans. The US accounts for most pinto bean imports. In November 2009, the GOH lowered the import tariff for bean imports from five percent to 3.5 percent, and total duty fees¹⁰⁴ are evaluated at 19.3 percent. This tariff was mainly introduced in response to the food price crisis of 2008. The tariff rate decrease may suggest the GOH is encouraging more bean imports, which could potentially discourage local production.

Supply of beans varies with production and import levels. Large quantities of local beans are supplied on both rural and urban markets after the three annual harvests, when producers are

¹⁰² Interview with Emmanuel Prophète

¹⁰³ CNSA 2008 cited by IRC et al. 2010

¹⁰⁴ Duty fees include a customs fee of 3.5 percent, verification fees of 5 percent, and turnover fees of 10.8 percent.

selling at low prices. These short-lived abundance periods, lasting between two and four weeks, depend on the level of production and the behavior of market participants.

The January 12 earthquake damaged infrastructure, which in turn affected the bean market, especially in Port-au-Prince. The earthquake damaged the port in Port-au-Prince, disrupting bean imports during the first quarter of 2010. It also destroyed about 35 percent of Port-au-Prince's warehouses, reducing wholesalers' capacity to stock up beans. There was significant damage in Croix-des-Bossales, where most of the local beans are offloaded. The fire that swept Croix-des-Bossales three months later added to the earthquake's destruction, and forced Madam Saras from this area to relocate. Damage to the roads linking Port-au-Prince, South, and Southeast hindered the flow of goods to and from these regions. Damage to irrigation systems were reported in areas near the center of the earthquake.

5.2.2. Supply

Domestic production and imports (including commercial and food aid) account for Haiti's bean supply. Beans are a highly-marketed cash crop in Haiti, with more than 80 percent of production sold on local markets immediately after harvest, and less than 20 percent of production utilized by producers as food or seed. National production accounts for approximately 70 to 80 percent of supply, commercial imports 10 to 15 percent, and food aid five to 10 percent.¹⁰⁵

Production

The level of beans available in the country averaged 62,910 MT per annum for the last 10 years, as shown in the table below. Domestic production represents, on average, 72 percent of supply. Beans production has been steadily increasing since 2006; over the last decade, production more than doubled from 33,150 MT in 2000 to 84,290 MT in 2009.

Table 21. Beans Availability in Haiti (MT), 2000-2010

| Year | Production Area (ha) | Production Yield (MT/ha) | Production Volume (MT) | Imports (MT) | Total availability (MT) | Imported beans as a % of total availability |
|-------------------|----------------------|--------------------------|------------------------|--------------|-------------------------|---|
| 2000 | 51000 | 0.65 | 33150 | 19600 | 52750 | 37 |
| 2001 | 50700 | 0.65 | 32900 | 21300 | 54200 | 39 |
| 2002 | 50000 | 0.65 | 32500 | 15694 | 48194 | 33 |
| 2003 | 53800 | 0.65 | 35000 | 22619 | 57619 | 39 |
| 2004 | 52300 | 0.65 | 34000 | 24131 | 58131 | 42 |
| 2005 | 61500 | 0.65 | 40000 | 21124 | 61124 | 35 |
| 2006 | 61500 | 0.65 | 40000 | 19900 | 59900 | 33 |
| 2007 | 108000 | 0.56 | 60000 | 20744 | 80744 | 26 |
| 2008 | 100000 | 0.62 | 62000 | 10145 | 72145 | 14 |
| 2009 | 120000 | 0.70 | 83700 | 590 | 84290 | 1 |
| Average | | | 45325 | 17585 | 62910 | 28 |
| January-June 2010 | | | | 32997 | | |

Sources: FAO; AGD; MARNDR;

¹⁰⁵ EMMA, 2010

In response to the global food crisis of 2007-2008, the MARNDR, FAO, and other NGOs have intervened with investments in irrigation systems and the distribution of subsidized seeds and fertilizers. These interventions, coupled with favorable weather, resulted in particularly strong agricultural production in 2009.

Bean production for 2010 is looking less promising. Preliminary results of a joint FAO/WFP/MARNDR Crop and Food Security Assessment Mission (CFSAM) and field visits show a loss of 50 to 75 percent for the spring 2010 season, most of which was concentrated in the Southeast department. These losses mainly result from a drought at the beginning of the planting period followed by heavy rains during the harvest.¹⁰⁶ In addition, the earthquake which struck just before harvest in lowland areas affected bean yields.¹⁰⁷ As stated earlier, irrigation pumps in this area were not functional for two to three weeks after the earthquake, which was a critical time for blossoming. The earthquake also damaged crop roots which affected yields.

Although production has increased overall during the past decade, bean yields have remained low. In 2009, yields average 0.9 MT per ha under irrigation and less than 0.6 MT per ha under rain-fed conditions.¹⁰⁸ In comparison, farmers receiving direct technical support from the Oxfam-Quebec PARPANASA project across several locations in both humid mountains and irrigated plains obtain an average of 1.77 MT per ha.¹⁰⁹ Constraints limiting bean production in Haiti include:

Water availability. Water is limited throughout the country during the winter, with the exception of the North and the Northwest, which receive rain in December. Production on the plains must be irrigated during this season. The highlands frequently suffer one to two weeks of drought during their crop cycle (harvests in May/June and September/October). During the harvest, abundant rain can cause the grain to germinate, leading to huge post-harvest losses. The same issues characterize summer months, coupled with potential damage from hurricanes. Potential damage during autumn months includes heavy rains during growth stages and hurricanes and drought during final stages.

Crop diseases. Beans are affected by viruses generally transmitted by seeds, especially BCMV, BCMNV, and Begomovirus BGYMV.

Low soil fertility. Most beans are cultivated on steep lands, which accelerate soil erosion, and consequently contribute to the reduction of the soil's fertility.

Low investment capacity of farmers. Cash-strapped farmers are frequently unable to access sufficient inputs such as labor, fertilizers, and seeds.

Imports

A substantial amount of beans is imported into Haiti, averaging 17,585 MT per year over the last 10 years. Bean imports fluctuated during this period, peaking at 24,131MT in 2004, and

¹⁰⁶ Personal communication, CFSAM study team members, July 2010

¹⁰⁷ IRC et al. 2010

¹⁰⁸ Emmanuel Prophète, personal communication

¹⁰⁹ Interview with PARPANASA

dropping to 509 MT in 2009 following the exceptionally good harvest. The US usually accounts for most bean imports, though several other countries also import beans to Haiti, varying as shown in the table below. In FY06/07, Brazil surpassed the US, accounting for approximately 86 percent of all bean imports.

Table 22. Source of Imported Beans

| Source of imported beans: | 2004-2005 | 2005-2006 | 2006-2007 | 2007-2008 | 2009 | January-June 2010 |
|------------------------------------|-----------|-----------|-----------|-----------|------|-------------------|
| Albania | 0% | 6% | | | | |
| China | 0% | 5% | | | | |
| Brazil | 0% | 0 | 81.59% | 0 | 0 | 0 |
| U.S. | 94% | 86% | 5.70% | 77% | 93% | 93.8% |
| Dominican Republic | 0.002% | 0 | 10.71% | 15% | 6% | 5.6% |
| Other: Canada, France, Italy, etc, | 5.998% | 3% | 2% | 8% | 1% | 0.6% |

Source: AGD, 2010; Paul, 2009.

Some beans and peas are informally exported to the Dominican Republic, but such transactions are not recorded and are much smaller in volume and value than the flow of black beans coming into Haiti from the Dominican Republic. In 2004, Capital Consult estimated the volume of beans exported to the Dominican Republic at 2,000 MT, valued at 34,190,910 gourdes.¹¹⁰ Informal trade of pigeon peas to the DR is reported to be substantial. Haitian Madam Saras sell beans and peas regularly to Dominicans at the border. Madam Saras also purchase imported beans at Malpasse, and then informally export them to the DR.

Very small quantities of local beans were observed on the markets visited in June 2010, though imported beans were readily available as they tend to be year-round.

Bean imports to Haiti totaled 32,997 MT from January to June 2010, corresponding to approximately 68 percent of what the domestic production could have been for the winter and spring seasons in the absence of weather-related losses.¹¹¹ Commercial imports represented five percent of this total, and the remaining 95 percent was imported by NGOs and international institutions, as shown in the table below. WFP led the way with 68 percent of the imports.

Table 23. Bean Imports by Donors

| Donor | Percentage |
|-------------------|------------|
| ACDI/VOCA | 6% |
| CRS | 5% |
| FOOD FOR THE POOR | 2% |
| WFP | 68% |
| WV-HAITI | 18% |

Source: AGEMAR, 2010

In general, food aid donors and distributors such as USAID, Germany, Canada, European Community, and World Food Program include beans and peas in their rations. In response to the earthquake, USAID supplied 16,430 MT of beans and peas, including pinto, yellow whole

¹¹⁰ Cited by Paul, 2005

¹¹¹ AgeMar, 2010

peas, and green peas to Haiti during the first half of 2010. This figure is a 259 percent increase from the 6,340 MT distributed in 2009.¹¹²

Though it is too early to fully assess impact, thus far the massive import and distribution of beans and peas has not appeared to affect Haiti's production or markets. Under normal market and production circumstances, it likely would have a disruptive effect.

5.2.3. Demand

Demand for beans is relatively important in Haiti as both rural and urban households regularly consume beans, which provide a significant source of protein for low-income families. Beans are consumed as a purée (*sauce pois*), or mixed with cereals. The country's national dish, "*Riz Haitien*," is red mottled beans cooked with rice. Beans and *sauce pois* are also consumed with maize meal and sorghum; any increase in the demand for those complementary commodities will raise demand for beans. Local beans -- especially red mottled beans -- are strongly preferred, though budget constraints and cyclical seasonal scarcity of local beans raises demand for imports.

After the earthquake, Madam Saras reported a slight decrease in demand for local beans. Since Madam Saras are the main distributors of local bean varieties, one can assume that demand for local beans shifted post-earthquake toward imported beans, a cheaper, less-preferred commodity. Despite a strong preference for local bean varieties, loss of assets and livelihood coupled with competing cash demands have likely shifted demand.

This assumption is supported by reported increases in demand for imported beans. Ti Tony, the largest wholesaler in Port-au-Prince, indicated that demand for imported beans rose after the earthquake. The wholesaler's sales increased from about 1,600 50kg bags per month before the earthquake to about 2,000 50kg bags per month after the earthquake. In addition to the aforementioned likely change in demand for imported beans, Ti Tony also attributed their increased sales to warehouse damage sustained by competitors who have been forced to reduce stocks or suspend business. It is believed that some relief organizations which could not import rapidly after the earthquake because of the damage to port and other economic impediments may have bought locally-stored goods for distribution, thus increasing short-term demand at the wholesale level. This was the case in Jeremie among the Charity Missionaries who were distributing on behalf of CRS.

5.2.4. Market Structure

The bean market chain involves a large number of actors, including about 350,000 producers (as of 2004).¹¹³ Madam Saras drive the local bean market chain in Haiti, starting with the rural Madam Saras who collect the majority of their beans from small rural markets.¹¹⁴ If producers or rural Madam Saras are in urgent need of cash, pre-harvest arrangements are sometimes made.

¹¹² FFP database

¹¹³ Paul, 2005

¹¹⁴ According to a study in the Nippes region from 1995, three to five percent of rural Madam Sara's grain stock is collected at the farm gate, and the rest is purchased at small markets.

The rural Madam Saras then transport the beans to regional markets. Urban Madam Saras travel long distances to purchase beans and other food commodities from rural Madam Saras at the regional markets. Next, the urban Madam Saras travel to sell at Croix-des-Bossales in Port-au-Prince, a clearinghouse for beans produced all over the country. Rural Madam Saras are familiar with production patterns and are likely to go in areas where produce exists, though they first target their region of origin to benefit from credit availed by social networks. Large wholesalers focus only on the distribution of imported beans.

Retailers purchase small quantities of imported beans from wholesalers and local beans from Madam Saras, and then sell to consumers in marmites. Retailers are found in large numbers in markets across Haiti. Like smaller wholesalers, they sell a wide variety of food products, supplying both local and imported beans to consumers.

Many actors are involved in the distribution of imported beans. In addition to donors, about 15 commercial importers brought beans into Haiti during the first half of 2010. However, two firms (LC Grace Trading and Caribbean Center) were responsible for 43 percent of these commercial imports. The two main importers sell primarily to some 30 to 50 first-level wholesalers established in Port-au-Prince. Those wholesalers are linked to hundreds of secondary wholesalers located in different markets across the country.

5.2.5. Market Conduct

Given the large number of market participants at each level of the distribution channel, the market for local varieties seems to function competitively, without the market concentration seen at the level of importers in the market for imported beans. Investment level at each segment is relatively small for local beans, preventing individuals from exerting notable market power. That being said, urban Madam Saras concentrated in Port-au-Prince with sufficient capital to invest in stored commodities during seasonal shortages play a significant role in determining prices along the chain. Using cell phones, rural Madam Saras call urban Madam Saras in Croix-des-Bossales for guidance on current retail prices, which determine rural prices.

Another factor limiting competition of the local market can be the attitudes of well-established Madam Saras, both in rural and urban settings, that can limit entry of newcomers. Established Madam Saras may act collectively to block entry of new Madam Saras. Unless newcomers have a powerful group member to help integrate them into the market, a well-established Madam Sara may use intimidation tactics or theft of merchandise and/or cash to dissuade the newcomer from entering the business.

Large Madam Saras and other well-capitalized traders often buy significant quantities of beans at harvest to sell in two months' time at higher prices. One local association interviewed in Léon (near Jérémie) buys about 1,300 marmites (3.5 MT) in April/May to sell in July. The proceeds from the July sale then finance purchases in October, which are then sold in November/December when bean prices reach their peak. Stockholders are limited by the level of production, financial capability, and storage space.

Though only a handful of importers and large wholesalers with access to formal warehouses and financial capital are involved in the distribution of imported beans in Port-au-Prince, no significant legal barriers prevent entry. However, access to capital poses a formidable challenge. At the wholesale level, imported bean price may be negotiated between the small number of large importers and large wholesalers in Port-au-Prince. Entry at the retail level for imported beans may be easier than entry at the retail level for local beans, due to less collective action among retailers.

Transactions are usually made on a cash basis. However, all sellers may give credit to reliable buyers all along the distribution channel. All categories of clients (wholesalers, retailers, and consumers) in both the import and local bean markets may receive credit for beans purchased, with suppliers along the marketing chain extending in-kind credit to reliable customers. In-kind credit is usually extended interest-free, with terms between one and seven days for local beans, and eight to 15 days for imported beans. Buyers of imported beans who purchase in cash are offered volume discounts.

Madam Saras purchase primarily in cash, but may obtain credit from producers/sellers if they are able to rely upon social networks, particularly in their place of origin. Some of them advance cash to producers and grain collectors during planting or lean seasons, to ensure access to the harvested beans. After Madam Saras collect the grains directly from the farm, they usually sell the grains at a slightly lower price than the market price. This practice is also used in the rice and other cash crop markets. The producers sell the remaining product (i.e., what was not purchased in advance) at the market price immediately after harvest when price is usually the lowest.

Merchants at all levels of the market -- wholesalers, Madam Saras, and retailers -- receive credit from various sources. Some retailers interviewed in Jacmel stated that they received credit from both suppliers as well as micro-finance institutions.

5.2.6. Market Performance

Information on local market price is only collected for local black and red mottled beans. The price of red mottled beans is usually higher than that of black beans, as it is the most preferred variety. In general beans prices decline on all markets during harvest periods (February/March, April/May, September/October) and begins to rise one or two months later depending upon the size of the harvest in particular locales. Prices peak during planting seasons. In good seasons, seasonal price variation is more pronounced than in bad seasons. Price fluctuations vary across markets.

The presence of Madam Saras also influences prices at markets. Usually, rural Madam Saras buy large quantities of beans at a given price to immediately sell to urban Madam Saras. The rural Madam Saras sell to the urban Madam Saras at a higher price, with a near-zero transaction cost. However, sometimes urban Madam Saras are not at a market, because urban Madam Saras move according to price and availability, which they can assess by using cell phones. In this case, the rural Madam Sara then sells her product directly to the wholesaler, retailer, or consumer at a higher market price than she would to an urban Madam Sara.

Between 2005 and 2006, average prices for local beans increased in Port-au-Prince, Cap-Haitien, and Jeremie, while they decreased in Jacmel, Cayes and Hinche. From 2006 to 2007, average prices for local beans increased across most markets, with the notable exceptions of Port-au-Prince and Hinche. In 2008, price increased in all markets due to generalized food crisis, though the biggest increases were recorded in provincial markets such as Jeremie (28 percent), Jacmel (22 percent), Hinche (20 percent) and Cayes (18 percent), while price increased only by seven percent and 0.3 percent in Port-au-Prince and Cap-Haitien, respectively. A large amount of harvested grain is transported to Port-au-Prince from all regions in Haiti, though exact figures on available seasonal stocks in different regions are not available. The reserve stock left in regions outside Port-au-Prince may not be enough to stabilize the market, and could explain why these provincial markets witnessed the largest increases. Price of local beans decreased between 2008 to 2009, except in Les Cayes and Hinche where price slightly increased.

The variation in local bean prices suggests that price changes in Port-au-Prince are not well transmitted to prices in provincial markets. Price variations on provincial markets are more likely to be influenced by local or regional production, and can also be affected by production levels of other types of peas. For locally-produced beans, rural and urban Madam Saras capture the margins from the higher consumer prices, at the expense of the producer.

It is not possible to fully analyze imported bean price behavior due to lack of data. However, one would expect that international price changes would directly affect imported bean price on local markets, but such information is not available.

For both local and imported beans, transport availability is a critical bottleneck to distribution in some markets. Transport costs are particularly high in-country and vary generally with fuel price. Transport disruptions affect the flows of beans, depress prices in source markets, and increase prices in destination markets. For local beans, transport difficulties disrupt flow from rural areas to Port-au-Prince; for imported beans, transport difficulties disrupt flow from Port-au-Prince to rural markets. For example, when boat trips are disrupted in Jeremie (as they were after the earthquake), production in Grand'Anse is difficult to move to consumers, resulting in temporary shortages in Croix-des-Bossales and temporary surpluses on local markets in the Grand'Anse area. This can be disastrous for both producers and traders.

5.2.7. Impact of Earthquake on Market Structure, Conduct and Performance

The earthquake damaged storage facilities, disrupting the local bean market. The fire in April 2010 further damaged Croix-des-Bossales, an important section of the market. Madam Saras selling beans in the area were displaced to a different corner of Croix-des-Bossales. Madam Saras reported that they sold about four to five 50kg bags per day after the earthquake, a 75 percent decrease from the 15 to 20 50kg bag per day average they had maintained before the earthquake. Madam Saras attributed their losses to lack of security in the market, lack of sufficient storage space, and reduction in household demand. This last reason was also an important disruptive factor in provincial bean markets such as Jacmel.¹¹⁵ Retailers and small

¹¹⁵ Meissner et al. 2010

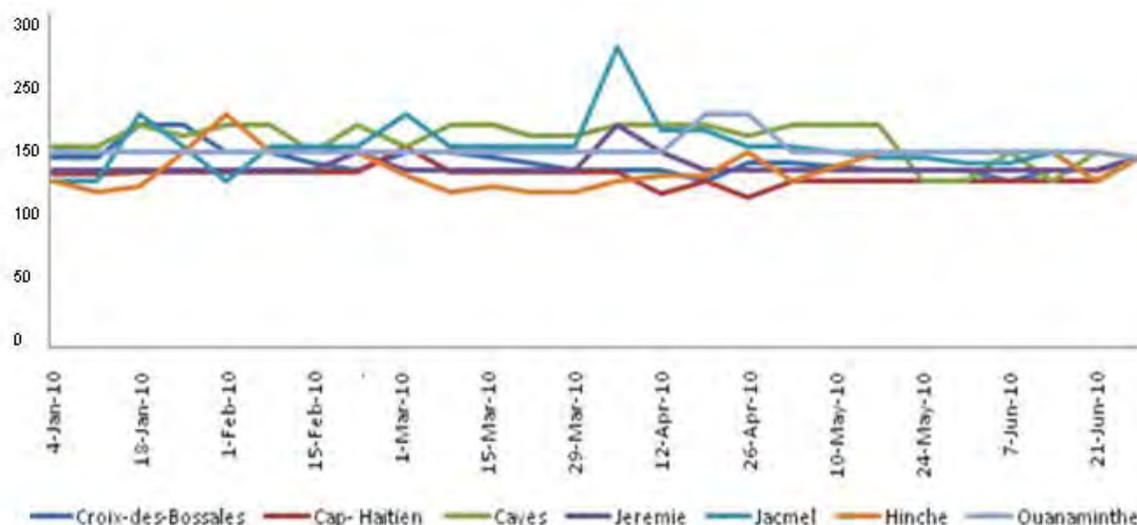
wholesalers in Croix-des-Bossales did not cite food aid distribution, however, as a reason for diminished household demand.

The destruction of several warehouses in Port-au-Prince affected imported bean distribution. A high-level employee interviewed at one of the biggest wholesalers estimated that 35 percent of warehouses in Port-au-Prince were destroyed, and are not scheduled for reconstruction due to other priorities and financial demands. Damage to infrastructure and storage facilities was also extensive in Jacmel, Léogane, and Petit-Goave.

Credit to the sector has contracted, given that significant numbers of debtors at all levels of the market lost their assets or claimed to have lost their assets in the earthquake, and therefore have not been able to reimburse their credit on time. However, the initial post-earthquake contraction seems to have eased, and actors along the chain report access to credit, though at smaller levels and shorter terms than prior to the disaster.

After the earthquake, bean prices immediately increased on the markets of Croix-des-Bossales, Jacmel, Les Cayes, and Hinche, while it remained relatively more stable in Cap-Haitien, Jeremie, and Ouanaminthe, as shown in the figure below. One week after the earthquake, bean prices increased by approximately 18 percent in Port-au-Prince, 40 percent in Jacmel, and 11 percent in Les Cayes. Although Jeremie suffered damage to transport infrastructure and received a flux of IDPs, price remained somewhat stable; this could be in part due to the fact that farmers had just harvested pigeon peas, which are well-consumed in the area. Bean prices were more volatile on the market of Croix-des-Bossales than on any other market during the first half of 2010. Currently, prices have dropped back to normal levels.

Figure 12. Trends in Bean Price on Selected Markets, Price in Gourdes per Marmite



5.3. Maize

After plantains, maize is the second-most important food crop in Haiti. The crop is grown by almost all Haitian farmers across the country. A major contributor to food security, maize is used as a hunger food while awaiting the harvest of other crops. Though the use of fertilizers are rarely applied to maize and are negligible, farmers continue to generate positive net returns from its production.¹¹⁶ Maize is a strategic crop; it is planted as a substitute for rice on the plains when rainfall is low and/or whenever a quick output is required after disaster or damage strikes other crops.

5.3.1. Basic Conditions

In the 1990s, maize varieties grown in Haiti were the LA MAQUINA 7827, LA MAQUINA 7928, COMAYAGUA, UNPHU-301C, and UNPHU-304C.¹¹⁷ The main varieties grown today are improved varieties: Chicken Corn, Maquina, Comayagua, and two local populations (Ti Mayi and Gros Mayi) that are adapted to Haiti's environmental conditions. Still, maize seeds, like that of most staple crops in Haiti, are characterized by lack of selection, improper processing and storage, and low germination. Almost all farmers retain grains from previous crops for planting during the next season, though they often differentiate between the grains intended for consumption and those earmarked for planting. Grains for planting are usually large and free from blemishes while those for consumption are not as well graded and may contain a mix of smaller grains and some blemishes.

Haitian seeds are mainly local, though organizations such as the FAO and World Food Program are encouraging farmers to select better seeds. The International Wheat and Maize Improvement Center (CIMMYT, or "Centro Internacional de Mejoramiento de Maíz y Trigo") tested improved seeds in the 1980s and the 1990s at the southern Levy station, in the southern region with rich clay loam soils under irrigated conditions, and distributed limited supplies to farmers. Since 2000, CIMMYT has been collaborating with the Organization for the Rehabilitation of the Environment (ORE) on Quality Protein Maize (QPM) trials in Camp Perrin, cultivating seeds best-adapted to Haitian environmental conditions, such as water shortages in some regions, low soil fertility, and a susceptibility to Sorghum Downy Mildew, a common maize disease in the country. The seeds are also bred to adapt to the country's predictable rainfall conditions.¹¹⁸

Originally developed at CIMMYT in Mexico during the late 1990s, QPM contains nearly twice as much usable protein as other maize grown in the tropics and yield substantially more grain than traditional varieties.¹¹⁹ QPM seeds are diffused in some regions across the country through emergency seed distribution.

¹¹⁶ Paul, 2005.

¹¹⁷ Azael, 1994

¹¹⁸ FEWS NET 2010

¹¹⁹ FEWS NET, 2010

After the earthquake, MARNDR received a gift of 120 MT of hybrid maize seed from Monsanto that was distributed through the USAID/Winner project and the Earth Institute. The claim that the distributed seed was a GMO variety caused controversy, prompting MARNDR to publicly announce that the seed actually didn't contain GMOs.

An unspecified number of NGOs and private groups furnish improved seeds to producers, frequently requiring beneficiaries to restock the seed bank post-harvest. For example, the World Food Program and Chamber of Agriculture of San Raphael (CASR) have an agreement in which CASR provides locally-milled maize to WFP for use in school feeding and FFW.

5.3.2. Policy

As detailed in Chapter 4, there are a number of policies in place to help boost the agricultural sector. Government intervention specific to maize production focuses mainly on seed distribution, and to a lesser degree, on fertilizers, in areas such as Les Cayes where farmers commonly use mineral fertilizers in maize production.

5.3.3. Supply

In 2005, maize accounted for 11.3 percent of Haiti's total meat and crop production.¹²⁰ Maize contributed slightly more than 50 percent of all domestic cereal production in 2008 and 2009, as shown in the table below. In 2009, 450,000 ha of maize were planted, resulting in 304,000 MT.

Production has been increasing at a steady rate of 1.14 percent annually, from 2000 to 2009, due to increases in both area harvested and yields. In 2009, production increased by 35 percent as compared to 2008. The sudden increase in production can be attributed to good rainfall, plus distribution of seeds. Furthermore, in 2009 fertilizer was available at more affordable prices, since the government and donors sought to increase production in response to the world food price crisis.

Table 24. Haiti – Maize, Sorghum, Rice Production, Total Cereal and Percent of Maize contribution to Cereal Production 2000 to 2010

| Date | Area harvested (1000 ha) | Total Maize Production (1000 T) | Total Sorgh/Millet Production (1000 T) | Total Rice Production (1000 T) | Total Cereal Production (1000 T) | % Maize Contribution to Total Cereal Production (1000 T) |
|------|--------------------------|---------------------------------|--|--------------------------------|----------------------------------|--|
| 2000 | 270 | 202 | 98 | 130 | 430 | 46.9 |
| 2001 | 260 | 180 | 80 | 103 | 363 | 49.6 |
| 2002 | 240 | 179 | 89 | 107 | 375 | 47.7 |
| 2003 | 240 | 182 | 91 | 108 | 381 | 47.8 |
| 2004 | 260 | 198 | 95 | 105 | 398 | 49.7 |
| 2005 | 257 | 200 | 100 | 105 | 405 | 49.4 |
| 2006 | 263 | 205 | 100 | 110 | 415 | 49.4 |
| 2007 | 346 | 240 | 120 | 130 | 490 | 49.0 |
| 2008 | 300 | 225 | 100 | 110 | 435 | 51.7 |
| 2009 | - | 304 | 122 | 128 | 554 | 54.9 |

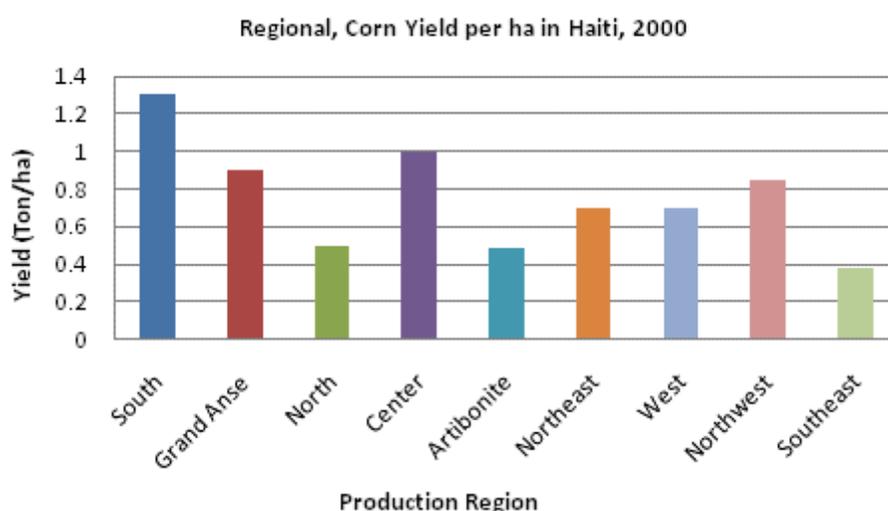
Source: MARNDR/Direction de Production Végétale (DVP) Service Statistique Agricole

¹²⁰ MARNDR, 2010

It is widely believed that domestic production has been systematically underreported, as intercropped maize and maize planted on small fields are often overlooked by crop assessments. To assure a food supply during grangou or the hungry season, almost all farmers in Haiti produce a small amount of maize, frequently on small plots or Jardin de case of areas less than 0.25 ha.¹²¹

Maize is produced in all regions, with the largest production coming from the Southern region and the Plateau Central. The yields vary by region with the highest yields coming from the Southern region, as shown in the figure below. The Southern region has the highest yields, in large part due to the use of fertilizer and improved maize seeds, along with the availability of water and fertilizers.

Figure 13. Regional Maize Yield per ha in Haiti, 2000

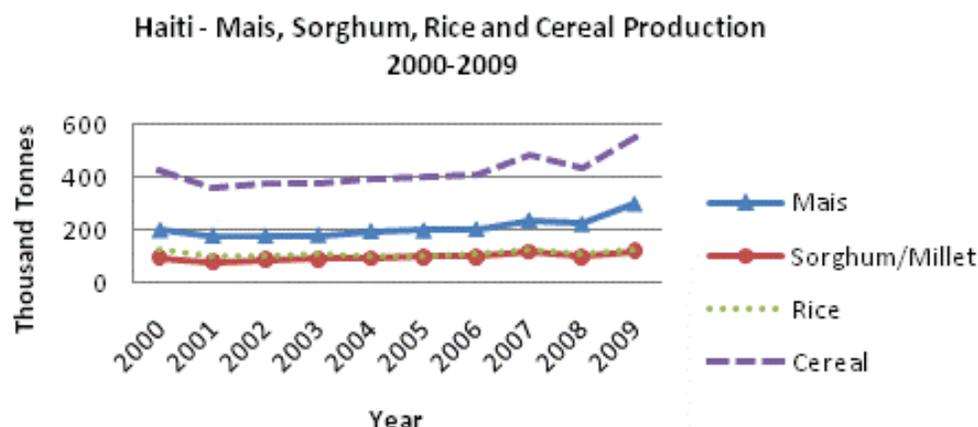


Source: MANDR, 2000

Haiti depends mostly on local production to meet demands, and production has been rising. In 2005 CNSA estimated that total domestic production (including cereals, tubers and roots, legumes, etc) covered approximately 46 percent of the food needs in the country; the remaining balance was covered by imports and food aid.

Haiti produces all of the maize used locally, during good harvest years. Between 2000 and 2009, maize production increased at an annual growth rate of 4.2 percent, almost double sorghum's growth rate of 2.2 percent. During the same period, the total cereal annual growth rate was 2.05 percent, with an increase in production of all cereals with the exception of rice production, which decreased by 0.2 percent, as shown in the figure below.

¹²¹ Paul 2005

Figure 14. Maize, Rice, and Cereal Production, 2000 to 2009

Source: MARNDR/Direction de Production Végétale (DVP) Service Statistique Agricole

Maize production is mostly rain-fed, but some areas (such as the western plains) are irrigated. A large portion of the maize produced in the central area is consumed as green (fresh) maize, which is preferred over dried maize. Most maize is planted in February/March, with an early planting harvested in June/July. The second season is planted in July/August for harvest in September/October. Jolly and Jean-Louis (1993) showed that regional prices decline during the post-harvest periods (April-June and September-October).

About 40 percent of maize production is marketed, and the rest is consumed at the farm household level.¹²² The plains around Les Cayes are the primary production zone supplying the Les Cayes, Fonds-des-Nègres, and Port-au-Prince markets. The South and South-eastern regions produce maize destined for Jacmel and Port-au-Prince. Maize grown in the Central Plateau and Gonaives areas are marketed in Cap-Hatien, Ouanaminthe, and Port-au-Prince. Production in the Northwest goes to Northwest markets, Gonaives, and Port de Paix. The largest inflow market is Port-au-Prince.¹²³

As stated earlier, a very small amount of fertilizers are used in maize production. On average, the country imports 20,000 MT of mineral fertilizer each year. About 10 percent of this volume is distributed in the southern department and is applied on maize, beans, rice, and vegetables.¹²⁴

Haiti imports some maize to satisfy national requirements, as shown in the table below. Imports fluctuate, but between 2000 and 2009, the country imported an average of 331 MT of maize grain annually with a peak of 2,248 MT imported in 2000. Most maize imports come in the form of maize meal or maize flour.

Table 25. Imports of maize grain and flour in Haiti 2000 to June 2010 (MT)

| Year | Maize grain | Maize flour |
|------|-------------|-------------|
| 2000 | 2248 | 3688 |

¹²² Paul 2005

¹²³ FEWSNET 2010

¹²⁴ Bayard and Shannon 2010

| Year | Maize grain | Maize flour |
|----------------|-------------|-------------|
| 2001 | 76 | 2592 |
| 2002 | 225 | 4066 |
| 2003 | 40 | 1776 |
| 2004 | 35 | 1380 |
| 2005 | 148 | 2956 |
| 2006 | 15 | 1550 |
| 2007 | 249 | 4807 |
| 2008 | 46 | 17377 |
| 2009 | 231 | 25850 |
| Average | 331 | 6604 |
| Jan.-June 2010 | 1603 | 9747 |

Source: AGD

In recent years, maize import volumes have been small. Similarly, food aid in the form of maize is insignificant, averaging about 330 MT over the past five years.

As shown in the table below, the DR accounts for most maize grain imports (64 percent in 2009 and 99 percent in 2010), followed by the US. Less than three percent of maize grain imports come from other countries. In the past two years, the US has led maize flour imports, though Belgium and Italy contributed 32 percent and 20 percent, respectively, in 2009. See the table below.

Table 26. Maize Grain and Maize Flour Importers, 2009 and January-June 2010 (Percentage)

| Country | 2009 Maize Grain | 2009 Maize Flour | 2010 Maize Grain | 2010 Maize Flour |
|----------------|---------------------|---------------------|---------------------|---------------------|
| Dominican Rep. | 64% | 0 | 99% | 2% |
| USA | 32% | 45% | 1% | 97% |
| Argentina | 2% | 3% | 0 | 0 |
| Belgium | 0 | 32% | 0 | 0 |
| Italy | 0 | 20 | 0 | 0 |
| Monaco | 1% | 0 | 0 | 0 |
| others | 1% | 0.0001 | 0.001% | 1% |
| Total | 100% | 100% | 100% | 100% |

Source: AGD

US maize imports come mostly through Port-au-Prince and Miragoane ports. In 2006/2007, the U.S. exported 7,605 MT of maize to Haiti at the FOB value of US\$2,522,980 and total value (with freight, taxes, and custom fees) of US\$3,534,630. This brings the value per MT to US\$0.33 FOB and US\$460 per MT with freight, taxes, and custom fees added. In 2007/2008 the import quantity diminished slightly to 6,146 MT at the FOB value of US\$1,978,797, or US\$320 per MT, and with freight, taxes and custom fees, a total value of US\$2,637,374, or US\$430 per MT.

Informal imports also contribute to Haiti's maize supply. Though contraband trade cannot be measured, rough estimates suggest it is significant -- perhaps double the amount¹²⁵ of regulated import levels, which average about 4,000 MT per year, for the past five years. Part of this informal trade comes from registered importers who evade customs duties.

¹²⁵ Paul, 2005

Haiti informally exports a limited amount of maize, as broken grain or maize meal, along the Dominican Republic border.¹²⁶ Maize exports reached a zenith of nine MT in 1985. This may have been due to an above-average yield in 1984, combined with a record-high import volume of 22 MT in 1985.

5.3.4. Demand

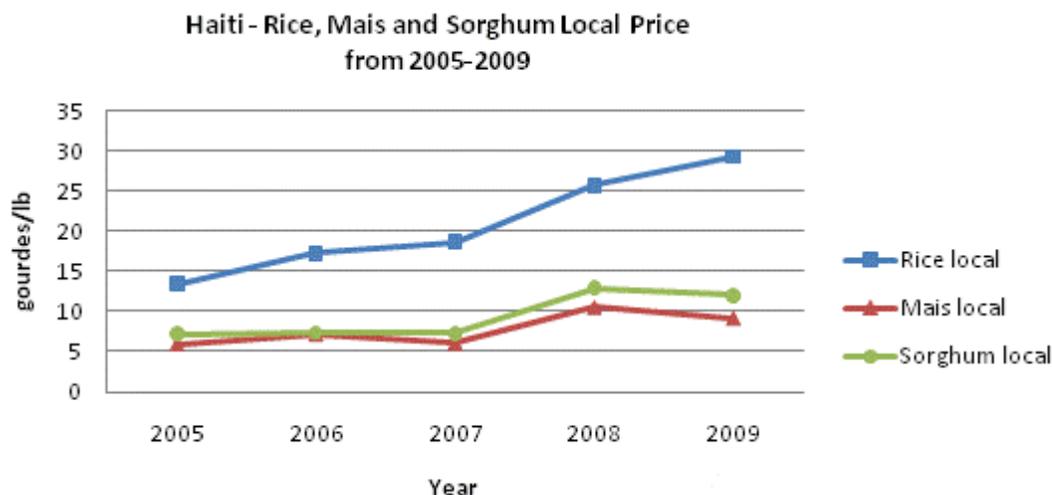
Haitians consume about 36.5 kg of maize per capita per annum. Though maize is frequently consumed in Haiti, maize is considered an inferior good by the affluent who prefer rice. Consumers of all economic backgrounds consume some maize in certain dishes, such as hominy maize with black or red bean stew. This dish is regularly consumed, especially if rice prices are high, rice is unavailable, or household revenue is low.

Maize is consumed fresh or off the ear, and as hominy or maize meal. Fresh maize is consumed either boiled or grilled, and a well-established market for grilled maize exists throughout the country in both rural and urban areas. No formal estimates of grilled (fresh) maize consumption exist, but the food is popular enough to the point that some merchants specialize in grilled maize, which they buy from rural Madam Saras who harvest and buy the maize from producers. Boiled maize meal (maïs moulu¹²⁷) is the most common way maize is consumed. Maize grain is used to make AK100, a breakfast porridge. Though consumers prefer local to imported maize grain, they exhibit a strong preference for the imported maize meal over local maize meal, due to superior hygiene in processing and packaging and food safety standards for imported goods.

Maize substitutes for other crops on the supply side when the conditions or resources are more conducive for producing maize, and on the demand side for other products since its price is often lower than those of other staple food products, as shown in the figure below. It is also preferred to sorghum. Also when households suffer negative income shocks, they switch from rice to maize consumption.

¹²⁶ Paul 2005

¹²⁷ Broken maize varies according to the grade of the mill and merchant choice, but all grades are called "maïs moulu" or maize meal.

Figure 15. Rice, Maize, and Sorghum Local Prices, 2005-2009

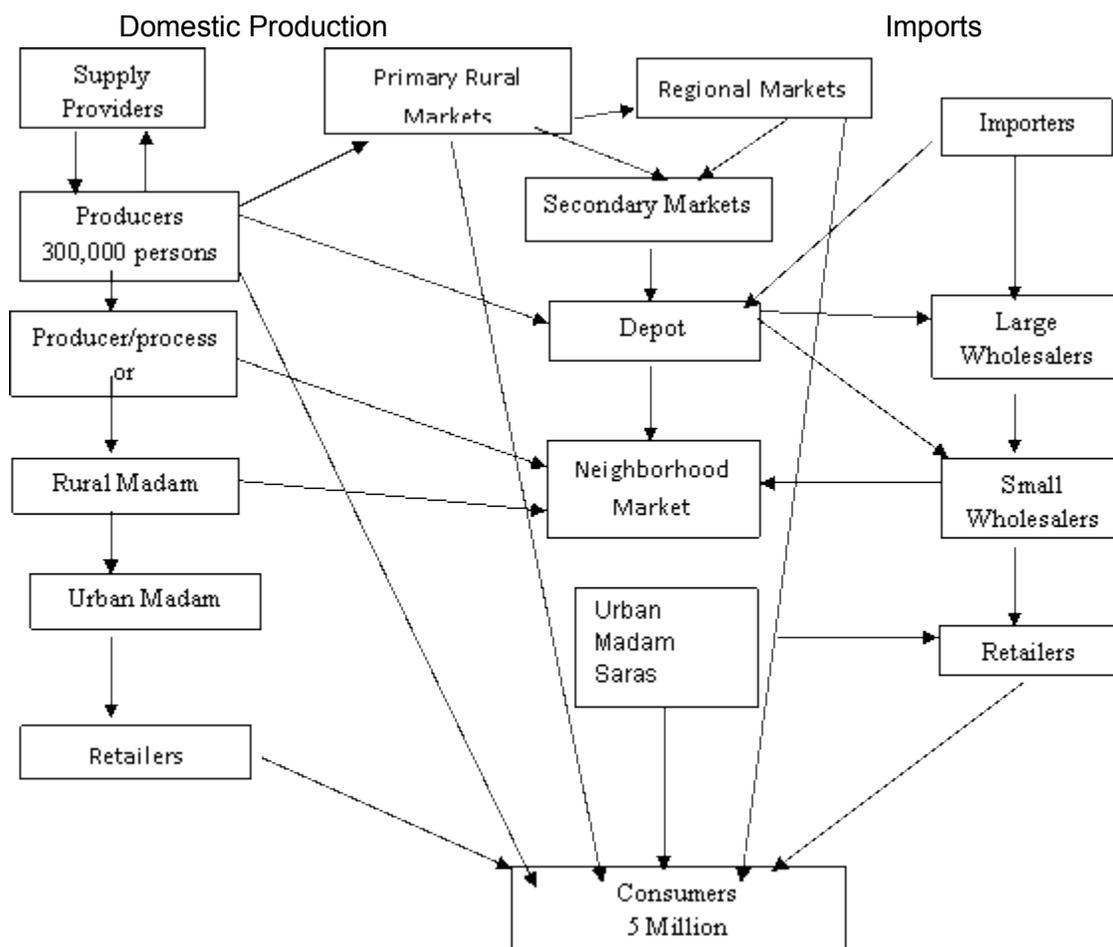
Source: Haiti FEWSNET 2005-2009

5.3.5. Market Structure

As of 2005, an estimated 300,000 producers participated in the maize market by drying grain post-harvest, dehulling, and selling local maize to rural Madam Saras at the farmgate or at local markets.¹²⁸ Producers sometimes go as far as taking their product to the buyer's house. The rural Madam Saras sell the grain, usually in whole form, to urban Madam Saras, who then provide wholesalers. Urban Madam Saras are sometimes also wholesalers. The wholesalers resell to large and small retailers by bags and go on to sell on local markets. There are a number of cooperatives and small businesses that package maizemeal and sell to supermarkets in the cities.

Most maize is milled by retailers, but a few producers and truckers process maize, and some producers mill maize themselves for home consumption. Retailers mill maize at commercial mills run by private individuals or associations, and costs vary according to mill location. Urban consumers buy maize that has already been milled. See the figure below for details.

¹²⁸ Paul, 2005

Figure 16. Marketing Channel for Maize

Generally, imported maize follows the same marketing channel as imported rice,¹²⁹ as many large rice importers also bring in maize in smaller quantities than rice. Though finance is provided at all stages, earthquake-related losses have restricted the extension of credit.

5.3.6. Market Conduct

At the level of importers and major wholesalers there is some oligopoly power; as shown in the table below, two importers hold much of the market at the import level. At the other levels there is very little concentration. As lower market levels, there are a large number of participants with limited resources invested in the industry.¹³⁰

When asked how they determined the price of maize, wholesalers and retailers stated that they based their prices off other sellers' or existing market prices. There was no one selling large quantities of maize or attempting to gain large margins in the markets. These two facts support

¹²⁹ Paul 2005

¹³⁰ Paul 2005

a market that is nearing perfect condition. Paul (2005) shows that the margin from selling imported maize was relatively small at all levels of the market.

Table 27. Maize Importers and Market Share January-15 June 2010

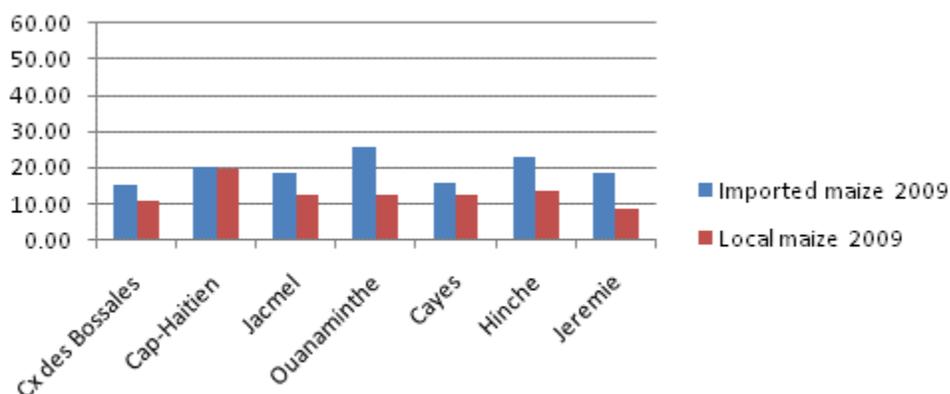
| Institutions | Grains | Flour | |
|----------------------------------|------------|----------|------------|
| | Commercial | Food Aid | Commercial |
| Food for the Poor | | 6% | |
| US Defense Attache | | 90% | |
| America's Development Foundation | | 4% | |
| Huileries Haitiennes | 24% | | |
| Adeko Entreprises | 20% | | |
| JEMS Laplante | 10% | | 6% |
| Royal Import SA | 10% | | 3% |
| Merci Jesus | 6% | | |
| Charles Louines Import | 6% | | 4% |
| Norame Import/Export | 5% | | 10% |
| E & T Import/Export | 5% | | |
| Arlequin Food Product | 5% | | |
| Paula Import/Export | 4% | | 2% |
| CIAMA Import/Export | | | 33% |
| Grace Trading | | | 14% |
| SAMI Import/Export | | | 8% |
| Liora Food SA | | | 5% |
| Caribbean Center SA | | | 5% |
| Other | 5% | | 10% |
| Total | 100% | 100% | 100% |

Source: AGEMAR Jan-15 June 2010

5.3.7. Market Performance

Imported maize prices are higher than local prices, as shown in the figure below. This could be in part due to Haitians' consideration of imported maize as superior in quality. Market location and transport costs also plays a role in price variations of imported maize across markets.

Figure 17. Average Annual Price of One Pound of Imported and Local Ground Maize Prices, in Haitian Gourdes, by Market, 2009¹³¹



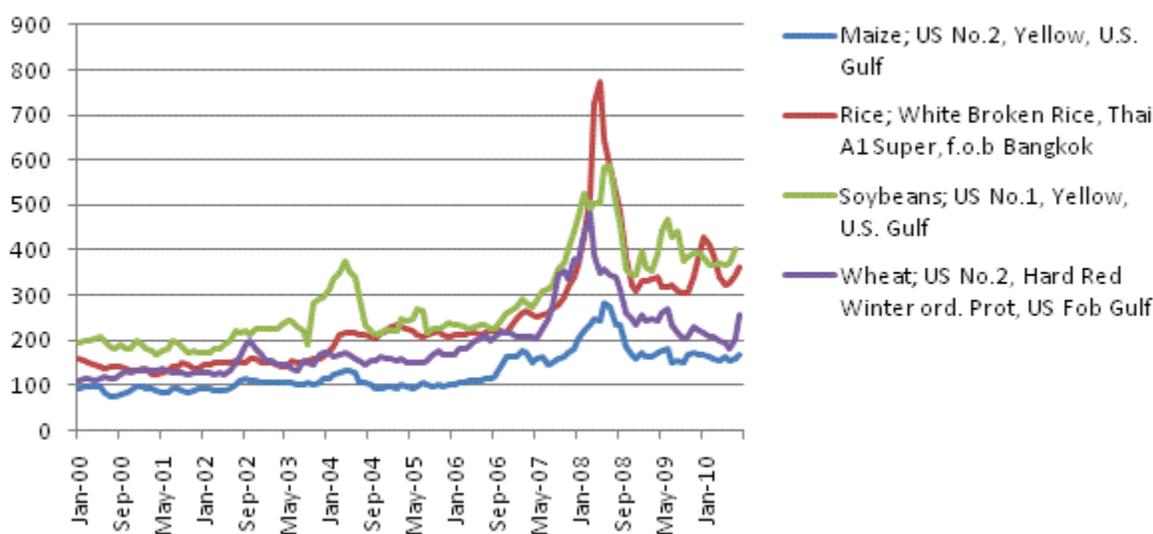
Source: Compiled by author, based on data from multiple CNSA Fiches hebdomadaires des produits locaux et importés

¹³¹ Data not available for Gonaives 2009, Port de Paix 2009, 2010.

Local maize prices rise and fall with seasonality, but are fairly stable in Hinche at a price around 23 gourdes per pound. Local ground maize prices are not perfectly transmitted across regional markets, as production levels, seasonality, and transport play a role in price differences across regions. At different regional markets, the price for imported ground maize is more closely transmitted than it is for local ground maize. See Annex III for more details.

As shown in the figure below, the international prices of cereals and other food commodities rose sharply in 2007 and early 2008, during the worldwide food price crisis. Between January 2006 and early 2008, the world prices of maize, wheat, and soybeans more than doubled, and rice prices tripled. Since mid-2008, food prices have fallen, but remain above the levels of 2006. For example, the price of Maize No.2, Yellow, U.S. Gulf was US\$153.54 per MT in July 2010 compared to around US\$114.3 per MT in mid-2006. There have not been major variations in the international price of maize since the end of 2009. As noted earlier, however, Haiti relies more on local production than imports to meet its needs; thus, international price fluctuations have a limited impact on the country's maize sector.

Figure 18. Trends in International Commodity Prices Over 2000 - 2010



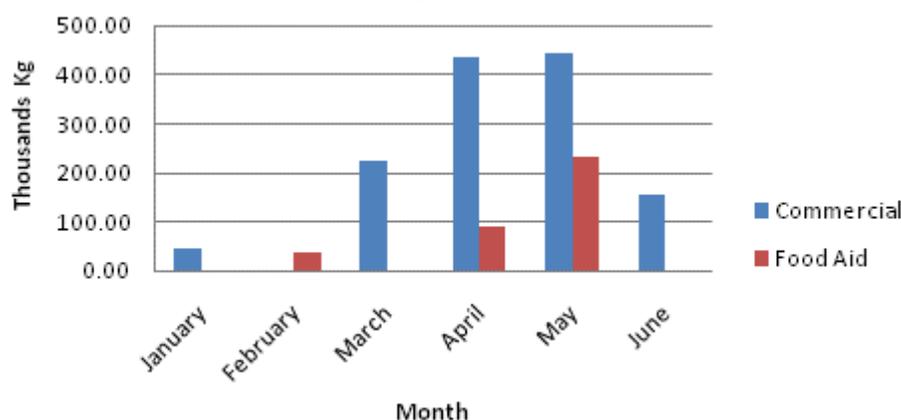
During the food price crisis, prices in all Haitian markets rose at different points during March through August 2008, and began dropping again during September 2008. For local maize flour, prices in most markets started rising from February through May 2008 and dropped by June 2008; much earlier than imported maize flour. Please refer to Annex III for more details.

5.3.8. Impact of Earthquake on Rice Market Structure, Conduct, and Performance

The earthquake had significant effects on the behavior of market participants. At the import level, some importers whose warehouses had been destroyed or damaged had to combine orders with other importers. Some importers in Port-au-Prince and Cap-Haitien noted that they had to temporarily stop operations because they were unable to sell.

Port disruptions followed by preference given to aid over commercial imports resulted in disruptions of the commercial flow of maize imports post-earthquake. As seen in the figure below, commercial imports and maize food aid almost disappeared in January and February 2010, but increased significantly in April and May. In April and May both commercial maize imports and maize food aid increased.

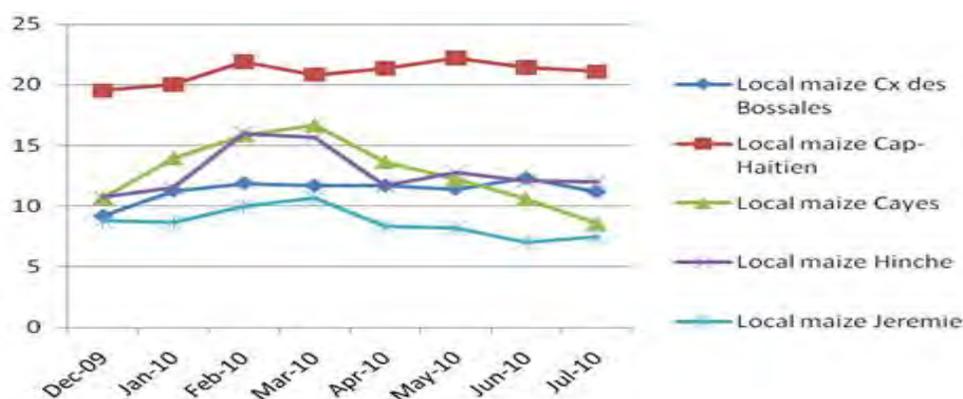
Figure 19. Commercial and Food Aid Maize to Haiti, Jan-June 2010



Source: Agences Maritimes Reunies S.A: Statistiques Commerciales (Maritime Agencies Joined Together S.A: Commercial Statistics) 06/15/2010

The earthquake had some immediate impact on the maize market, as shown in the figure below. Prices spiked in the weeks following the earthquake, but most markets have since lowered to close to or below pre-earthquake levels, with the exception of Croix-des-Bossales, where prices in July 2010 were still 32 percent higher than pre-earthquake levels.

Figure 20. Average Monthly Local Maize Prices, Dec 2009-Jul 2010, in Haitian Gourdes per lb



Source: Compiled by author, based on data from USAID Haiti and CNSA

Initial expectations of shortage caused prices to spike, however, lack of purchasing power meant that suppliers could not move their stock, and as a result prices lowered. While post-

earthquake prices of other cereals (rice and sorghum) increased by about 50 percent immediately following the earthquake, maize prices spiked by about 30 percent.

One interviewee noted that some donor agencies began buying local maize stocks to distribute in addition to imported maize. The number of IDPs relocating from Port-au-Prince to rural areas was high, especially in Jeremie. The artificial demand from donors brought up the price of local maize temporarily, but at a rate slower than other staple foods. Prices in most markets rose from January to March 2010, and then began falling through April. From May to July, the price of local maize in most markets was stable or slightly decreasing near its December 2009 level, as shown in Annex III.

The increase in the price of imported maize meal was higher than that of the local maize meal, which could be due to market participants' expectation of shortages. Both local and imported maize meal prices increased after the earthquake to a greater degree than whole maize prices, which is usual considering that raw product prices typically fluctuate less than transformed product prices.

5.4. Wheat

5.4.1. Market Structure

Though not produced domestically, wheat and wheat-derived products such as flour and macaroni are ubiquitous throughout Haiti and have been part of the local diet for over 50 years. The grain is mainly consumed by low-income families, while some middle-income households occasionally eat small quantities of wheat grain to diversify their diet. Wheat flour sold across Haiti is consumed in various forms (bread, cookies, cake, marinade, dumplings, etc.) by households of all economic strata.

Data on the availability of wheat and wheat flour are not readily available, and when available, prove contradictory. The import figures in the table below were compiled from GOH Customs (2000-2009) and the *Agences Maritimes Réunies* (AgeMar) (2010).

Table 28. Wheat and Wheat Flour Availability in Haiti, 2000-2010

| Year | Wheat | Flour- Imported | Flour- Production** | Total Flour |
|----------------|---------|-----------------|---------------------|-------------|
| 2000 | 65,227 | 17,303 | 180,000 | 197,303 |
| 2001 | 111,143 | 26,816 | 180,000 | 206,816 |
| 2002 | 111,987 | 24,508 | 180,000 | 204,508 |
| 2003 | 146,858 | 23,673 | 180,000 | 203,673 |
| 2004 | 110,071 | 32,845 | 180,000 | 212,845 |
| 2005 | 218,547 | 31,719 | 180,000 | 211,719 |
| 2006 | 184,606 | 24,924 | 180,000 | 204,924 |
| 2007 | 130,384 | 22,089 | 180,000 | 202,089 |
| 2008 | 180,279 | 14,994 | 180,000 | 194,994 |
| 2009 | 216,997 | 20,178 | 180,000 | 200,178 |
| average | 145,610 | 23,905 | 180,000 | 203,905 |
| Jan – Jun 2010 | 27,008* | 25,117 | | |

Sources: AGD; AGEMAR; *43 percent is imported by CRS & WVI, ** Data on the mill production are not available. The production value included in the table was calculated using information from Schwartz 2010 who states that the mill produces 300,000 50kg sacks per month and assuming that the mill functions at this level for the past 10 years.

Wheat availability may be influenced by international wheat market, importers' behavior, mill activities, and/or food aid policy. Most of Haiti's wheat is imported from the US, though substantial amounts occasionally come from Argentina, Canada, France, and Pakistan. In 2009,

60 percent of Haiti's wheat came from the US, 21 percent from Argentina, 11 percent from Canada, and eight percent from France. Commercial imports by private enterprises and food aid, which includes Title II monetized wheat, comprise the two main import channels for bulk wheat.

Wheat flour production was first carried out by the state-owned "Minoterie d'Haiti" from 1958 to 1998. The company was privatized in 1998 and Les Moulins d'Haiti (LMH) took over the country's production of wheat flour in Haiti.¹³² Prior to the earthquake, about 80 percent of the wheat available on the Haitian market was imported by LMH, who operates the sole mill in Haiti. The mill was totally destroyed by the earthquake and the enterprise immediately switched to importing wheat flour. In June 2010, the country had already imported about 25,117 MT of wheat flour. Data specifying different importers' percentage of this import total is unavailable; however, Agemar data lists one "unknown" importer as responsible for approximately 10,000 MT of two shipments during this time period. LMH milling activities are expected to resume in about 10 to 12 months. A study was conducted to assess the feasibility of building a private flour mill in Cap-Haitien, the BEST team was unable to obtain the report.

After LMH, the second-largest users of wheat are donor countries and organizations, such as Canada, European Union, USAID, and WFP, which provide wheat in their food aid rations. In recent years, USAID has gifted a substantial amount of soy-fortified bulgur (SFB) which is distributed to schools and health clinics by the three current Title II Non-Emergency Program Awardees in four regions: ACDI-VOCA in the Southeast, World Vision in Plateau Central and West, and CRS in the South. Wheat is also used in Food For Work programs in some parts of the country (Central Plateau, South, Southeast). In February-March 2010, wheat was included in the massive general distribution of foods to families affected by the earthquake. Prior to the earthquake, USAID also monetized a large quantity of wheat through the Bureau of Monetization that was used by Les Moulins d'Haiti to produce wheat flour.¹³³ About 37,000 MT of Hard Red Winter Wheat was monetized in 2009.¹³⁴ Since the earthquake and the destruction of LMH, Title II Non-Emergency Program Awardees have monetized wheat flour instead of wheat.

The exact total tonnage of wheat flour available in Haiti is not known because significant numbers of informal imports from the Dominican Republic are not recorded. According to information provided by GOH Customs, combined with estimated production, flour available in Haiti averaged 203,905 MT per year between 2000 and 2009. The tonnage has fluctuated over the years due to variation in imports, while production has remained constant. With a monthly production of 15,000 MT, LMH accounted for 85 to 95 percent of flour available in the country up to 2009. On average, almost 12 percent of Haiti's available flour is imported from various countries including US, Canada, France, Dominican Republic, Turkey, Panama, Trinidad & Tobago, Jamaica, Netherland, Surinam, Aruba, Iceland, and Lebanon.

¹³² Schwartz, 2010

¹³³ Shaw and Bailey, 2007

¹³⁴ Interview with WVI June 2010

Table 29. Source of Wheat and Wheat Flour Imports

| Source of wheat flour imports | Percentage of wheat imports, FY 2007-2008 | Percentage of wheat flour imports, FY 2009 |
|-------------------------------|---|--|
| Dominican Republic | 77.15% | 51 |
| Netherlands | 20.92% | 37 |
| USA | 1.90% | 6 |
| Other countries: | 0.04% | 6 |

Source: Paul 2009; AGD.

More than 20 companies were involved in imports of wheat and wheat flour before the earthquake, though, as described above, a large majority of these actors have minimal market share as compared to the largest wheat grain importers (LMH and donors) and the largest wheat flour millers/importers (LMH and donors, who both boosted wheat flour imports in the wake of the earthquake). While this number has not changed since the earthquake, some companies disappeared while others entered the market, which poses no legal barriers to entry. Anybody can import wheat and wheat flour, and though some would-be-entrants might be discouraged by the 19 percent tax which is levied on imports of wheat and flour, investment capacity is the primary factor limiting entry.

There are large numbers of primary and secondary wholesalers of wheat flour. Primary wholesalers are found mainly in Port-au-Prince and to some degree in Cap-Haitien, and secondary wholesalers are located in large cities throughout the country. There are many more retailers than wholesalers of wheat flour, as the unemployed often seek income from petty trade. Women especially are involved in such activities at an early age.

World Vision estimates the national demand for wheat flour at 15,000 MT per month (180,000 MT per year), which is the same recorded figure of LMH pre-earthquake production. According to Customs and AgeMar data, which the study team deems more accurate even though still incomplete¹³⁵, average monthly wheat flour supply hovers at 17,000 MT. A larger figure of 22,000 MT per month (264,000 MT per year) was estimated by one importer. In 2009, commercial imports and domestic production covered only 76 percent of the latter demand. Prior to the earthquake, demand for flour was derived from multiple sources: bakeries, ambulant vendors selling a wide range of cookies and deep-fried products, restaurants, and households.

Demand for flour has probably decreased after the earthquake due to physical damage to infrastructure. According to the Schwartz (2010) study, the earthquake damaged about 55 percent of the major bakeries in Port-au-Prince and destroyed at least two. Production at bakeries in the metropolitan area (Port-au-Prince, Delmas, Carrefour, Petionville, Tabarre, and Cite Soleil) was down by 23 percent from pre-earthquake levels, with output from the most severely damaged bakeries down by 90 percent.¹³⁶ These figures may be adjusted according the LMH study that is currently underway. Some stores and warehouses selling wheat and wheat flour were also damaged. One middle-level wholesaler in Port-au-Prince indicated that his sale of wheat flour has decreased by approximately 67 percent, falling from 15,000 50kg

¹³⁵ During the field visits, several key informants suggested that informal imports of wheat flour from the DR constitute 50% of all wheat flour trade between the DR and Haiti. These figures would not be captured by either Customs or AgeMar.

¹³⁶ Schwartz, 2010

sacks per month to 5,000 50kg sacks per month.¹³⁷ In addition to the physical damage to infrastructure, more than 230,000 people were reported dead and a substantial number of solvent individuals have left the country. These losses have interrupted product flow, aggregate demand, and revenues. In addition, loss of assets and livelihoods has reduced the purchasing power of millions, thereby lowering effective demand for wheat flour products.

The assumption that demand for wheat and wheat flour has decreased during the months following the earthquake may lead some to believe that imports could easily fill this reduced demand. However, imports alone may not satisfy national demand in the near future, precisely because of the physical and economic damages that constrain production. Nevertheless, lack of domestic production due to the destruction of the mill necessitates the importation of more wheat flour, which some importers see as an opportunity to increase their throughput in the medium-term. Although LMH currently imports wheat flour, its market share is unknown. Currently, two large importers dominate the wheat flour market, controlling about 60 percent of imports. A number of medium-level importers are also involved in wheat distribution in the country. More precisely, there are 15 enterprises recorded as being involved in flour imports for 2010. The leading enterprises are: "Unknown" with 39 percent, Commerciale Sucriere SA: 21 percent, Cristo SA: 14 percent, Sam & Lumber SA: nine percent, "Other": 17 percent.

According to the LMH manager, the production capacity of the mill will increase from its pre-earthquake capacity of 1,050 MT to 1,200 MT when it reopens in about 10 months. Increased domestic production will face competition from big importers who currently import more flour than before the earthquake.

5.4.2. Market Conduct

The presence of numerous wheat flour importers in the country might suggest a competitive market, however, the two largest importers have significant power to set prices at the wholesale level. Wheat flour comes from various countries (DR, US, Italy, France, Martinique, Turkey, etc), and importers face different transaction costs according to brand and quality.¹³⁸ The largest importers may have enough market share and power to set wholesale prices to ensure generous profits above and beyond what would be expected in a competitive market. Given the structure of the imported wheat flour market, the follower importers may match the price set by the two leaders, regardless of the varying transaction costs each faces. For transaction costs, see the table below.

Though Haiti's most remote markets have wheat and wheat flour, Port-au-Prince is the central point for both commodities. Warehouses in Port-au-Prince and the Croix-des-Bossales market distribute wheat and wheat flour to regional and rural markets.

In addition to the port of Port-au-Prince, some wheat flour also enters through provincial ports and the border with the Dominican Republic. Because the commodity is packaged in 50kg sacks, it is easily transported in large volumes from one market to another. Availability of transportation may limit the flow to some locations, such as Jeremie, where the number of ships

¹³⁷ Aba la Vie Chere depot, interview June 2010

¹³⁸ Schwartz, 2010

plays an important role in determining the availability of wheat flour in the Grand'Anse region. Transport costs vary considerably by location based on the cost of fuels, road conditions, and distance.

In general, transactions are made on a cash basis. However, interviews with different actors indicate that credit is sometimes provided on a percentage of the purchase. This happens at all levels of the market, and depends on the relationship between the buyer and seller, as well as the seller's stance on credit. For example, Ti Tony, the largest wholesaler, never extends credit, whereas other wholesalers do. Credit is extended from eight to 15 days, though several suppliers mentioned reluctance to issue credit after the earthquake because of collection difficulties from debtors who lost, or claimed to lose, their assets in the disaster.

Wheat flour is sold by 50kg bags at the wholesale level. Volume discounts are offered to buyers paying in cash, though the price on credit is the same irrespective of amount. Retailers buy one or two bags to sell by the cup (approximately one pound) or by the marmite (about six pounds).

5.4.3. Market Performance

Between 2006-07 and 2007-08, the import price (CIF) of wheat flour increased by 18 percent, varying on average from US\$599.42 per MT to US\$709.79 per MT. Price of wheat peaked in March 2008 and has declined since. International market price declined by 51 percent between March and December 2008. As of February/March of 2010, wheat flour import prices are as follows:

Table 30. Import Cost of Wheat Flour in Haiti

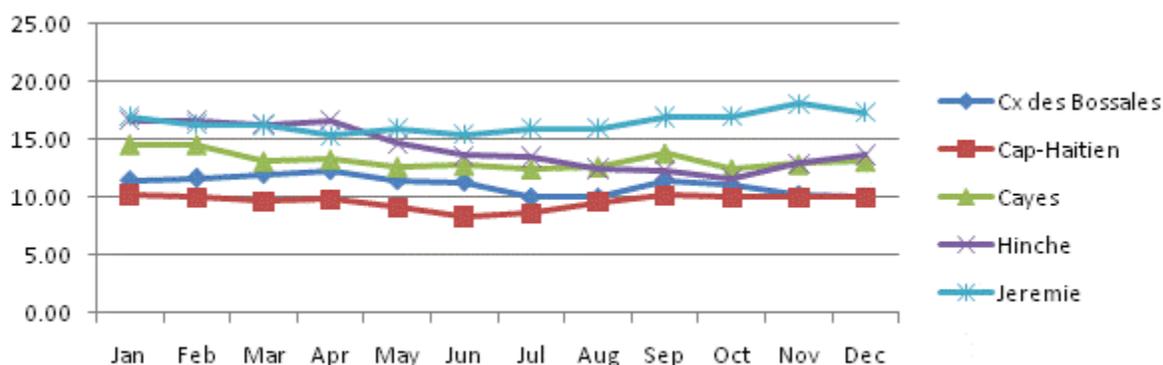
| Importer | Cost (\$/MT) |
|----------------------------|--------------|
| High quality from the DR | 698.80 |
| Low quality from the DR | 532.50 |
| Miami (mid-level importer) | 528.00 |
| Non Flagship | 519.06 |
| Flagship | 549.98 |

Source: Schwartz 2010

These data reported by Schwartz (2010) show a price decline from the level of fiscal year 2007-08. They also show that importers face different prices depending upon the origin of the flour. However, all importers were able to sell at least at US\$700 per MT.

Retail prices of wheat flour vary from one location to another. Data on nominal prices indicate that price is generally lower in the market of Croix-des-Bossales in Port-au-Prince than in other urban markets in the country, which is to be expected, given that both the mill as well as the port are located in Port-au-Prince. Nominal prices in all reporting markets (Jeremie, Gonaives, Cayes, Cap-Haitien, Hinche, and Jacmel) are all higher than prices in Port-au-Prince, and seem to vary according to the distance from Port-au-Prince, suggesting that transport costs play a role in discriminating prices among regions. Given that the product arrives in Port-au-Prince by port and by truck from the Dominican border, prices are much higher in rural areas than they are in urban settings. However, changes in price in all markets seem to follow the same trend, suggesting that the wheat market is well-integrated. See the figures below for more details.

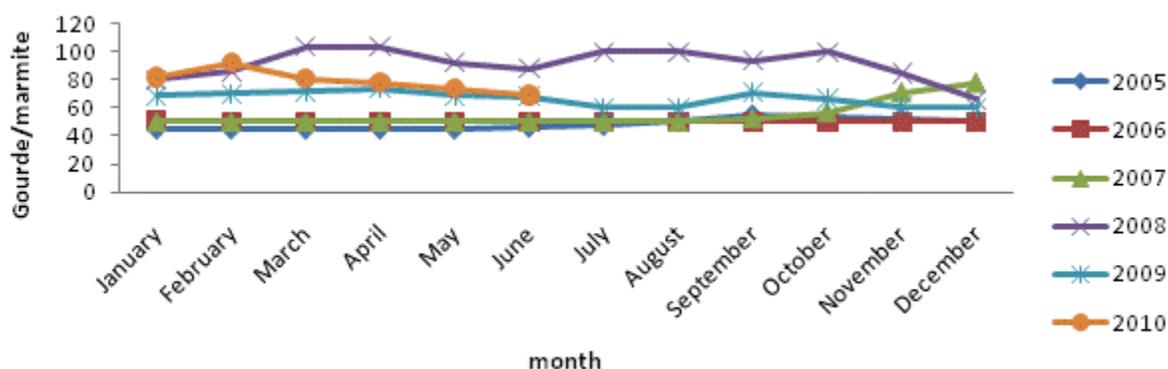
Figure 21. Average Monthly Price of One Pound of Wheat Flour, in Haitian Gourdes, 2009



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Price of flour in Port-au-Prince market stabilized between 2005 and 2007 with a slight annual increase of less than 13 percent on average, as shown in the figure below. It increased tremendously in 2008 due to the generalized world food crisis, by an average of 70 percent from 2007 to 2008 across reporting markets. Flour price dropped by 27 percent between 2008 and 2009. While the price of wheat flour increased immediately after the earthquake, it did not reach the 2008 apex. During the months following the earthquake, price has increased by an average 22 percent, but is currently stabilizing across all markets.

Figure 22. Flour Price on Croix-des-Bossales Market, 2005-2010



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Wheat and wheat flour prices are not perfectly transmitted from the international market to local markets. An analysis conducted by CNSA in 2009 shows that a decline of 51 percent in international wheat price resulted in declines of local prices by 33 percent in Croix-des-Bossales, 10 percent in Cap-Haitien, 27 percent in Cayes, 20 percent in Jacmel, 12 percent in

Hinche, 40 percent in Jeremie, and 20 percent in Ouanaminthe.¹³⁹ During the same time period, price of wheat flour also declined by 22 percent in Croix-des-Bossales, 24 percent in Cap-Haitien, 20 percent in Cayes, 32 percent in Jacmel, 13 percent in Jeremie, 0 percent in Hinche, and five percent in Ouanaminthe.

Though local markets do not perfectly correspond with international prices, provincial market prices in Haiti seem to follow wholesale prices in Port-au-Prince. One secondary wholesaler indicated that bigger wholesalers use mobile phones to announce new prices due to fluctuations in the import price or in the gourde:US dollar exchange rate.

5.4.4. Impact of Earthquake on Market Structure, Conduct, and Performance

Before the earthquake, slightly over 20 companies imported wheat and wheat flour, though, as described above, a large majority of these actors have minimal market share as compared to the largest wheat grain importers (LMH and donors) and the largest wheat flour millers/importers (LMH and donors, who both boosted wheat flour imports in the wake of the earthquake). This number may have changed slightly since the earthquake, as some companies disappeared while new ones entered the market. These new players are likely new to wheat flour, and their entrance may alter market patterns that existed before the earthquake. Also, the damage done to many of the county's bakeries has changed the structure of the market. Although there are no legal barriers of entry into the market, high levels of investment and a 19 percent tax of imports limit the number of actors involved in the market.

Profit levels have rarely been made available to field researchers, but discussion with market actors suggest that profits have been somewhat higher than normal in recent months. Although large commodity traders usually take a return of one to two percent and smaller traders take a return of three to four percent, the market has not been normal or stable in recent months. Because of this instability, large traders may be taking higher returns than normal. Furthermore, price volatility and the high risk of long-term commitments to initiate international shipments present sellers with the opportunity to extract additional profits.

Effect of Monetized and Distributed Food Aid. Shaw and Bailey's 2007 analysis indicated that imports of wheat for monetization presented no risk of disincentive for domestic production or trade in Haiti because all the monetized wheat was sold to the LMH. Assuming the wheat was always sold at a fair market price over time, and in reasonably small volumes, this would be true for the wheat market within Haiti. However, there may be other domestic staples markets that have been/are impacted by the market dominance of wheat (wheat flour), which has been supported through long-term monetization of Title II wheat, and now monetization of Title II wheat flour. Schwartz (2010) believes that monetization of wheat flour does not benefit the Haitian economy because it replaces many other products cultivated by farmers and may disrupt commercial imports. Haiti produces tubers such as yam, sweet potato, and cassava that can be consumed directly or processed into flour. Production of those three crops was estimated at 1,183,950 MT in 2009.

¹³⁹ CNSA

Distributed bulgur wheat food aid could potentially act as a disincentive and disrupt local markets. Though not officially confirmed, reports from the field indicated that some households who receive food aid rations through Food For Work, school feeding, or supplementary feeding activities may sell part of their ration on the market. The BEST team also noted several bags of USAID bulgur in the Gonaives market. Some retailers in the Croix-des-Bossales market buy bulgur in the Artibonite area to sell in Port-au-Prince, and one small wholesaler in Violet (near Petit-Goave) mentioned that he buys USAID bulgur in Port-au-Prince.

Table 31. Wheat and Wheat Flour Imports

| Year | Wheat USAID monetization | Wheat Food aid (USAID+WFP) | Wheat Commercial Imports | Wheat Total | Flour Imported | Flour Production* | Flour Total |
|---------------|--------------------------|----------------------------|--------------------------|-------------|----------------|-------------------|-------------|
| 2000 | | | 65,227 | 65,227 | 17,303 | 180,000 | 197,303 |
| 2001 | | | 111,143 | 111,143 | 26,816 | 180,000 | 206,816 |
| 2002 | | | 111,987 | 111,987 | 24,508 | 180,000 | 204,508 |
| 2003 | | 27,565 | 146,858 | 174,423 | 23,663 | 180,000 | 203,673 |
| 2004 | 60,000 | 77,629 | 110,071 | 247,700 | 32,845 | 180,000 | 212,845 |
| 2005 | 70,000 | 100,102 | 218,547 | 388,649 | 31,719 | 180,000 | 211,719 |
| 2006 | 57,180 | 63,940 | 184,606 | 305,726 | 24,924 | 180,000 | 204,924 |
| 2007 | 50,460 | 64,773 | 130,384 | 245,617 | 22,089 | 180,000 | 202,089 |
| 2008 | 34,690 | 43,820 | 180,279 | 258,789 | 14,994 | 180,000 | 194,994 |
| 2009 | 45,710 | 10,900 | 216,997 | 273,607 | 20,178 | 180,000 | 200,178 |
| Average | | | 145,610 | | 23,905 | 180,000 | 203,905 |
| Jan-June 2010 | | 15,360 | 15,359 | 30,719 | 25117 | 0 | 25,117 |

Source: AGD, AGEMAR, FAO, AMEX database; *Data on the mill production are not available.

*The production value included in the table was calculated using information from Schwartz 2010 who states that the mill produces 300,000 50kg sacks per month and assuming that the mill functions at this level for the past 10 years.

5.5. Oil

5.5.1. Introduction

Haitians are one of the largest consumers of cooking oil per capita in the Caribbean and Central America.¹⁴⁰ Almost all oil consumed in Haiti is derived from vegetable products such as palm, soybean, corn, olive, and sunflower.

All of the vegetable oil consumed in Haiti is imported, with the exception of an insignificant amount of coconut oil produced and consumed at the household level in the south and north of Haiti. Importation of vegetable oil in 2006-2007 amounted to 97,905 MT, valued at about US\$64.4 million, while in 2007-2008 the imports decreased to 77,905 MT, valued at US\$92 million. In 2008/2009, Haitians imported about 50,514 MT, at a value of US\$104. As oil import quantities are decreasing, oil import value is increasing. This could be in part due to declining economic conditions of 2008 (global price crisis and hurricanes), coupled with Haitians' increased awareness of the negative health consequences of oil and fat consumption.¹⁴¹

5.5.2. Basic Conditions

Oil is an important component of the Haitian diet. Haitians consume oil for both caloric needs and taste, in the form of sauce and grains prepared with oils, and fried or deep-fried foods. In a country where refrigeration is a luxury, exposing food to the high heats generated during the

¹⁴⁰ Bailey 2006

¹⁴¹ Bailey 2006

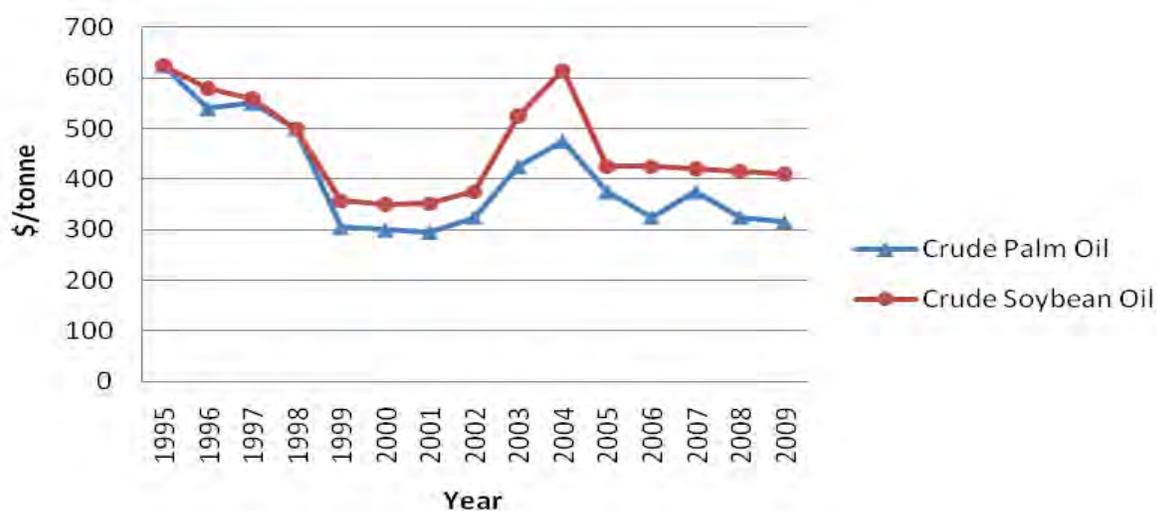
frying or deep-frying process is a common way of destroying bacteria and toxins, thereby improving utilization.

Soybean oil was the dominant vegetable oil consumed in Haiti until 2002, when palm oil consumption began rising, peaking and overcoming soybean oil consumption in 2004. This shift is mostly due to world average prices at the time, as detailed in the section below. Currently, palm oil is still consumed more than soybean, but palm oil consumption is beginning to decrease slightly.

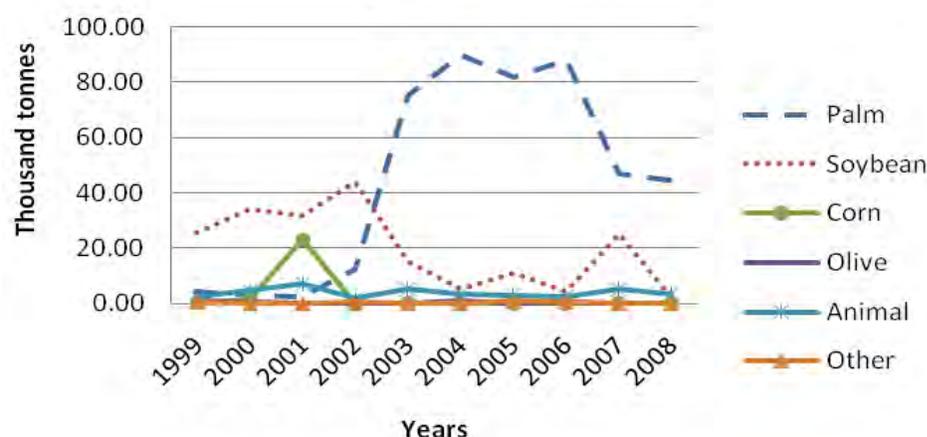
5.5.3. Varieties and Substitution

As noted above, palm and soybean oil are the most common cooking oils in Haiti. In terms of overall consumption, the two oils have shifted in dominance. Palm oil prices were only slightly less or the same as soybean oil prices from 1995 to 1999; during this time, demand for soybean oil was greater than that for palm oil. From 1999 onwards, the gap between the two prices intensified, and palm oil prices dropped lower than soybean oil prices to a greater degree than before. Demand for palm oil began to increase. In 2008, palm oil consumption accounted for 88 percent of total edible oil consumption. See the figures below, which highlight oil prices and consumption (import volumes).

Figure 23. Palm and Soybean Oil Prices, 1995 to 2009



Source; Data taken from: Fry, J. (2005) Prospects for vegetable oil prices 2006 onwards, 4th Global oils and fats Business forum, San Diego, 9th September, 2005

Figure 24. Vegetable and Animal Oil and Fats Imports in US\$/MT into Haiti 1999-2008

Source: Data from AGD, Service des Douanes, 2008.

Though it is consumed less than palm oil, soybean oil is preferred over palm; in one study, Haitian consumers noted that soybean oil is “lighter on the stomach” than palm oil.¹⁴² As explained above, however, the decision between the two is still mainly due to price.¹⁴³ An exception to this trend is the wealthier class, which purchase a small amount of corn, olive, and other oils.

Street vendors prefer to deep-fry their food in palm oil, rather than soybean oil, because it is believed to expand when heated (and thus yield more).¹⁴⁴ Like any other oil, palm oil can be filtered and reused. Animal fats are consumed in very small amounts, mainly in the form of animal feeds. See the table below.

Table 32. Edible Oil Imports, in MT, 1999 to 2008

| Oil | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Palm- crude | 867.3 | 165.76 | 2,325.16 | 2,749.88 | 22,753.43 | 30,327.00 | 19,687.17 | 18,983.49 | 12,354.82 | 4,575.33 |
| Palm-refined | 3,528.65 | 2,866.47 | 299.91 | 9,498.38 | 52,447.81 | 59,811.19 | 61,803.13 | 61,148.61 | 34,469.93 | 40,097.75 |
| Palm-worked | | | | 0.72 | 0.03 | 0.39 | 499.86 | | | |
| Palm (total) | 4,395.95 | 3,032.23 | 2,625.07 | 12,248.98 | 75,201.27 | 90,138.58 | 81,990.16 | 80,132.10 | 46,824.75 | 44,673.08 |
| Soybean, crude | 1,249.71 | 2,023.76 | 1,610.72 | 376.88 | 0.35 | 0.99 | 2,350.38 | 1.75 | 400.49 | 2.26 |
| Soybean, refined | | | | | | | | | | |
| Soybean, worked | 24,341.96 | 32,228.84 | 30,380.11 | 43,457.30 | 15,425.40 | 5,386.88 | 8,648.32 | 4,512.28 | 24,987.43 | 2,230.41 |
| Soybean (total) | 25,596.12 | 34,252.60 | 31,990.83 | 43,834.18 | 15,425.75 | 5,387.86 | 10,998.70 | 4,514.03 | 25,387.93 | 2,232.67 |
| Corn (crude) | | | 1,249.71 | 0.73 | | 0.11 | 0.04 | 0.39 | 248.61 | 0.16 |
| Corn (refined) | | | | | | | | | | |
| Corn (worked) | 334.43 | 1,306.01 | 21,776.51 | 16.81 | 55.23 | 59.98 | 101 | 12.26 | 37.28 | 3.48 |
| Corn (total) | 334.43 | 1306.01 | 23026.22 | 17.54 | 55.23 | 60.09 | 101.04 | 12.65 | 285.89 | 3.64 |
| Olive (crude) | 3.6 | 1.4 | 4.08 | 2.19 | 3.36 | 197.54 | 16.21 | 9.42 | 5.74 | 1.27 |
| Olive(refined) | | | | | | | | | | |
| Olive (worked) | 813.91 | 506.89 | 99.18 | 27.03 | 22.32 | 667.4 | 311.97 | 414.5 | 24.29 | 26.59 |
| Olive (mixed) | 76.53 | 4.48 | 2.7 | 1.26 | 0.72 | 6.24 | 0.09 | 0.33 | 0.29 | 0.03 |

¹⁴² Schwartz, 2009

¹⁴³ Schwartz, 2009

¹⁴⁴ Bailey, 2006

| Oil | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Olive (total, minus mixed) | 817.51 | 508.29 | 103.26 | 29.22 | 25.68 | 864.94 | 328.18 | 423.92 | 30.03 | 27.86 |
| Shea (crude) | | | | | | | | | | |
| Shea (refined) | | | | | | | | | | |
| Shea (worked) | 0.18 | 195.46 | 570.61 | 150.49 | 169.32 | 15.59 | 450.01 | 181.84 | 53.76 | 253.76 |
| Shea (total) | 0.18 | 195.46 | 570.61 | 150.49 | 169.32 | 15.59 | 450.01 | 181.84 | 53.76 | 253.76 |
| Animal (other) | 12.78 | 14.01 | 8.87 | 30.17 | 80.41 | 12.09 | 60.29 | 28.31 | 49.02 | 11.73 |
| Animal (gr.) | 2,230.73 | 4,614.24 | 7,102.49 | 1,743.64 | 5,171.25 | 3,353.95 | 2,960.05 | 2,450.52 | 5,256.17 | 3,523.03 |
| Animal (total) | 2243.51 | 4628.25 | 7111.36 | 1773.81 | 5251.66 | 3366.04 | 3020.34 | 2478.83 | 5305.19 | 3534.76 |
| Other (total) | 620.1 | 6.77 | 9.05 | 350.41 | 7.19 | 13.28 | 914.77 | 665.75 | 71.27 | 41.9 |

Source: Agences Maritimes Reunies S.A: Statistiques Commerciales (Maritime Agencies Joined Together S.A: Commercial Statistics) 06/15/2010

5.5.4. Policy

The Haitian population depends on imports to meet their demands for edible oil, and this situation is unlikely to change in the near future. Policy regarding oil focuses on minimizing import costs and increasing value added from imported oil. As the demand for oil will likely increase in tandem with Haiti's growing population, factors such as the price of oil, the price of other goods, consumers' incomes, and dietary habits will play a role in determining the type and quantity of oil consumed. Limiting oil consumption could be achieved by a change in Haitians' diets, but this is unlikely to occur at an accelerated rate since an increasing population base will continue to demand edible oils as a way to meet caloric needs, despite an increasing awareness of the negative effects of oil consumption.

5.5.5. Supply

Malaysia is Haiti's largest supplier of imported cooking oil. The country accounted for 72 percent of Haiti's low-grade cooking oil (mostly palm oil) in 2007-2008. Malaysia has dominated the Haiti's oil market for the past 14 years. Most of the Malaysia's oil destined for Haiti is first refined in the US, and then sent to Haiti. In addition to refining and shipping Malaysian oil to Haiti, the US produces and refines another 17 percent of Haiti's imported oil. Other countries importing oil into Haiti include the Dominican Republic (about eight percent) and Argentina (two percent), with another 15 countries accounting for a very small percentage.¹⁴⁵

Most of the low-grade palm and soybean oil enters Haiti in bulk and is then filtered, rebottled, and packaged by importers for distribution to wholesalers and large retailers. The two product-groups are supplied in intermediate commercial containers of 54 or 60 gallons, and in household-level containers ranging from 1/4 liter plastic bottles to five gallon pails. An exception is re-used oil that informally enters the country. Some interviewees noted that cruise ships and other informal importers bring in oil that has already been used, and resell it. Maize, sunflower, olive, canola, and other higher-priced oils come in bottled and packaged forms, and are sold in limited quantities by a number of supermarkets targeting higher-income consumers.

¹⁴⁵ FEWSNET, 2009

5.5.6. Consumption

Oils and fats contribute about 18 percent of Haitians caloric intake.¹⁴⁶ The USDA recommends that oils and fats contribute between 20 and 30 percent to humans' total caloric intake.¹⁴⁷ Higher-income Haitians consume more soybean oil than lower-income consumers, who consume more palm oil, some of which is comes from street vendors' deep-friend meats, fish, and starchy foods.

As shown in the table "Edible Oil Imports, in MT, 1999 to 2008" above, overall import quantities have dropped in the past two years. This decreased demand could have resulted from a number of factors, including the hurricanes of 2008, the global food and fuel price crisis of 2007-2008, the January 2010 earthquake, and consumers' increased health awareness.

Private companies and individuals are Haiti's main oil importers. Historically, food aid has accounted for very little of the country's total supply. In 2004/2005, MYAP Awardees and other donors monetized about 2,000 MT of sunflower oil.¹⁴⁸ The results of this monetization are unknown but reported as "good."

Oil has not been monetized since, although it was scheduled to be monetized in 2008. With the approval of USAID Food For Peace, ACDI/VOCA planned the monetization of a small lot (1,200 MT) of soybean oil. The objective of the pilot project was "to explore a broadening of the income stream to Title II programs in Haiti."¹⁴⁹ Because of the world oil and food price crisis of 2008, ACDI/VOCA decided to postpone the project from FY09 to FY10. The approved lot of soybean oil was scheduled to arrive in Port-au-Prince in late February 2010 and the contract with the Bureau de Monetisation (BdM) was signed on January 11th, 2010. Plans were cancelled the next day due to the earthquake.

5.5.7. Market Structure

Flow. The Port-au-Prince port receives most of Haiti's imported oil, which is priced based on international market prices plus a number of taxes and fees.¹⁵⁰ The oil is then redistributed to regional capitals. A substantial amount of oil also comes informally from Dominican Republic. As Schwartz (2009) has stated, import records are unclear, and are widely believed to be understated.

Palm oil and soybean oil pass through two different marketing channels. The palm oil moves from importer to the processing plant where it is filtered, bottled and packed and distributed through an organized network of wholesalers, retailers, stores, and restaurants. The soybean oil goes through a number of the smaller importers, and then to primary wholesalers, secondary

¹⁴⁶ Schwartz, 2009

¹⁴⁷ Schwartz, 2009

¹⁴⁸ Bailey

¹⁴⁹ Murphy, 2009

¹⁵⁰ According to the Haitian authorities, both bulked imported oil and bottled conditioned oil are taxed at 15.5 percent. According to Bailey (2006), imported oils face the following charges: assessment fee (5 percent), local community levy (2 percent), special "accompete" tax (2 percent), and customs duties (16.5 percent). TCA at 10 percent depends on the ex-customs composite value of the cargo. Bulk oil is charged US\$6 per MT for ports charges, and packaged oil is charged US\$2.20 per MT. Handling fees usually only apply to packaged oil, at a rate of US\$6 per MT.

wholesalers, retailers, stores, restaurants, and then to the final consumer. There is hardly any value added through the process.

Actors. Two large importers dominate the market of imported oil: Huilerie Nationale, S.A. (HUNASA) and Huilerie Hatiennes, S.A. (HUHSA). See Chapter 6 for more details on these importers. There are about 14 other importers and over 100 wholesalers and supermarkets selling a variety of brands of cooking oil, though the most popular brand is Alberto, which is sold in gallon bottles. A large amount of small importers bring in oil that has already been bottled, drummed, or packaged.

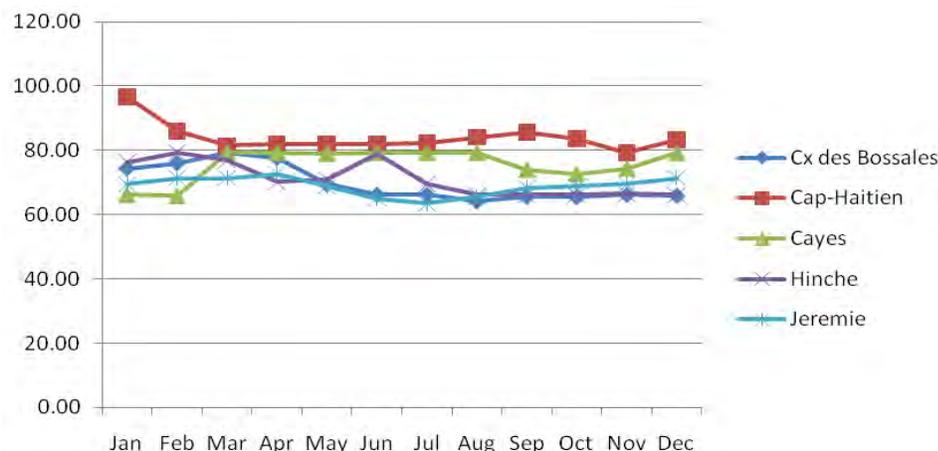
There are large numbers of permanent retailers as well as seasonal ones peddling small quantities of soybean and palm oil. These seasonal peddlers increase in numbers as employment levels drop. It is difficult to calculate any margin from sales at different marketing stages since the retailers purchase in drums of 50-60 gallons or in plastic gallon bottles and resell in cups, gills, and pints. The price varies by the size of the container, the measure used, and transport costs.

Since there are no formal regulations limiting market entry, anyone can enter the market, importing and selling any type of oil – even cooking oil that has been used and filtered (though this is probably limited to small quantities informally passing through the border with the Dominican Republic). However, as two main importers control most of the oil market in Haiti, smaller, entry-level actors at the import, and, possibly, wholesale level may struggle to compete.

5.5.8. Conduct

The market at the importer level is highly concentrated, with two importers of low-priced bulk oil holding 76 percent of market share and independent importers holding 23 percent of market share.¹⁵¹ These two large importers are mainly engaged in the importation of low-priced palm and soybean oil. These importers have skilled market coordination and well-organized distribution channels that target lower-income consumers. Since most importers sell low-priced palm oil, the market structure resembles that of a leader/follower market where the larger sellers set the price and allows smaller suppliers to sell what they can at the set price. The sellers (retailers and wholesalers) interviewed stated that they sell at the prevailing market price. At the retail level, price determination was highly related to location and transport costs, as shown in the figure below.

¹⁵¹ Schwartz, 2009

Figure 25. Average Monthly Prices One Liter of Alberto Oil, in Haitian Gourdes, 2009

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

The two large importers organize their own re-bottling and repackaging, then finance transportation and distribution to wholesalers and large retailers. Large wholesalers sell to retailers in mostly metal drums or large plastic bottles. One wholesaler noted that he offered most retailers credit, depending on their return history. These retailers would then repay the wholesaler with proceeds from their sale before purchasing their next quantity of oil. Importers also offer credit to their wholesalers, according to an interview with one of Haiti's two large importers. The importer claimed that he (and the other large importer) helped increase market efficiency by offering credit and inputs to their wholesalers. These two importers are also involved in the soap and detergent markets.

5.5.9. Performance

Like all imported basic food products, oil displays a lack of perfect price transmission from the international level to the domestic level. The 40 percent fall in the price of basic oil at the international level between September and December 2008 only corresponded to a 28 percent decrease in the price of oil at the Croix-des-Bossales.¹⁵² Retail prices for imported oil on the domestic market do not perfectly reflect the international price decreases; factors such as duties and taxes,¹⁵³ transport, storage, labor costs, and rent-seeking behavior can prevent perfect price transmission.

The nominal retail price data for cooking oil in Hinche, Jeremie, Port-au-Prince, and Jacmel suggest that prices usually increase from March to October and fall in November through

¹⁵² Paul, 2009

¹⁵³ According to the Haitian authorities, both bulked imported oil and bottled conditioned oil are taxed at 15.5 percent. According to Baily (2006), imported oils face the following charges: assessment fee (5 percent), local community levy (2 percent), special "accointe" tax (2 percent), and customs duties (16.5 percent). TCA at 10 percent depends on the ex-customs composite value of the cargo. Bulk oil is charged US\$6 per MT for ports charges, and packaged oil is charged US\$2.20 per MT. Handling fees usually only apply to packaged oil, at a rate of US\$6 per MT.

February. In January 2010, the local nominal prices remained the same through all regions, though slightly higher than in previous years. For further details, see Annex III.

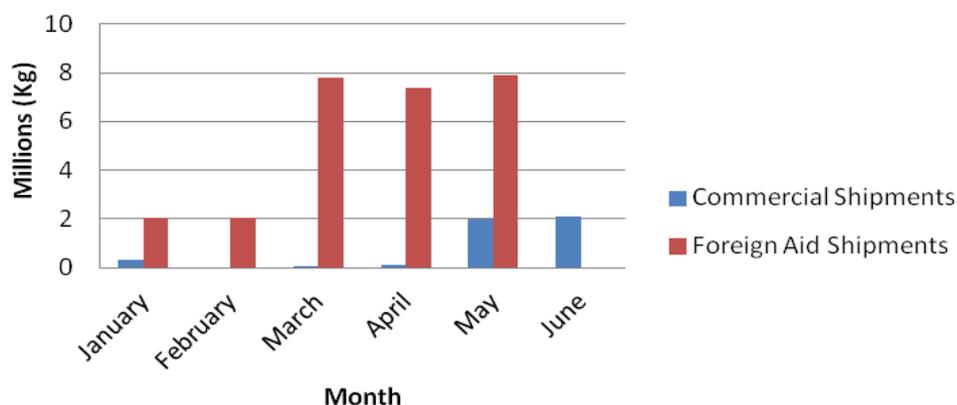
There is lack of information flows between regions and markets. Buyers and sellers interviewed revealed that they do not know the prevailing prices at other markets, and published price information is limited or unavailable. The collection of price data on food crops has been recently initiated in select regional markets, including Port-au-Prince, but data collection have been disrupted at intervals and data are only available for a limited number of years.

Losses and spoilage. Oil rarely spoils, but losses and leakages are common. This is especially true at the retail level, as retailers transfer oil into increasingly smaller containers. The team saw some damaged containers that seeped oil.

5.5.10. Effects of the Earthquake on Market Conduct and Performance

The earthquake disrupted the commercial importation of oil for a period of two weeks, during which time the price of oil increased by as much as 20 percent. In later weeks, prices began to decline, largely due to the arrival of food aid which increased overall oil supply. As the figure below shows, commercial imports dropped in the three months following the earthquake, and then rose slightly in May and June 2010. Prices have continued to decline across all regions, though regional prices vary according to transport costs. See Annex III for more information about price behavior after the earthquake.

Figure 26. Commercial and Food Aid Oil Imports to Haiti, January to June 2010



Source: AGD.2010, Service des Douanes, Haiti.

Across the market, actors are hesitant to extend credit. The number of importers and first-level wholesalers has decreased, but the number of retailers who have become engaged in petty trade has increased. Further changes within the edible oil market are expected, but it is too soon to assess the earthquake's full impact on markets.

5.6. Sorghum

5.6.1. Basic Conditions

Varieties and Substitution

Sorghum is the second-most widely planted cereal crop after maize in Haiti. Haiti produces two varieties of sorghum: a long-cycle (six to nine months) crop, and a short-cycle (three months) crop. The short-cycle season lasts from March/April to June/July, and the long-cycle season lasts from April/May to January/February. The crop is grown across the country, mostly in water-deficit areas and in association with maize and pigeon peas. The Central Plateau, Upper Artibonite, Nippes, and South regions account for the majority of sorghum production.¹⁵⁴ In the Cul-de-Sac plain, near Port-au-Prince, farmers also grow sorghum because of deficiencies in the irrigation system. Farmers in this area purchase sorghum seed from an NGO called Double Harvest. In response to environmental degradation, sorghum production has gradually extended to less arable areas, averaging a total of 120,000 ha cultivated during the two seasons.

Although sorghum is well-adapted to harsh environments, drought is often a major constraint to crop growth. Diseases, insects, and birds also cause extensive damage to sorghum crops. While sorghum yields vary from 0.75 to 1.5 MT per ha depending on location and varieties, hybrid varieties have the potential to yield three to four MT per ha.

Sorghum is typically produced by subsistence farmers on lots which average less than two ha. These farmers usually have extensive cropping systems, with no improved technologies.

There are at least three individually-owned large farms located on the Cul-de-Sac plain, near Port-au-Prince, that produce sorghum, maize, beans, and vegetables with irrigation, chemical fertilizers, and mechanized equipment including tractors, plows, and harvesters. Each farm measures on average 212 ha. In 2008, one of these farms produced about 350 MT of sorghum on 116 ha.¹⁵⁵ Sorghum production on large farms in the Cul-de-Sac plain was quite high in the 1980s, to meet the demand for feed from the growing poultry sector. When the poultry industry declined in the 1990s, sorghum production did as well, and large farms produce alternative crops (vegetables, beans) today.

5.6.2. Policy

Although sorghum makes a significant contribution to food security in Haiti, government policy is biased towards rice production at the expense of sorghum. Some institutions have researched sorghum varieties over the past decade, but the results are unknown. Small quantities of seed are occasionally distributed to farmers to promote food security, especially after hurricanes.

¹⁵⁴ Paul, 2005

¹⁵⁵ Winner, 2009

The earthquake's effects on sorghum production have yet to be evaluated. Though the long-cycle sorghum variety was in harvest when the earthquake struck, the rapid post-earthquake assessment of the agricultural sector did not mention sorghum production.

5.6.3. Supply

Statistics on sorghum production and distribution are unreliable, though it is clear that sorghum is supplied almost exclusively through domestic production. Attempts to import sorghum remain ineffective, with total annual imports averaging less than one MT per year over the last decade. Customs records and AGEMAR report that, for the period January 2010 to May 2010, a total of 61 MT of sorghum were imported (36 MT from the US and 25 MT from Honduras), 41 percent of which was imported by the Inter-American Institute for Cooperation on Agriculture (IICA), likely for distribution as seed and the remaining 56 percent by USAID. The government approved an increase in sorghum import tariffs in November 2009, raising the tariff from zero to 15 percent. This suggests that the government is seeking a certain protection of the local production. It is said that only revitalization of the poultry industry can significantly increase sorghum production and imports.

Sorghum production in Haiti has gradually increased over the past decade, with production levels averaging 98,010 MT per annum from 2000 to 2009, as shown in the table below.

Table 33. Sorghum Availability in Haiti (MT)

| Year | Imports | Production | Total |
|---------|---------|------------|--------|
| 2000 | 0.00 | 98000 | 98000 |
| 2001 | 0.00 | 80000 | 80000 |
| 2002 | 0.00 | 89600 | 89600 |
| 2003 | 0.72 | 91000 | 91000 |
| 2004 | 0.00 | 95000 | 95000 |
| 2005 | 0.12 | 100000 | 100000 |
| 2006 | 0.60 | 100000 | 100000 |
| 2007 | 0.60 | 115000 | 115000 |
| 2008 | 0.15 | 90000 | 90000 |
| 2009 | 0.00 | 121500 | 121500 |
| Average | 0.22 | 98010 | 98010 |
| 2010 | 61.00 | | |

Source: AGD, AGEMAR, MARNDR

Exports of sorghum are almost nonexistent, though interviews with informants in Ouanaminthe revealed that traders from Saint-Raphael sell small quantities of sorghum in the Dominican Republic on an informal basis.

Total sorghum production is not usually available for consumption, due to losses in the post-harvest period which can total up to 20 percent of total production in certain areas, depending on storage conditions.¹⁵⁶ Insects and rodents frequently intrude the traditional containers that store the dry sorghum grains.

According to some post-earthquake assessments, the earthquake further damaged storage facilities that were already deficient, at both the farm and market level in areas severely hit.

¹⁵⁶ Winner, 2009

This may increase grain losses and reduce supply. A survey conducted by the MARNDR in February 2010 indicated that there were at least 162 MT of milled sorghum and 497 MT of sorghum grain concentrated in two communes (Verrettes and Lachapelle) out of nine communes of lower Artibonite.¹⁵⁷ Population displacement leaving Port-au-Prince to settle in other regions may have caused farmers to consume the sorghum grain usually conserved until the harvest of maize in May/June. Therefore the quantity of sorghum marketed would decrease, potentially explaining the immediate price hike following the earthquake. Informants in the marketplace did not speculate on the impact of the earthquake on the sorghum market.

5.6.4. Demand

Although sorghum is nutritionally comparable to other grains such as maize, it is regarded as an inferior good in Haiti, and better-off urban populations are averse to the grain texture and taste. As a subsistence crop, it is mainly consumed mixed with beans and peas and/or with pureed beans or pureed peas¹⁵⁸ by rural populations and the urban poor.

Approximately 40 percent of sorghum production is marketed, with the remainder consumed by farmers and conserved for seed.¹⁵⁹ In non-producing areas such as the North, the Northeast, and part of the Grand'Anse region, sorghum is a minor food commodity. However, sorghum secures the food needs of a large majority of the population, and its contribution to food security in Haiti is significant in terms of nutrition as well as livelihoods. It represents the staple food for numerous consumers during the lean season, in particular in the Central Plateau and Artibonite.

There is no sizable mill involved in sorghum processing and packaging. Traditional processing consists of dehulling the grain by pounding, followed by sieving. This method yields a poor-quality product, further weakening consumer demand. Some maize mills also process sorghum for sale on local markets, rendering similarly low-quality flour. With competition from products such as imported rice and maize, sorghum is infrequently consumed by middle-income, urban families. Nevertheless, sorghum is preferred over the broken rice coming from the Dominican Republic in some areas.¹⁶⁰ This is true even for some middle-class consumers, who may come from rural areas where sorghum is heavily consumed. These consumers would generally prefer sorghum over broken rice.

Demand for sorghum may have decreased immediately after the earthquake because of loss of purchasing power by the underprivileged population that normally consumes sorghum. The massive distribution of food aid during the months of February and March may have reduced demand for sorghum. Continued distribution of food aid may create a disincentive to the production and consumption of sorghum, especially in important production zones (Central Plateau, the southern region of Cayes). As the underprivileged population regains its ability to purchase sorghum, the presence of food aid may deter them from going to the market. Furthermore, distributed food frequently reaches farmers indirectly or directly. For example, a Food For Work program in Central Plateau (an important sorghum-producing area) includes

¹⁵⁷ MARNDR, 2010

¹⁵⁸ Sauce pois is made from any dry or green beans and peas (pois congo, petit pois, vigna, black, red, pinto beans).

¹⁵⁹ Paul, 2005

¹⁶⁰ Paul, 2005

farmers as beneficiaries. As noted in Chapter 8, effective targeting of food insecure households, and careful timing of FFW activities and ration distributions can avoid introducing production disincentives.

5.6.5. Market Structure

In comparison to rice and maize, the sorghum market chain involves very few actors, starting with a production base of approximately 200,000 farmers throughout the country, for whom sorghum is both a source of food and income. After harvest, farmers dry the grain, store a proportion and, in accordance with cash needs, sell small quantities to rural Madam Saras. Rural Madam Saras mill, assemble, and distribute the product to urban Madam Saras, who sell to retailers or directly to consumers. The number of Madam Saras involved in the sorghum trade is estimated at 12,000.¹⁶¹ Though two to three small animal feed mills buy sorghum on the local markets, the size of their purchase is unknown.¹⁶²

An estimated 1.5 million people consume sorghum, 33 percent of whom live in urban areas.¹⁶³ The rural exodus, combined with the growing number of urban poor, may have increased the number of urban sorghum consumers.

5.6.6. Market Conduct

Unlike rice and maize, sorghum does not flow between markets in large quantities, and more sorghum is found on rural producer markets than in urban settings. As with other foodstuffs, Madam Saras provision themselves in markets across the country, buying small quantities to resell in Croix-des-Bossales. In any given Haitian market -- even large urban markets -- sellers usually outnumber buyers. The number of market participants involved in sorghum distribution is too large for any one actor to exert significant market power. Since no single merchant holds large quantities of sorghum, pure competition can best describe the market.

Though transaction payments are usually made in cash, sorghum may be exchanged for credit from sellers to buyers along the marketing chain, as with other commodities. The market for sorghum is not well studied in Haiti. Given the small quantities traded in markets and the low consumer preference for sorghum, the crop likely generates minimal profit levels and slow turnover.

5.6.7. Market Performance

The price of sorghum differs across markets, with the lowest prices usually observed in Hinche, one of the largest sorghum-producing areas in the country, followed by Croix-des-Bossales and Cayes, which are also located in immediate zones of production. Furthermore, Croix-des-Bossales is supplied by other rural markets. The highest price tends to be recorded in Ouanaminthe, a non-sorghum-producing zone located at the border with the Dominican Republic. Further investigation on demand for sorghum in the DR could be useful in analysis of

¹⁶¹ Paul, 2005

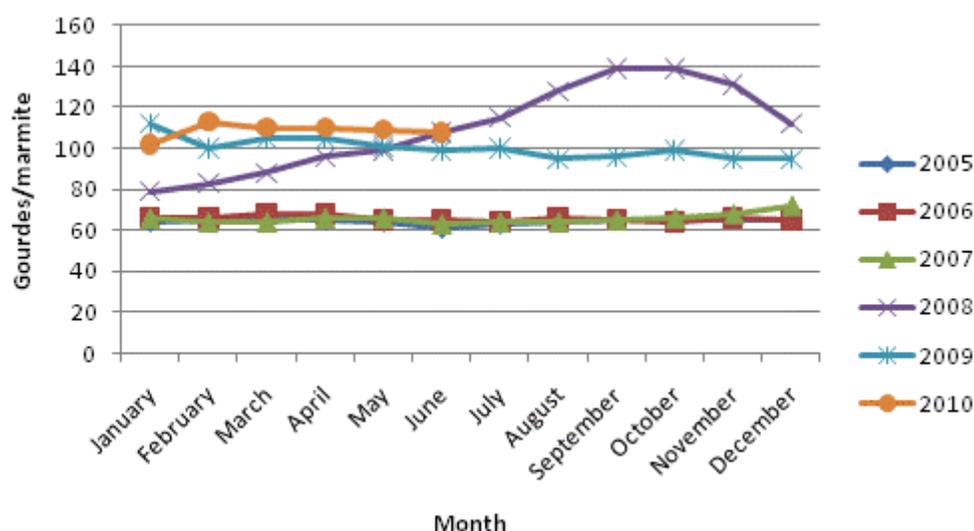
¹⁶² Chancy, 2005

¹⁶³ Paul, 2005

Ouanaminthe sorghum prices. In general, price of sorghum declines at the beginning of the year, from January through March, at the harvest season and begins to increase after the second harvest in May/June until November. Given that the short-cycle variety is not produced by as many farmers as the long-cycle variety, the second harvest season is not as significant as the first one.

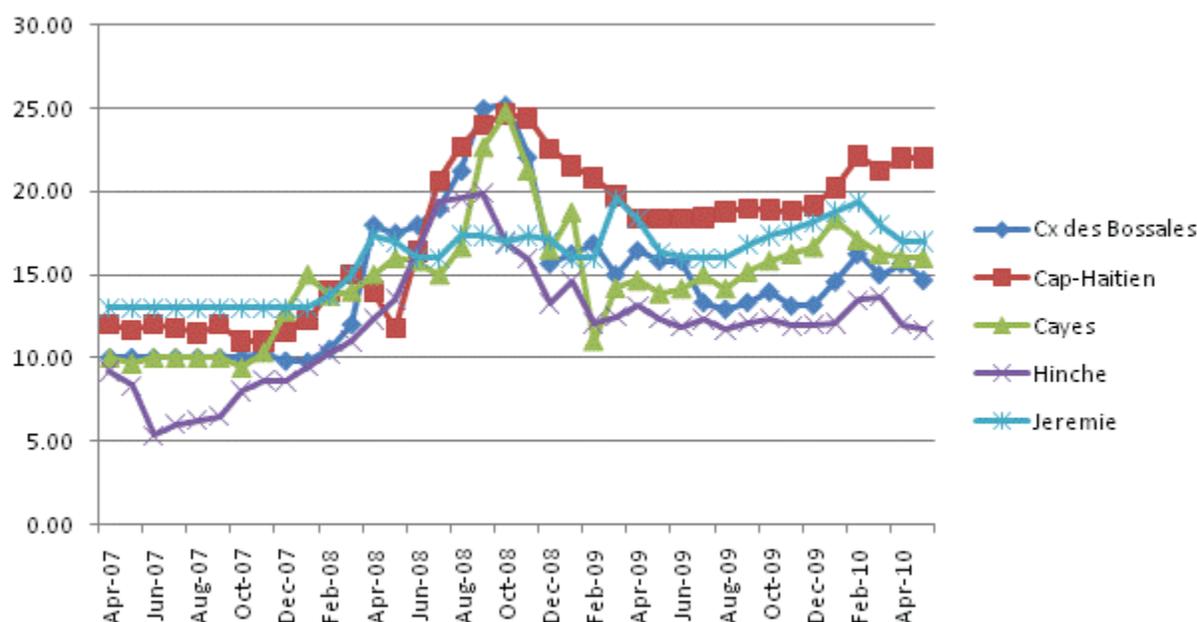
Nominal average sorghum price was stable around 65 gourdes per marmite¹⁶⁴ between 2005 and 2007, as shown in the figure below. Market price began to rise in January 2008 to reach a peak of 140 gourdes per marmite in September. Sorghum prices declined in 2009, but remained above the levels of 2005-2007. Sorghum prices immediately increased after the January 12th earthquake, but seemed to stabilize two months later. Although price varies across markets, local market trends still generally follow the national average price. For detailed figures of local market prices of sorghum, see Annex III.

Table 34. National Average Sorghum Price, 2005-2010



Source: CNSA, FEWSNET

¹⁶⁴ 1 marmite ≈ 6 pounds

Figure 27. Average Sorghum Price, by Market, 2007-2010

From one year to another, price seems to behave differently on selected markets across the country, as shown in the table below. Local price changes appear to depend much more on local production, not regional or urban market prices. This suggests that Haiti's sorghum market is not well-integrated. Price varies across markets, except from 2007 to 2008 when price significantly increased in all markets across the country due to the international food crisis.

Table 35. Sorghum Price Behavior on Haitian Markets (2005-2009)

| Market/year | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 11-18 Jan. 2010 |
|--------------------|---------|---------|---------|---------|-----------------|
| Croix-des-Bossales | 8% | 0.3% | 80% | -19% | 43% |
| Cap-Haitien | 10% | 4% | 57% | 3% | 2% |
| Cayes | -4% | 8% | 68% | -14% | 25% |
| Jérémie | 26% | -6% | 23% | 4% | 0% |
| Jacmel | -5% | 0.9% | 105% | -20% | 33% |
| Hinche | 14% | -17% | 97% | -19% | 33% |
| Ouanaminthe | -22% | 7% | 69% | 5% | 0% |

Source: CNSA/FEWS NET data base

The interaction of a set of supply and demand side factors has led to significant price volatility and an increase in international and domestic food market prices. Data from FAO show that the world price for sorghum increased by 61 percent from May 2007 to May 2008. From 2007 to 2008, average price rose by more than 55 percent in all markets in Haiti, except in Jeremie, as shown in the table below. Prices dropped by less than 20 percent in most of Haiti's markets in 2009, with the exception of price rises in Cap-Haitien, Jeremie, and Ouanaminthe.

In 2008, the change in international prices for sorghum seem to be reflected in local markets. However, changes in local prices may have been an indirect effect of changes in price more-preferred commodities such as rice and maize. Since Haiti does not import sorghum, relationships between world and domestic prices cannot be analyzed.

Sorghum price spiked one week after the January 12 earthquake in the markets of Croix-des-Bossales (43 percent), Jacmel (33 percent), Cayes (25 percent) and Hinche (33 percent). Elsewhere, the price increase appeared two weeks later, with increases of 12 percent in Cap-Haitien, 33 percent in Ouanaminthe, and three percent in Jeremie. Price fluctuated during the weeks following the earthquake, but is currently more than 30 percent higher than the price level the first week of January 2010 (before the earthquake) in the markets of Croix-des-Bossales, Jacmel, Hinche and Ouanaminthe, and only eight percent higher in Cap-Haitien. Although the price of comparison from early January 2010 may have been at a lower level in some markets (due to price seasonal price fluctuations), the seasonal drop in prices had only just begun, so lower prices were either slight or non-existent. Therefore, though an increase in price would be expected in June due to seasonal variation in prices, an increase of 30 percent is atypical. In June 2010, prices fell below pre-earthquake levels in Cayes (-3 percent) and Jeremie (-12 percent).

Sorghum price has not reached this level of variation across markets since the January-June period of 2008, when price varied by more than 50 percent across markets. Sorghum prices were especially volatile during the first half in 2010 in Coix-des-Bossales and Hinche.

5.6.8. Impact of Earthquake on Sorghum Market Structure, Conduct, and Performance

Since sorghum is distributed by the same actors who participate in other market chains, such as locally-produced rice, maize, and beans, the earthquake may have affected the sorghum market, though to a lesser extent than for the other commodities. The earthquake struck at the beginning of the main sorghum harvest season, and damage to roads and storage facilities constrained the distribution of the product, mostly in areas affected by the earthquake.

Security in the market of Croix-des-Bossales has also disrupted the market. Some Madam Saras selling sorghum in Croix-des-Bossales were displaced due to the April 2010 fire, exposing them to theft and other types of insecurity. Both sellers and buyers have reduced their presence on this market.

Chapter 6. Market Profiles

6.1. Introduction

Markets and market players have been impacted by a dramatic shock that may have profound long-term consequences for food security and local markets in Haiti. The short-term consequences were clearly negative for most, though certainly not all, market players. Market balance in the medium- to long-term will depend heavily on investments in the short- to medium-term reconstruction phases.

This chapter provides a summary of findings from field visits to markets within the Structure-Conduct-Performance (S-C-P) framework noted in Chapter 3. Recall that within the S-C-P framework, markets are said to perform well if they achieve socially-desirable goals such as availability of a sufficient quantity, diversity, and quality of goods to satisfy demand at prices which are “fair” to producers, traders, and consumers. Fair prices ensure reasonable margins to traders, enabling them to continue engagement in that market. Fair prices to consumers assure that a cross-section of the population is able to access goods via the market. Short- and long-term price stability, as well as market efficiency, are indicators of market performance.

This chapter is organized as follows: Section 6.2 outlines the rationale for the choice of markets selected by the team during field work. Section 6.3 presents a summary of key findings applicable to all the market sites visited. Section 6.4 presents a summary of key findings broken down by market player. (Annex VII presents detailed interview notes from visits to individual market sites and key market players.)

6.2. The Choice of Markets Sites

Selection of markets was done with the specific objective to cover a cross-section of urban and rural markets, both near and far from the border, and in both cereal and bean surplus and deficit areas. To maximize coverage, the study team broke into two teams.

Seventeen market sites were visited across nine of the ten departments,¹⁶⁵ as well as the city of Port-au-Prince. The map below illustrates the market sites visited. The table below provides an alphabetical list of market sites visited and denotes whether the site is located in a surplus or deficit region, and its setting.

¹⁶⁵ The team was unable to visit the Northwest department due to time constraints during the June/July field visits. One of the study team members had previously conducted extensive studies of the markets in the Northwest, however, so the team was able to draw on that prior experience for the present study. Based on their importance to overall market flows, Fond des Negres and Haut Poteau were selected, but were not visited due to time constraints.

Figure 28. Map of Market Sites Covered in Field Study**Table 36. List of Markets Visited**

| Town Name | Department | Setting (Urban / Rural) | Market Status (Surplus / Deficit) | Location (Border / Interior) |
|--------------------|------------|----------------------------|--------------------------------------|---------------------------------|
| Croix-des-Bossales | West | Urban | Deficit | Interior |
| Salomon Marché | West | Urban | Deficit | Interior |
| Violet | West | Rural | Bean, maize, tuber surplus | Interior |
| Mal Passe | West | Rural | Deficit | Border |
| Cans | South | Rural | Maize surplus | Interior |
| Cavaillon | South | Rural | Maize, bean surplus | Interior |
| Les Cayes | South | Urban | Deficit | Interior |
| Léon | Grand'Anse | Rural | Bean, tuber, fruit surplus | Interior |
| Jéremie | Grand'Anse | Urban | Deficit | Interior |
| Jacmel | South East | Urban | Deficit | Interior |
| La Vallée | South East | Rural | Tuber, bean surplus | Interior |
| Estère | Artibonite | Rural | Rice surplus | Interior |
| Gonaïves | Artibonite | Urban | Deficit | Interior |
| Hinche | Centre | Urban | Sorghum surplus | Interior |
| St Raphael | North | Rural | Rice, maize surplus | Interior |
| Cap-Haïtien | North | Urban | Deficit | Interior |
| Ouanaminthe | North East | Urban | Deficit | Border |

6.3. Summary of Key Findings

This section presents a summary of key findings applicable to all markets visited. Findings are based on interviews and observations during market site visits in the months of June and early July 2010, and review of available secondary data.

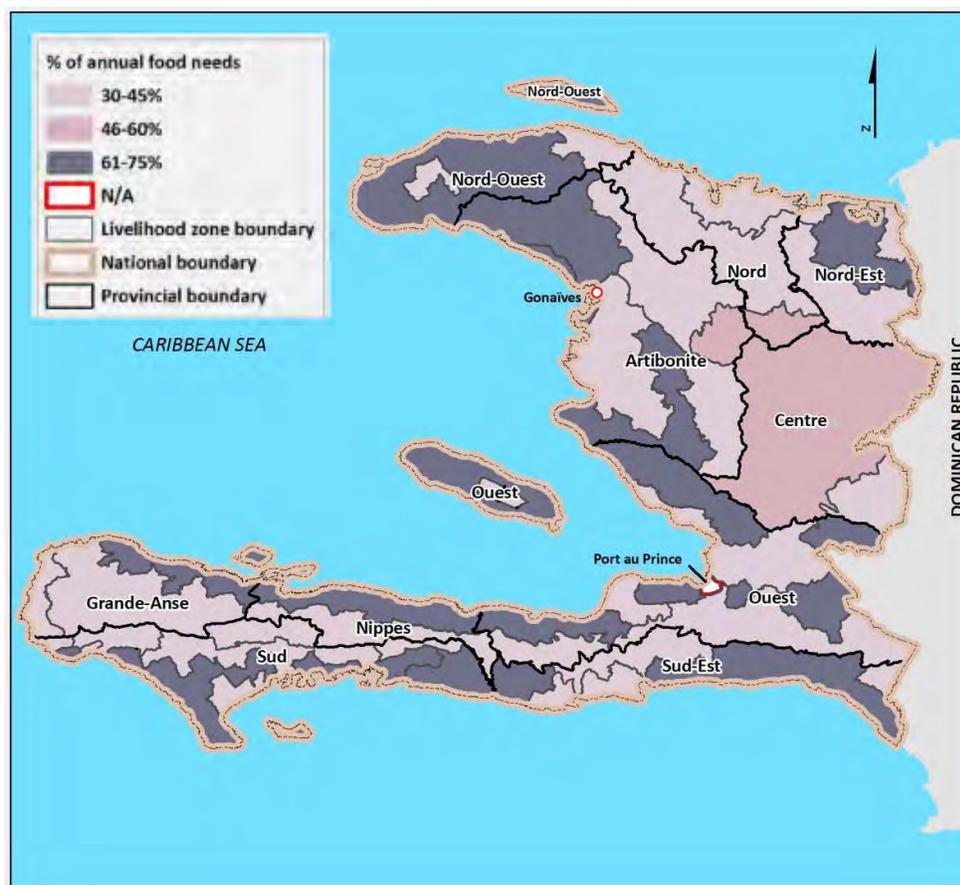
Food is widely available in all markets, with the marketed food supply overwhelmingly dominated by imports. At the time of the field visit, the basic cereals market was dominated by imports (rice, maize flour, wheat flour, bulgur wheat).¹⁶⁶ This was true even in the most remote rural areas. Nearly two-thirds of the country's rice needs alone are met through imports. This dependence on imports heightens the susceptibility of the poor Haitian consumer to both the vagaries of the world market, and to the business practices of a small, collusive group of oligopolistic importers of staple foods.

Food insecurity in Haiti is primarily due to limited cash which constrains household capacity to purchase marketed food. Extremely high unemployment and underemployment, and low wages result in close to 70 percent of the population living on less than US\$2 per day, and 50 percent of the population living on less than US\$1 per day.¹⁶⁷ The destruction of livelihoods from the earthquake has undoubtedly increased these percentages, but data are lacking to provide any precise figures. At present, Haiti is characterized by oversupply and stagnant demand.

Approximately 1/3 of households engaged in agriculture obtain their food from their own-production, and people in rural areas acquire food primarily via market purchases during the entire year, according to the rural 2007 CFSVA. Availability of food must therefore be viewed from the perspective of both domestic household production and private markets.

¹⁶⁶ What small amount of sorghum was seen during the team's market visits was being sold at the retail level only. As discussed in Chapter 5, not much is cultivated, and approximately 60 percent of production is for household consumption, therefore, it is not surprising that sorghum flows between markets in small quantities only.

¹⁶⁷ ECVIH 2001

Figure 29. Market Dependence

Source: FEWS Net, Haiti Livelihood Attribute Map: Food purchases Percent of poor households' annual food needs covered by purchases

The structure of the market for key basic commodities -- imported rice, imported wheat/wheat flour, imported edible oil -- is distinct at the top and bottom of the market supply chain. While the market structure for these goods results in near-perfect competition at the retail level, a very high degree of market concentration of importers at the top of the market chain creates ample opportunities for collusion and price-setting. This has important implications for price formation and transmission, and therefore has important implications for the impact of food aid on local markets. This unusual dynamic requires donors and analysts to understand commodity markets in order to estimate the actual and potential impact of food aid, and the subsequent implications for food aid programming.

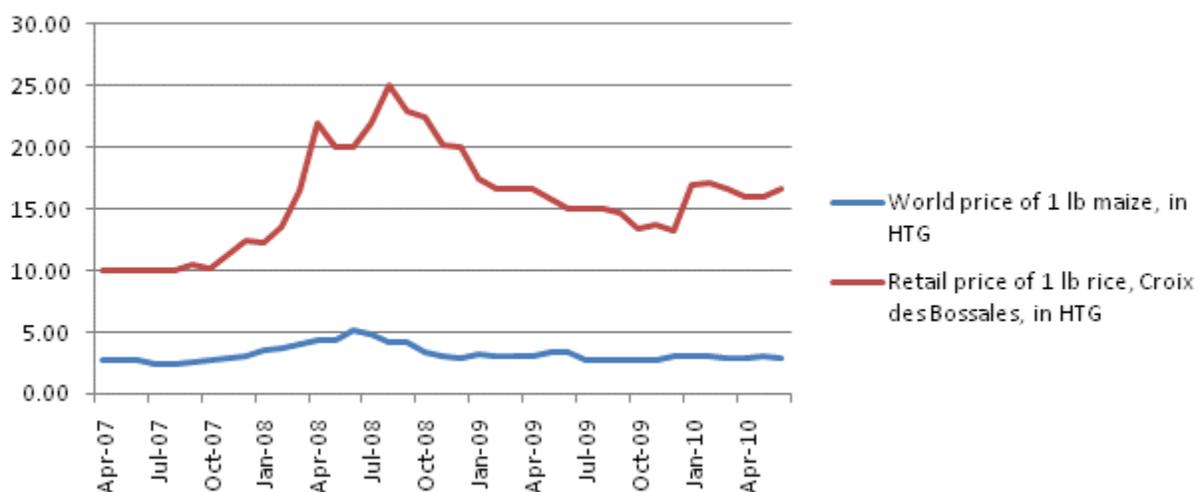
Rather than undercutting one another's prices, Haiti's major importers collude to agree on prices. One major importer admitted, "If this were the U.S., we would go to jail." The correlation between world market and local market prices for imported rice provide strongly suggestive evidence for oligopolistic practices (downward stickiness of imported rice prices).

Interviews with rice importers revealed that price increases are rapidly transmitted (via cell phone, to confirm the order at the new price, from importers to wholesalers and larger retailers). Price analysis reveals that world price and the retail price of imported rice was much more

strongly correlated in 2010 than between 2007 and 2009 - perhaps suggesting that the competition from food aid rice forced rice importers to behave more competitively (i.e., possibly forcing them to decrease their margins).

A comparison of world and retail price graphs over time clearly show that retail prices continued to climb well after the world price spike. Despite the lack of wholesale prices, the concentration of market power implicates the importer, and probably the large wholesalers, in rent-seeking behavior.

Figure 30. World vs. Retail Price in Croix-des-Bossales of One Pound of Rice, Apr07 - Jun10, in Haitian Gourdes



Key informants agreed that many, if not most, big private sector actors profit from evading customs duties. Some key informants went so far as to claim that the big actors' sole profit is from avoiding duties on imports brought in through informal channels.

The combination of high unemployment and the lack of barriers to entry (no permits or licenses required, and no GOH authority regulating trade or imports), has acted as an incentive for the five main importers to diversify, and requires them to constantly jockey for position to maintain market share. Small, inexperienced, and undercapitalized market players enter the trade because there are no jobs in the formal sector, and no opportunities other than business. As a result, the market is saturated by small-time players with no long-term capital for investment. This type of market player occasionally brings in one or two containers of imported goods, priced to undercut the market, which forces other larger, long-term players to compete on the short-term basis. Importers report suffering innumerable temporary losses due to these inexperienced and undercapitalized market entrants. All of the major importers are heavily diversified, which provides a buffer against these temporary losses and any vagaries of the market.

Though there is widespread agreement that the earthquake has caused a contraction in demand, there is serious uncertainty about the cause of the decline in demand, and

undue speculation that food aid has overly displaced market purchases. Among the possible causes of the decline in demand are:

- Decline in cash among consumers due to loss of assets and job opportunities and the reduction of remittances during the weeks following the earthquake (all the money transfer systems were closed the first three to four weeks after the earthquake).
- Increase in the number of market players, especially petty retailers, which has increased competition and therefore decreased the volumes traded by individual retailers.
- Increase in imports, especially informal (contraband) imports, primarily from the Dominican Republic.
- Decline in the number of consumers. An estimated 200,000 people lost their lives in the earthquake; another 300,000 emigrated outside the country. Under the reasonable assumption that these people were part of the consumer base of Port-au-Prince, this represents a sizeable reduction in the consumer base of the capital, the largest market in the country.
- In the case of wheat flour, for example, the decline in demand may actually represent pent-up demand which cannot be met because many small- and medium-size bakeries in the earthquake-affected areas were destroyed and therefore can no longer reach customers.

The earthquake's impact varies according to market level:

- There is overwhelming evidence that the destruction of livelihoods following the earthquake appears to have *increased* competition¹⁶⁸ at the retail level due to a large influx of petty traders and petty retailers who were previously engaged in other professions. Combined with a decline in consumers' purchasing power, smaller retailers now trade lower volumes, which ultimately decreases these traders' incomes.
- The increase in competition at lower levels of the market is, at least in part, related to the lack of barriers to entry. There are no permits or licenses required, and no GOH authority regulating trade or imports.
- Competition among importers has decreased overall, as the number of importers declined while the volume of business remained the same or may have even increased. The fact that volumes traded are reportedly the same (if not more) as they were before the earthquake suggests that the economy has largely rebounded since the earthquake. After the earthquake, some importers began purchasing their goods from larger importers, or joined other importers in different business forms, thus altering the dimension of the marketing chain. Interviews indicate there has been further

¹⁶⁸ This is contrary to the finding in the April 2010 FEWS NET Executive Brief, which indicated that competition among traders had decreased. It is possible the FEWS' report was referring to competition among importers or wholesalers, however, which this study team did find had decreased, resulting in larger volumes traded among remaining importers and wholesalers, as outlined above.

consolidation at the top of the supply chain, which may provide greater opportunities for collusion.

- At the wholesale level, the situation appears mixed, with some wholesalers reporting that their business has doubled since the earthquake since many of their competitors lost their businesses in the earthquake; while others (including secondary wholesalers and Madam Saras in Croix-des-Bossales) are reporting a decrease in sales volumes. In some locations (e.g., Jeremie), the increase in business was the result of an increase in the number of consumers as IDPs moved into the area. Increases due to IDP movements are likely to be temporary, as people have already started returning to Port-au-Prince and other affected areas.

Production costs have increased over time and most producers have cut down their production acreage by more than half. Several studies have reported increased costs, with some evidence that labor costs are an important source of the overall cost. Henry (undated) reported production cost for rice of US\$356/ha in 1990 and US\$391 in 2000. Bayard (2007) evaluated production cost at US\$815/ha for rice in the Artibonite Valley; labor cost represented 46 percent of total costs.

Producer associations exist, but tend to operate as social organizations, rather than as support networks to increase access to market information, access to credit, or access to markets. This attitude has led to the formation of a multitude of rural organizations; though farmers act individually when it comes to producing and selling commodities. There are associations selling inputs (e.g., fertilizer) when available. Seeds are distributed through farmers' associations.

Local rice may be considered a different product from imported rice. Traders reported that consumers prefer local commodities, but that consumers purchase both imported and local goods depending on relative prices. While overall quantities sold by importers and most wholesalers appear to have returned to pre-earthquake levels, demand has shifted to lower-price, lower-quality rice. A number of market informants indicated that households tend to purchase the relatively cheaper imported rice for the bulk of consumption, but reserve some portion of their cash to "splurge" on more preferred, and more expensive, local varieties for special weekly meals.

For at least some commodities, prices are fixed as a function of consumer purchasing power. For example, while the price of sugar increased from US\$200 per MT to US\$600 per MT, the retail price of candy remained fixed at 0.5 gourdes because consumers balked when retailers attempted to raise the price to either one gourde, or three for two gourdes. This forced confectionary sellers to take a loss.

The majority of key informants in the private sector advocate for cash for work/vouchers rather than food distribution. They point to the sale of food aid on the market as evidence that access is the primary issue. During the field visit, team members saw limited quantities of food aid for sale at local markets.

Port activities in Port-au-Prince were reduced by more than half after the earthquake. During the June/July 2010 field visit, informants estimate that the port is currently operating at 60 percent capacity. The average time a ship sits at the port for unloading has increased from 48 hours to over 72 hours. The port had to rent a floating pier, which brought up the cost of all port operations. Humanitarian cargo still retains some preference, which is increasing the cost for commercial importers.

Some informants reported that the Haiti/DR border has become more porous after the earthquake, though it was not possible to verify this claim. Corruption may exist at any of a number of points where goods enter the country (border and ports), which might allow traders to evade payment of taxes. The ability of law-abiding, private sector actors to compete effectively decreases according to the extent that informal, corrupt trading occurs between Haiti and the DR.

The lack of human capital constrains business operations and the ability of the private sector to expand. Many food engineers, mechanics, electricians, middle managers, and accountants have left the country as part of the Haiti diaspora.

Local markets are fairly well-integrated, though in general, the markets for imported commodities are more integrated than for local commodities. There appears to be good price transmission between all local markets in imported rice, and to a lesser extent oil. For locally-produced commodities, the production of all regions flows to Port-au-Prince and Madam Saras from Croix-des-Bossales who purchase primarily in surplus areas. When local goods are scarce in any given region, traders do not appear to move commodities back from Port-au-Prince to regional and rural markets. Therefore, prices for locally-produced commodities in rural markets are not strongly correlated to those in urban markets even though the highest demand is in urban areas, Port-au-Prince in particular.

Poor transportation infrastructure affects integration of markets. Transportation is especially poor between regional markets and Jeremie. At present, only one ship serves the Jeremie-Port-au-Prince route. The high cost of transport reduces the profitability, and therefore incentives, for moving commodities from surplus to deficit areas, and vice versa.

There is basic market information, but not detailed price information across commodities and across most of the value chain.

Madam Saras, widely-regarded as the most important players in local commodity trade, do engage in spatial arbitrage, but primarily along preferred routes. These medium and large-scale traders tend to follow the patterns of production seasons, but are only aware of prices in the markets in which they trade. They tend to source from markets they have familial ties to, and seem to bring goods to a single inflow market - the closest one, rather than the market offering the best margin given transaction costs. This suggests that markets are fairly well-integrated within sub-national market networks, but not necessarily across inflow markets. Given the limitations of our price data, however, this hypothesis is impossible to test.

Inter-temporal arbitrage is generally limited to larger importers and wholesalers who have private warehouses and access to credit. Numerous key informants indicated that the large importers regularly limit the supply of imported staples in the market in order to maximize profits.

There is reasonable uniformity of standard weights and measures. Measures and weights appear to be more standardized at the wholesale level for imported goods, but not at the retail level. Madam Saras collect goods in small quantities from numerous sellers by the marmite, which averages six pounds, but may slightly vary between sellers. Some merchants reportedly have one marmite for buying and another one, slightly smaller, for selling. Standard practice is to quote the price per marmite.

Lack of access to credit negatively impacts all players along the entire value chain for locally-produced commodities.

Access to credit for importers and large wholesalers of imported goods does not appear to have been impacted by the earthquake. Trading relations between Haiti and DR tend to create a disincentive for Haitian producers because: 1) a significant amount of products grown in Haiti are also imported from the Dominican Republic, and 2) there is an unequal trading status between DR and Haiti. The border prices for foods imported from Dominican Republic are lower and the product quality is higher. Free market days between Dominican Republic and Haiti allow goods to be transferred freely only from Dominican Republic to Haiti. This restricts the market for Haitian goods to flow into the country's natural trading partner.

The informal pegging of the Haitian gourde to the U.S. dollar has resulted in what many consider to be an overvalued currency. Though a boon to actors along the marketing chain of imported commodities, including consumers, an overvalued gourde sabotages the competitiveness of local industries and agriculture.

The following section presents a summary of key findings broken down by market player.

For a discussion of the impact of distributed food aid on market prices in earthquake-affected areas, as well as detailed findings and observations related to current food aid interventions across Haiti, please see Chapter 8.

6.4. Summary of Key Findings by Market Player

As noted in Chapter 2, in order to promote the post-earthquake recovery of national and regional markets, USAID/Haiti wishes to ensure that USG-imported food aid will not create a substantial production disincentive for local farmers and entrepreneurs who grow and process products similar to donated food commodities. USAID/Haiti also wishes to ensure USG food aid does not cause a substantial disruption of private markets which are critical to the recovery of the Haitian economy and ensuring food security.

This section presents a summary of key findings broken down by market player. Understandably, not all market players were forthcoming about their business operations,

particularly market share and marketing margins. The study team believes a summary of the interviews from select market players who were most forthcoming, and deemed most reliable, will prove illustrative nonetheless. The purpose of these findings is not to single out any particular private market player, but solely to provide some context for decision-makers concerned about the impact of distributed food aid on various actors in the private market, and the feasibility and appropriateness of monetizing food aid given the dynamics of the Haitian market.

As discussed in more detail in Chapters 5 and 9, the top of the food supply chain is dominated by a small number of private sector firms. These can be divided into major importers, and the large and medium-scale firms who distribute food down to the retail level. Each of these is described in turn below.

6.4.1. Major Importers

There are a small number of major importing companies; among them are Gilbert Bigio Group (which includes HUHSA), Deka Group, Acra Industries, and HUNASA. Les Moulins d'Haiti acts as the major importer of wheat, which it mills at the country's sole mill. There are also a number of informal importers bringing in goods from Panama, Miami, and the Dominican Republic. Informal trade also includes the evasion of customs by formal traders.

The following company summaries are illustrative of the business portfolios and practices of the Haitian private sector at the top of the marketing chain for imported foodstuffs.

Deka Group. The Deka Group is a consortium of seven importing companies, and is one of three companies earning over US\$150M annually. The study team interviewed a Deka senior official, who noted that there are only five companies in Haiti earning in excess of US\$100 million in revenue per year (of which Deka is one). This contrasts sharply with the Dominican Republic economy, where there are many companies generating over US\$1 billion per year.

Deka Group has diversified into a wide assortment of goods, including commodities such as flour, sugar, maize, maize meal, beans, and bulgur wheat. Deka reports that it represents 50 percent of the brands on the consumer market. The company currently has 80 percent market share of evaporated milk. Deka is the largest tire distributor in Haiti, and recently branched into motorcycles, cars, trucks, manufacturing, and food processing. Deka is also one of the country's four importers of housewares.

There are six to seven importers in the confectionary business, of which Deka is one. During May 2010, 26 MT of sugar were imported, despite the fact that the national monthly requirement is 20 MT. Of the 26 MT, one importer brought in 15 MT. This oversupply, combined with a lack of storage, resulted in price drops which forced all importers to take a loss. As noted above, confectionaries are one example of a foodstuff for which prices are fixed as a function of consumer purchasing power.

Deka management noted that the earthquake caused loss of sales, problems with storage, and cash shortages when containers do arrive, forcing at least one large importer to close his business. Illustrative of large companies in the aftermath of the earthquake, Deka was forced to

write US\$2 million off the books (compared to over US\$150 million in annual sales), and the company tightened its credit. Nonetheless, Deka sales have increased over the years, due to diminished competition and aggressive marketing campaigns.

Les Moulins d'Haiti. Jointly owned by GOH (which has a 30 percent stake), Seaboard, Continental Grain, and Unibank/Unifinance, Les Moulins d'Haiti milled approximately 180,000 MT per year prior to the earthquake. Importantly, the mill has its own port. The mill was destroyed in the earthquake, and is expected to be rebuilt and operational by January 2011. The team interviewed a senior official at LMH, who noted that LMH is anxious to re-start wheat monetizations as soon as the mill is again operational.

Currently, however, the volume of Haiti's domestic production of bread is 30-40 percent lower than before the earthquake. Part of this decline can be explained by the loss in consumer base as an estimated 500,000 people were either killed in the earthquake, or have emigrated since January 2010.

Importantly, the senior official admitted that LMH is actually unsure which factors are most important in explaining why demand has declined. To investigate the possible causes, LMH has signed an agreement with International Relief and Development, Inc. (IRD) to undertake a survey, the results of which LMH will share with USAID. LMH expects the following factors play a role in decreased demand:

1. Decline in income due to destruction of livelihoods
2. Physical destruction of small and medium-sized bakeries, especially in Port-au-Prince
3. Increase in imports (with even baked goods now being imported from the DR). The senior official estimates that official exports statistics from the Dominican Republic probably capture only about 50 percent of the flow of wheat flour into Haiti.
4. Increase in the number of market players

This suggests to the study team that even the savviest market players, whose fingers are on the pulse of the market, are unsure about the relative importance of various factors impacting prices.

This uncertainty seems to be a short-term concern and may require adjustments in the medium- to long-term. However, given that most of the demand for wheat products is in urban areas, and that 80 percent of Haiti's population lives in large cities (4 million in Port-au-Prince, one million in Cap-Haitien, and 500,000 in Les Cayes), LMH is confident about the strength of the market in the medium- and long-term. The senior official did note that although his country suffered a large loss of life (and thus, demand) as a result of the earthquake, he expected the population to rebound in coming years due to livelihood recovery and a high birthrate. In anticipation, LMH is currently replacing the two mills it had at the time of the earthquake, which were 750 MT and 300 MT capacity, with two mills of 600 MT capacity each.

In accordance with general trends of staple food markets in Haiti, the top of the wheat industry is grouped among a few powerful players. This is especially noted in the case of LMH, as it is the country's single mill, which, as emphasized by some interviewees, is shared among the GOH (30 percent) and Unibank, a Haitian bank whose board members include some of the country's wealthiest market players who share personal relationships with GOH leaders.

Gilbert Bigio Group. The Gilbert Bigio Group (GBG) is the largest Haitian-owned corporation. GBG holds a large stake in the construction industry (it has the only or largest steel mill in the country), edible oil (via HUHSA), trucks and transport, communications (Digicel), and packaging (to support oil). GBG also owns DINASA, the only Haitian-owned integrated oil and gas company in Haiti. DINASA is a joint venture with Groupe Financier National which was formed to acquire the assets of Royal Dutch Shell in Haiti, which exited the country after 75 years.

Huileries Haitiennes, SA (HUHSA). HUHSA is one of the largest Haitian-owned corporations in Haiti. As detailed in Chapters 5 and 9, Haiti's edible oil industry has been described as a duopoly, with Huileries Haitiennes, SA (HUHSA) and Huilerie Nationale, SA (HUNASA) the two largest importers of edible oil. HUHSA is owned by the Gilbert Bigio group, and leadership of both companies falls in the same family tree. Huilerie Nationale (HUNASA) is owned by the Brandt family, who also play an important role in the banking and textile sectors. However, there are also larger wholesalers importing oil, and many smaller traders importing oil into Haiti, many informally. Indeed, the oil market is very small and has been described as 'thin' -- with a lot of competition especially with the porous and corrupt markets.

The study team interviewed a senior official of HUHSA, as well as a HUHSA lobbyist in Washington, DC. Regarding distributed food aid, the largest market player in the oil market believes that leakage through self-monetization of vegetable oil is not a threat to private business. Rather, the primary problem is corruption along the food distribution network which results in occasional large-scale leakage (theft) of vegetable oil. The senior official noted that while the volume of oil traded suffered right after the earthquake, business has since picked up considerably.

However, the importer believes that monetization not only disrupts markets but also distorts the rest of the value chain (particularly packaging and transport), which creates unemployment. The senior official also complained of competition from used oil, which reportedly arrives via informal channels from the US cruise ships, which is then sold by many small street vendors at lower costs.

Company representatives stressed that in times of emergencies, it is better to buy locally, both because it ensures assistance reaches people in need faster and because local procurement helps build the economy at the same time. In order to help balance the market, the HUHSA senior official emphasized the provision of micro finance is an important measure to help the average trader expand business.

6.4.2. Rice Importers

Haiti has four market chains for rice. The dominant market of the four, however, is imported rice, which accounts for 75 to 80 percent of total rice consumed in Haiti. Rice is imported in bulk and bagged in the main ports. From 2004 through 2008, Haiti averaged 308,000 MT of rice imports; though up to 10,000 MT (slightly over three percent of rice imports) are typically re-exported to the Dominican Republic.

The second market chain starts in Vallée de l'Artibonite, where producers sell rice to a network of Madam Saras that organize the processing and delivery of the grain to main urban areas. This accounts for around 12 percent of the rice consumed in Haiti.¹⁶⁹

Around eight percent of the rice produced in Haiti is produced and consumed locally around St. Raphaël, Grison-Garde, and Maribahoux. The remainder of the rice consumed (approximately one percent) comes from the Dominican Republic in the form of either rice scrap (cabecit), which is sold on the local markets in the Center Departement, or long rice (Milly), which is sold on the border.

This subsection focuses on the imported rice segment of the market. Of the six actors who import rice into Port au Prince, three seem to control the market as the main importers. Importers tend to change regularly and the rice importation was described as oligarchic by several key informants. Importantly, the importers tend to work on commission, and are linked with exporting partners in the United States. Rather than contracting to import a pre-established quantity of rice and then searching for buyers, the importers directly respond to effective demand, bringing in as much supply as the market will support at the established price.

Wholesalers. Around ten main wholesalers (dealing with up to 1,000 bags of rice per day) are concentrated in the industrial zones of Port-au-Prince. In quantities of 50 bags or greater, they sell rice to smaller wholesalers. According to IDB research, the margins of these actors are the highest along the marketing chain, suggesting that the main wholesalers have both the capacity and incentive to speculate on the market. Large wholesalers hold a large amount of stock that serves the market directly, and thus the ability to impact retail prices to a greater degree than importers can. These wholesalers purchase in US dollars and sell in gourdes, facing exchange rate risks and contributing to price volatility, especially if they rely on the informal exchange rate.

Port-au-Prince Small Wholesalers. Small wholesalers (dealing with up to 100 bags of 50 kg of rice per day) purchase rice from bigger wholesalers. These small wholesalers can be found mostly in downtown Port-au-Prince, selling to a network of 10,000 urban Madam Saras and retailers who trade in imported and locally-produced rice.

Brands are 75 percent exclusive to particular importers, with the remaining 25 percent of brands brought in by multiple importers. Wholesalers tend to select brand (and therefore importer/supplier) based upon availability of credit and consumer demand. The main brands of imported rice are: Tchako, Mega, Bull (AKA Rice Co SA), Madan Lolo, Fofu, Roi Pick, American and Lucky.

¹⁶⁹ EMMA, 2010

Ti Tony. Ti Tony is Haiti's largest wholesaler, offering a wide product line, including imported rice, wheat flour, beans, cooking oils, canned goods, and a wide array of foodstuffs. Ti Tony's clients are small and medium wholesalers primarily from Port-au-Prince, but a fair amount of clients are also located outside the capital. Ti Tony operates on a cash basis only.

Though Ti Tony lost two of its three depots in the earthquake, the destruction of the competition has been good for business. The wholesaler reported some difficulties obtaining sufficient stock; nonetheless, volumes transacted have increased by approximately 25 percent since the earthquake.

Importers used to add US\$1 to the price of each sack, but are no longer able to do so because of competition between the three large wholesalers (including GiGi). GiGi management reported a surge in demand for beans, up to 2,000 50kg sacks per month following the earthquake, compared to approximately 1,600 50kg sacks per month before the earthquake.

6.4.3. Wholesalers

There are approximately ten large (first-level) wholesalers in Haiti. The February 2010 EMMA on rice reported only four were in operation at the time of the study. The three largest are Ti Tony, GiGi, and Meronvil. All three are owned by members of same family. Other large wholesalers include Tchako (the largest distributor of Riceland rice from Texas), Caribex, HUHSA (part of the Gilbert Bigio group, profiled above under "Importers," acting as a wholesaler in addition to importer), and Les Moulins d'Haiti (profiled above under "Importers," acting as a wholesaler in addition to importer). There are about 150 medium-scale (second-level) wholesalers in Port-au-Prince.

First-level wholesalers buy directly from importers and sell to second-level wholesalers, who then sell to retailers. Retailers in turn buy in bulk (in sacks, not marmites), then sell to final consumers, generally in marmites.

Most wholesalers receive credit from their suppliers. Some wholesalers can access the same credit levels from importers as before the earthquake. Some, but not all, extend credit to their customers.

Many second-level wholesalers located in Croix-des-Bossales were demolished in the January 2010 earthquake, while still others were displaced by the April 2010 fire at the market. An estimated 35 percent of wholesale depots in Port-au-Prince were destroyed, and will likely not be rebuilt due to other priorities and cash demands. Larger operators have since transformed their houses and sale points into depots, while smaller operators have gone out of business.

A number of wholesalers interviewed reported that their businesses had increased (in the range of 25-50 percent) since the earthquake because many of their competitors lost their businesses in the earthquake.

GiGi Depot. GiGi Depot is one of the three largest wholesalers in Haiti.¹⁷⁰ GiGi does not import, but receives deliveries directly from the port. The wholesaler's costs are dependent upon volumes transacted. Though the depot is located in Port-au-Prince, GiGi's clientele are primarily from outside of Port-au-Prince.

GiGi can access the same credit levels from importers as before the earthquake, but does not extend credit, nor delivery, to clients. GiGi does not face problems of heightened insecurity.

The earthquake had a temporary negative impact on GiGi's business, particularly in Port-au-Prince and Jacmel, but the wholesaler's business has stabilized since April. For 1.5 months after the earthquake, no commercial boats were allowed into the port, cutting off merchants from their supply. Company officials reported that distributed food aid had a severe impact on business initially, but levels have rebounded. The demand for rice has shifted to lower-price, lower-quality rice, though the quantities sold have remained the same, as with spaghetti.

To protect Haitian businesses, GiGi management recommends food aid go through commercial channels, and/or that donors provide hot meals rather than dry bags of commodities, which are more likely to displace normal market purchase.

Aba La Vie Chere. The team interviewed the owner of this medium-scale Port-au-Prince wholesaler. This warehouse stocks rice, oil, butter, and sugar, and had one other storage facility in Carrefour Feuille which was destroyed by the earthquake. Customers include merchants from other large cities (Les Cayes, Jacmel), as well as smaller peri-urban areas (Petit Goave, Leogan). These customers arrive once every two to three months, buying between 500-1000 sacks at a time.

Aba La Vie Chere receives credit from importers, payable in 15-20 days. This wholesaler can access as much credit as he is able to stock. He currently receives credit for both Tchako and Mega rice.

Though the owner used to extend credit to merchants, Port-au-Prince sellers were not able to repay due to the fire, and now this wholesaler only provides interest-free, eight-day credit to customers outside Port au Prince. Sales on credit are fixed in price irrespective of quantity, but cash sales offer volume discounts.

Post-earthquake, sales volumes reduced by more than half, partly due to loss of a storage facility, coupled with loss of working capital.

Aba La Vie Chere management noted that customers prefer the oil packaged in drums as it is better suited to multiple-use deep-frying.

Management also noted that, after the earthquake, importers no longer stock, which means that this wholesaler must wait for the next shipment before re-stocking, and therefore days can go by without product. Boats bearing unique commodity and unique brand, arrive monthly, with the

¹⁷⁰ The team interviewed the GiGi's senior official, who is a family member of the owner of Ti Tony, the largest wholesaler.

exception of rice which comes as grain to be repackaged by the importers. Purchase price includes delivery from importers.

Though the company reports that its clientele has not reduced the size of purchases, the company's volume of oil sales has fallen approximately 40 percent since the earthquake, suggesting fewer buyers are stocking pre-earthquake volumes.

Management reports that food aid has not had a large impact on the market, nor his business. He would be willing to store food aid once his new depot, with a capacity of 200,000 sacks (a boatload), is constructed.

6.4.4. Retailers

There are two main levels of retailers: a subset of Madam Saras (who act as wholesalers and retailers), and petty retailers selling directly to consumers.

Many Madam Saras appear to be price setters, with rural Madam Saras calling urban Madam Saras to inform themselves of the retail price in inflow markets before establishing a purchasing price.

Petty retailers are price takers, reporting that they sell at the price prevailing on the market, irrespective of cost of goods sold and transaction costs.

The destruction of livelihoods among earthquake-affected households has resulted in a large increase in the number of small traders, many of them with no prior experience in retail. Combined with the decline in consumer incomes, the increase in traders has resulted in a smaller share of aggregate demand for individual retailers, whose own incomes have thus suffered.

The decline in individual traders' business forces many traders to store commodities for the next market day, which increases marketing costs and reduces margins. Some traders reported that storage is problematic due to spoilage of perishables and, occasionally, theft from the storage space.

Retailers uniformly report lack of consumer purchasing power and lack of access to credit as key constraints to their business. Those able to access credit are paying dearly (interest rates are on the order of 30 percent annually), and access to in-kind credit has decreased, as has the repayment period.

Retailers in Croix-des-Bossales market have been negatively affected by their displacement following the April 2010 fire, which resulted in increased insecurity and a decline in their customer base.

While some retailers report that distributed food aid negatively impacts their business, others report that both distributed food aid and Cash For Work have been appropriately targeted. Retailers did have concerns about the large-scale general food distributions (GFD), but also noted that GFD helped to ease unrest and kept looting to a minimum.

6.4.5. Producers

For an understanding of the potential impact of food aid on producers, please see the detailed discussion of the commodities markets in Chapter 5. Here, we summarize the main issues facing producers:

The average landholding is 1.8 hectares. This impacts production and productivity as soils are degraded and fallow necessarily reduced. Environmental degradation, particularly soil erosion due to deforestation, has reduced soil fertility and resulted in reduced productivity of farmed lands. Due to environmental degradation and increasing labor costs, production costs have increased forcing many producers to cut their production acreage by almost half.

Insufficient access to inputs inhibits production. Competition from imports, both from overseas and from the DR, and a lack of effective demand for local commodities, combine to create production disincentives.

There are farmers unions, but the unions themselves do not have enough resources to help each farmer effectively. Farmers associations exist, but act primarily as social organizations.

6.4.6. Marketing Margins

According to interviews, market actors enjoy the following estimated marketing margins:

- Among the seven importers/manufactures: 0-25 percent margins.
- Among the ten large wholesalers: two percent margins on staples, 10 percent on luxury items.
- Among the thousands of merchants/Madam Saras: 10 percent.
- Among the hundreds of thousands of street retailers: 30-50 percent.

6.5. Implications of the Structure, Conduct and Performance of Haitian Food Markets, and Recommendations for Food Aid Programming

Monetization of typical FFP commodities will be inherently difficult given the structure (number of potential buyers and their market concentration) and conduct (price-setting behavior) of the markets for FFP commodities (wheat, wheat flour, and vegetable oil). If monetization is necessary to fund food aid programs, it should be conducted in a regional market to avoid the risks inherent in monetization through the Haitian private sector.

Monetization may be an appropriate tool for the development of local markets in Haiti, but should be viewed as a long-term tool for development of local markets, and not as a source of needed funds for programming. Specifically, any organization monetizing in small lots should: (1) anticipate and be prepared to finance an extensive social marketing campaign to assure

Haitian consumers that smaller traders are selling legitimate, high-quality US products;¹⁷¹ (2) support access to credit for smaller traders who may be not be able to access Title II monetized goods, even in small lots; (3) anticipate losses over time due to unfair business practices of the large importers who are likely to view Title II wheat flour or vegetable oil sales as directly threatening their market share.

Outside the emergency response, distributed food aid has had minimal to no discernible negative impact on Haiti's private sector. Prior to the earthquake, private sector actors concur that food aid was highly-targeted, and appropriately so, to beneficiaries facing chronic food insecurity. As noted above, market players with the most volatile and uncertain incomes (petty retailers), were unanimous in noting that general food distributions helped to ease unrest and kept looting to a minimum. Nearly seven months after the earthquake, many retailers and wholesalers were supportive of Cash for Work programs not only as a means of increasing effective demand, but as a way to lower incentives for criminal activity that might negatively impact their businesses.

Rather than working through large food distributors, donors should work through cooperatives and local chambers of commerce to engage in local procurement; otherwise, profits will likely be captured by the few large market actors.

One promising market outlet for local producers is selling through ethnic markets to consumers in the Haitian diaspora—primarily in the US and Canada. Haitians have very strong preferences for local foods (locally-produced beans, rice and peas), which are especially evident in the Haitian diaspora as people long for authentic tastes of home.

¹⁷¹ A former Prime Minister remarked that even a Title II monetization through small lots sales could reach smaller traders, Haitian consumers would not trust that smaller traders were selling legitimate high-quality US products. They might even think that the traders are selling drugs instead of wheat flour, for example.

Chapter 7. The Role of Local and Regional Procurement

7.1. Introduction

Though local procurement initiatives are currently limited in number and scope, local procurement is not a new concept in Haiti. From 1992-1999, the Canadian Centre for International Studies and Cooperation (CECI) implemented a multi-year project, purchasing grains from local producers in surplus areas for distribution to beneficiaries in deficit areas.

At the end of 2004 and the beginning of 2005, the Ministry of Agriculture began encouraging food aid agencies and donors to procure local commodities for their programs. Ongoing efforts include the World Bank-funded *Programme National de Cantines Scolaires*, which purchases milk from a local dairy network to distribute in schools, as well as the French Cooperation which buys local rice and maize meal for distribution to WFP beneficiaries. With the support of the French Cooperation, WFP has been involved since 2005 in contracts with five producers groups in Artibonite, North and South, which provide maize meal, rice and beans for school feeding, nutrition programs, and FFW. A smaller-scale initiative by Unitransfer provides a creative mechanism for members of the diaspora to purchase local rice for distribution to Haitian relatives and friends. Unitransfer procures rice from the *Rezo Asosyasyon Kooperativ pou Komes ak Pwodwi Agrikol Ba Latibonit* (RACPABA), a Haitian umbrella organization encompassing seven agricultural cooperatives.

Since the January 12, 2010 earthquake, there is increasing interest in shifting further away from importation of food aid for distribution and towards local procurement of agricultural staples for use in food distribution programs. This chapter outlines the purpose of local and regional procurement (LRP), reviews previous LRP initiatives, summarizes current LRP initiatives, and provides general guidance for future LRP initiatives in post-earthquake Haiti so that future initiatives do no harm to local markets.

7.1.1. Definition of and Rationale for Local and Regional Procurement (LRP)

Local and regional procurement (LRP) allow for the local and/or regional purchase of foodstuffs for distribution to beneficiaries in recipient countries. Local procurement includes locally-purchased food for distribution, as well as cash transfers and vouchers provided to beneficiaries for the purpose of purchasing foodstuffs in local markets. Regional procurement involves distribution of food by donors within one country which has been purchased in a neighboring country within the region.

Locally-purchased food for distribution. The rationale for LRP is that locally-purchased (or regionally-purchased), donor-financed food aid in countries affected by disasters or other food crises often arrives more quickly than food aid shipped from donor countries and is less expensive than imported food aid shipped from donor countries, allowing for greater

beneficiaries coverage¹⁷². LRP foodstuffs may also be more appropriate to local tastes. Importantly, in a development context, by ensuring a market for local products, LRP can stimulate local production and local markets by providing capital and/or incentives for local market actors (producers, traders, transporters, etc.) to invest in agricultural production and market infrastructure.

From the perspective of local markets and consumer welfare, the major risks associated with local purchase of food for distribution include:

- Inflationary pressure on the prices of foodstuffs purchased by poor consumers due to supply shortages caused by the diversion of food commodities away from local markets and toward aid organizations. This is a very serious risk where local producers have limited capacity to increase supply in response to increased demand by donor-financed LRP initiatives.

From the perspective of beneficiary welfare and donor planning, the major risks associated with local purchase of food for distribution include:

- Inability of donors/implementing partners to ensure locally-procured foodstuffs consistently meet food safety standards.
- Non-delivery or delayed delivery of locally-procured foodstuffs for distribution due to donors'/implementing partners' inability to consistently secure and enforce procurement contracts .

Cash transfers and/or vouchers provided to beneficiaries for the purpose of purchasing foodstuffs in local markets. A cash transfer to beneficiary households in deficit areas can provide incentives for traders to move grain from surplus to deficit regions. However, if the value of the cash transfer is either set too low or eroded by inflation over time, such transfers will not increase effective demand as much as a program may intend.

From the perspective of local markets and consumer welfare, the major risks associated with cash transfers and/or vouchers are:

- Inflationary pressure on the prices of foodstuffs purchased by poor consumers due to increased demand caused by augmenting the purchasing power of beneficiaries. This is a very serious risk where local producers and/or traders have limited capacity and/or incentives to increase supply in response to increased effective demand.

7.2. Previous LRP Initiatives

During the post-liberalization period, characterized by declining agricultural investment, the Canadian Centre for International Studies and Cooperation (known by its French acronym "CECI") invested in agriculture through local procurement of food aid commodities. The CECI program was the first local procurement initiative in Haiti, and one of the largest to date. During

¹⁷² See, for example, Tschirley and del Castillo (2007), GAO (2009), USDA-FAS (2009).

the seven-year period from 1992 to 1999, the program involved the local purchase of rice from Vallée de l'Artibonite, maize from Plaine des Cayes, and sorghum from Plateau Central. The CECI program complemented these locally-procured grains with vegetable oil and beans imported from Canada, for distribution to beneficiary households in deficit areas.

The objectives of the program included:

1. To distribute food to the most vulnerable through schools, orphanages, and health centers in pockets of deficit areas.
2. To create a guaranteed market to farmers, thereby supporting incomes of smallholder producers with price premiums and encouraging private agricultural investment.
3. To revitalize local agriculture, rather than importing competing commodities.
4. To avoid influencing local taste preferences and dietary habits via the importation of non-native foodstuffs.

The program balanced the objectives of supporting producers and guaranteeing a stable pipeline to ensure timely distributions. To limit market disruption, CECI made a concerted effort to purchase from producer groups in surplus zones immediately after the harvest. Availability of supply constrained direct purchase from producer groups, particularly during the lean season as producers were not accustomed to (nor did they have the facilities for) storing large quantities of grain over long periods of time. Additional constraints included producer cash requirements and transport challenges in delivering grain to CECI warehouses positioned in Port-au-Prince.

In the beginning of the program, 20 percent of CECI's grain requirement was contracted from producer groups a few months prior to the harvest. As the financial and managerial capacity of the groups of producers increased, however, they were able to increase their share, and by 1999, producer groups were providing 40 percent of CECI's grain requirement.

To supply the difference between grain procured from producer groups and CECI's projected needs, the organization launched invitations to tender with firms, Madam Saras, and mills bidding on price per MT. A price ceiling was determined based upon the post-harvest price levels in urban markets for commodities of comparable quality, with specifications regarding moisture content and foreign matter. CECI purchased the commodities at a flat price per MT regardless of the source (firms, Madam Saras, or mills).

This process created an extended network of partners including firms, Madam Saras, and processors to ensure a smooth pipeline. CECI completed regular quality control checks to ensure that the grains provided by firms (as well as Madam Saras and mills) were locally-produced, as opposed to imported. As shown in the table below, CECI suppliers included five trader (Madam Sara) groups, 20 groups of producers (with an average of 80 people in each), seven mills, and 18 firms - each serving as a separate supply source.

Table 37. Distribution of CECI Suppliers

| Type of suppliers | Number | Location, by Department |
|-----------------------------|--------|---|
| Trader groups (Madam Saras) | 5 | West |
| Producer groups | 20 | Central Plateau, Artibonite, Plaine des Cayes |
| Mills | 7 | Central Plateau, Artibonite |
| Firms | 18 | West |

Notably, while producer groups were subsidized by virtue of the price premium offered, the participation of the other market actors (firms, Madam Saras, and mills) was not subsidized.

Producer groups could have provided more grains, but expansion was hindered by one-year project budget cycles, which caused administrative delays in contracting and difficulty in timing the purchases to coincide with the harvest. From 1992 to 1999, the program purchased more than 12,000 MT of locally-produced grains (rice, maize, and sorghum), with at least 40 percent bought directly from producer groups in the final four years of the program.¹⁷³

CECI trained producer groups in grain treatment, product quality and standards, market dynamics, and commercial lending requirements. The tangible benefits received by group members led to an increase in membership of 80 percent during the last three years of the program. By proving their capacity to fulfill CECI contracts, some of the producer groups received support for milling equipment and storage facilities from other organizations, such as World Concern and the Haitian Association of Volunteer Agencies (HAVA).

According to the evaluation report¹⁷⁴ of the CECI project, producers selling directly to CECI enjoyed a 33 percent higher profit margin as opposed to producers selling to Madam Saras or on urban markets. Proceeds were distributed to producing members, with a share kept for the producer group to invest in rolling credit funds, storage facilities, a seed bank, and animal purchases.

By guaranteeing a market for premium-quality commodities, the CECI project created jobs - especially for truck drivers - and boosted capital investment along the market value chain, from procurement through transformation to transport, storage, and distribution. For example, a group of five producers under CECI contracts used their proceeds to develop five storage centers and four mills, and producers across groups put more arable land into grain production.

7.3. Current Initiatives

There are currently two major initiatives involving local procurement of food for distribution, and a number of current initiatives involving unconditional cash transfers for the local purchase of food by beneficiaries.¹⁷⁵ This section reviews each of these initiatives in turn.

¹⁷³ The team was unable to determine how many MT of beans and vegetable oil were imported to complement this 12,000 MT of rice, maize and sorghum during 1992-1999.

¹⁷⁴ Shepherd, Abraham. 1997. "Evaluation des achats locaux septembre 1992-Juin 1996." The team requested a copy of the full evaluation report by CIDA of CECI's local purchase project, but unfortunately, CIDA has maintained only the summary of the evaluation report, which the team has relied upon for this report.

¹⁷⁵ Here, we consider only unconditional cash transfers. Conditional cash transfers (i.e., Cash For Work) are treated in Chapter 8.

7.3.1. Local Procurement

WFP (2005 - current)

With the support of the French Cooperation, WFP purchases maize meal from three producer groups in the North (Chamber of Agriculture of San Raphael, Chamber of Agriculture of Limonade, and Chamber of Agriculture of La Victoire), rice from the *Association des Planteurs de Moreau Peye*, and beans from an association in Les Cayes. The rice and beans are used for WFP school feeding and nutrition programs, while the maize meal is used in school feeding as well as FFW. The study team had the opportunity to meet with the management of the Chamber of Agriculture of San Raphael¹⁷⁶ (CASR).

With the support of the French Cooperation, CASR set up a commercial mill with three machines to hull rice, polish rice, and grind maize and other grains for the greater San Raphael community.

Since 2005, WFP has been contracting with CASR for the purchase of high-quality ground maize from CASR, totaling 933 MT to date. To amass the contracted quantities, CASR advances seeds on credit to 28 producer groups through six distribution networks across Saint Raphael. The seeds are distributed to producers to ensure quality compliance. CASR also contracts approximately 80 Madam Saras to buy from participating producers (at a premium of 1-2 gourdes per marmite above market price) and to bring the grains to the mill, where they grind the grain, at the standard rate of two gourdes per marmite. CASR then purchases the maize meal from these Madam Saras, paying an additional five to 12 percent premium for the high quality product (with a 5-10 gourdes premium above the market price of 80-90 gourdes per marmite). The maize meal is then bagged by a team of 80 local women who are also responsible for cleaning the mill.

For the last two years, WFP has paid between 75 and 100 gourdes per marmite of maize meal purchased from CASR. WFP provides bags as well as transport for the maize meal. According to CASR, the delivery terms are always respected, and the volume contracted is significantly lower than the volume CASR can mobilize.¹⁷⁷

7.3.2. *Rezo Asosyasyon Kooperativ pou Komes ak Pwodwi Agrikol Ba Latibonit (RACPABA) (2008 – current)*

Founded on July 25, 2001, the *Rezo Asosyasyon Kooperativ pou Komes ak Pwodwi Agrikol Ba Latibonit* (commonly known as RACPABA) is an organization of seven agricultural cooperatives across six communes of Low Artibonite. It currently has 2,423 commercially-oriented producer members, who farm and engage in the rice trade as well.

RACPABA has seven mills in the following locations:

¹⁷⁶ In French, the *Chambre d'Agriculture de San Raphael*.

¹⁷⁷ Though CASR claims capacity to produce more maize meal (farmers in Artibonite estimated they could produce 1,000 MT more while farmers from the northeast estimated 350 to 400 MT more), CASR representatives note that they do not produce more because imported rice limits their ability to market local maize meal.

Table 38. RACPABA Mill Locations

| Number of mills | Location (Communes) |
|-----------------|--------------------------------|
| 2 | Petite Rivière de l'Artibonite |
| 1 | Verettes |
| 1 | Desdunes |
| 1 | Grande Saline |
| 1 | Estère |
| 1 | Marchand Dessalines |

RACPABA received tractors, combine harvesters, and mills from the European Union (EU), and technical training from Oxfam International. Their members have increased yields from 2.5 MT per ha to 4-6 MT per ha through:

- Technical training in all areas of production, storage, and marketing
- Mechanization: tractors and harvesters are available for rent to members
- Improved access to inputs, including seeds, fertilizers, and insecticides
- Provision of credit: seeds and fertilizers to producers, credit to traders and farmers to grow vegetables (up to 3,000 and 2,000 gourdes, respectively). The credit fund is valued at three million gourdes.
- Superior milling technology, which breaks only five to 10 percent of grains milled, as opposed to a crack rate of 30-40 percent via unimproved technology.

To ensure quality, an agronomist visits farms, takes samples, and analyses the grain as part of the inspection control process. The high quality grain is sold to RACPABA at a premium of three to four percent above market price, who then sells the rice to various organizations, such as Unitransfer¹⁷⁸ (300 sacks of 50 kg/month) and the *Mouvement Paysan Papaye* (MPP), an organization in Hinche (100-125 sacks of 50 kg/month).

RACPABA has a storage capacity of 100,000 bags of 50 kg, and claims to be able to provide greater quantities than it currently contracts for. A supply assessment would need to be conducted in order to determine the quantity of rice RACPABA can provide affecting rice prices.

¹⁷⁸ Unitransfer, a subsidiary of Unibank, is one of the leading remittance services in Haiti. Haiti receives between US\$1.5 and US\$1.8 billion in remittances a year (source: <http://blogs.worldbank.org/peoplenmove/node/1233>, accessed 29 July 2010), though unofficial channels and official channels, such as Unitransfer. In addition to cash transfers for home delivery or pick-up, Unitransfer also provides a delivery mechanism for food and non-food remittances.

Since 2008, Unitransfer has contracted with RACPABA for the procurement of local rice to deliver as a remittance commodity. Unitransfer tried to procure beans and maize locally as well, but could not rely upon Haitian producers to provide these commodities year-round. Local rice is sent to individuals either in sacks or as part of a standard kit, which also includes imported rice, beans, maizemeal, oil, spaghetti, milk, and canned sardines. US clients can purchase kits in three different values: US\$59, US\$90, and US\$130.

7.3.3. Regional Procurement of Food By Donors for Distribution to Beneficiaries

WFP receives funds from the French Cooperation for local and regional purchase, but the study team is unaware of other donor initiatives involving regional procurement of foodstuffs for distribution within Haiti. However, with an estimated 10,000 PVOs currently operating in post-earthquake Haiti, it is possible that some smaller PVOs are engaged in regional procurement of foodstuffs. Given its proximity and trading relations, it is certainly possible that some PVOs are procuring foodstuffs from Dominican Republic. The study team will continue to follow up on this issue, and will incorporate any findings in the final report.

7.3.4. Cash Transfers

A cash transfer to households in deficit areas increases household purchasing power, and can provide incentives for traders to move grain from surplus to deficit regions. If the value of the cash transfer is either set too low or eroded by inflation over time, however, the cash transfers will not increase effective demand as much as the donor intends. It is important to note that traders will only react to opportunities for spatial arbitrage in some proportion to the increase in effective demand (after accounting for relative transportation and other transaction costs potential traders face).

The study team understands that the two largest umbrella groups involved in cash transfer programs at present are UNDP and the Cash Learning Partnership (CaLP). The team contacted both UNDP and CaLP to request information about cash transfer programs currently underway and planned initiatives. Neither organization has yet responded. The team will continue to follow up on these requests, and will incorporate any information obtained about their cash transfers programs into the final report.

7.3.5. Vouchers

This study team found no evidence of the use of vouchers (i.e., food stamps) in Haiti. However, with an estimated 10,000 NGOs currently operating in post-earthquake Haiti, it is possible that some smaller NGOs are attempting to distribute vouchers.

As a complement to its Feed the Future initiative, USAID recently awarded MercyCorps US\$12.5 million to implement a voucher program. The program is designed to provide food vouchers for up to 20,000 households in the Lower Artibonite and Central Plateau regions.

7.4. Potential for Expansion

Since the earthquake, LRP has generated great interest as a means to stimulate the economy and the agricultural sector, as well as to improve the food security of the most vulnerable. The MARNDR, WFP, and the World Bank have been engaged in discussions to support large-scale

school feeding programs through local procurement. However, thus far, most of the interest in LRP remains unrealized.¹⁷⁹

Before donors engage in LRP on a larger scale, however, to ensure that the goal and implementation strategy are compatible, it is critical that the goal of each local procurement project is clear. One must distinguish between the goal of promoting local agriculture versus improving access among food insecure households. At least in the short-term, improving access among food insecure households is more likely to be met through cash transfers as opposed to local procurement of food commodities. Given household expenditure patterns and the preference of poor households for cheaper, lower-quality imported food, a significant portion of the transfer spent on food will be directed towards imports which increases household food security, but does not simultaneously stimulate the agricultural sector. It should also be noted that the imported commodities market exhibits a concentration of market power among major importers, and that non-negligible portions of cash transfers to households can be expected to be captured by non-competitive, price-fixing importers.

While there appears to be some capacity for procurement of locally-produced maize and beans, as well as possibly fruits and vegetables (e.g., mango, plantains), any initiative should be viewed as developmental rather than as a source of large-scale, emergency food relief. Local procurement on a small-scale, which involves heavily-supported incremental investments, which allow producers, traders, and transporters sufficient time to adjust to increased demand, will prove most successful.

7.5. Risks

As outlined in Section 7.1.1 above, there are several risks associated with LRP, including:

- Inflationary pressure on the prices of foodstuffs purchased by poor consumers.
- Inability of donors/implementing partners to ensure locally-procured foodstuffs consistently meet food safety standards.
- Non-delivery or delayed delivery of locally-procured foodstuffs for distribution due to donors'/implementing partners' inability to consistently secure and enforce procurement contracts.

Where LRP initiatives involve cash transfers to beneficiaries for direct purchase of local foodstuffs¹⁸⁰ (as opposed to indirect purchase of local foodstuffs by donors on behalf of beneficiaries), the primary risks are inflationary pressure on consumer prices, and insufficient purchasing power among certain groups of beneficiaries who receive less cash than necessary to effect purchases. The latter case may arise because of differences in market prices across

¹⁷⁹ Through the Emergency Food Security Program (EFSP), USAID recently awarded US\$35 million to WFP to support its CFW/FFW activities through December 2010, and US\$12.5 million to Mercy Corps to provide food vouchers

¹⁸⁰ Importantly, cash transfer programs implemented in urban areas in Haiti will very likely result in beneficiaries purchasing foodstuffs that are imported, not local. While this will support access to food, it would not support local production and, in fact, may further undermine local production in favor of imports.

different local markets, or because the value of cash is eroded by inflation. Differences in market prices may also arise if traders collude to increase prices in response to the cash distribution. In either case, beneficiaries may prefer in-kind food transfers if the value of cash is insufficient to purchase a given food basket.

As with all donor initiatives, the risks associated with LRP must be balanced with the gains. A recent study of WFP's Purchase for Progress (P4P) program¹⁸¹ concludes that certain steps are required to ensure that such LRP programming does no harm to local markets, including:

1. Adequate market performance analysis must be conducted *prior* to a local or regional procurement;
2. Rigorous impact evaluation must be conducted *after* a local or regional procurement;
3. Support must be given to existing market information systems through planned LRP activities; and
4. Clear guidelines should be developed for local or regional procurement implementation.

An in-depth study of the LRP experience¹⁸² concluded similarly,

"The analysis suggests that, by learning from WFP's experience, donors could design a highly effective local food aid procurement program provided that they understand and develop procedures to manage the risks that attend any LRP activity."

The study further provided examples studied in East and southern Africa where LRP had been successfully implemented, saving money from donor food assistance accounts and allowing these resources to reach many more needy beneficiaries than otherwise would have been possible.

7.6. Lessons Learned Thus Far from the LRP Experience in Haiti

As the experience with the multi-year CECI local procurement project illustrates, local procurement can prove valuable to all parties involved if done intelligently. CECI chose local procurement to not only assist the food-insecure, but also to boost the local economy and increase farmers' means of investment. The program assisted the food insecure without changing dietary habits (thereby avoiding dependence). The program assisted producers by guaranteeing better prices for their crops (and thus creating a process of recapitalization that was favorable to agricultural investments). Furthermore, the program avoided discouraging local production by providing a market for local crops which typically face competition from imports, and strategically timed purchases to avoid market disruptions.

Though the CECI project was constrained by the producers' low financial ability and low storage capacity, both of these constraints lessened over time, as detailed above. No other constraints

¹⁸¹ Aker, Jenny (2008) "Towards Measuring the Impact of the WFP's P4P Initiative," Center for Global Development, Washington, DC

¹⁸² Tschirley, David and Anne Marie Del Castillo (2007) "Local and Regional Food Aid Procurement," Michigan State University

to the program have been reported. Thus, generally speaking, the CECI program successfully assisted the food insecure as well as boosted the local economy.

The CECI project was unique in that it benefitted actors across the market chain, including producers, millers, and Madam Saras. The program was especially effective in assisting producers, by offering them a higher price for their crops and providing some investment in advance (seeds). However, the program was small, and though its impact spread across many levels of the market, its overall impact was limited to a handful of market actors.

The CASR program is also unique in that it results in a distribution of a maize of higher quality than usually found on the market. However, such a process could be problematic on a larger scale, as it might be difficult to maintain such standards over time. Furthermore, its overall benefits to the market may be limited; though WFP has increased its specific demand for the product, the overall demand of the general population for high-quality maize is limited by binding budget constraints.

RACPABA program provides producers with technical assistance and credit, as well as a three to four percent premium above the market price. These supports to production are necessary to provide incentives to invest in fertilizer and improved seeds, which contribute towards increased supply. The positive outcomes of the RACPABA program, made possible through assurance of a reasonable premium, suggest that expanding the program in the future could be possible, depending on consumers' demand for high-quality, more expensive rice.

While the LRP experience in Haiti has thus far seen two of the three major risks, if and when more local procurement initiatives come to fruition, donors must be extremely cautious about the inflationary pressures their initiatives may place on consumer prices, and must vigilantly monitor market prices so that corrective action may be taken should consumer prices show signs of inflation due to local procurement initiatives.

Chapter 8. Distribution Analysis

8.1. Introduction

This chapter focuses on the potential and actual impact of *distributed* food aid on local markets and production incentives. The information presented in this chapter should be read in tandem with Chapters 5 and 6, which describe in detail how the commodities markets and marketplaces across Haiti are structured, how market actors conduct trade, and how well the country's markets are performing overall. This chapter is intended to provide an overview of what should be happening (needs assessment and targeting), what is happening (needs assessment and targeting, corruption, leakage), and what, if any, evidence exists to suggest food aid is impacting prices and thus altering incentives to produce and trade.

The chapter is organized as follows: Section 8.2 outlines general guidelines for donors to help ensure proposed *distributed* food aid programs in Haiti will not result in substantial production disincentive or disruption of local markets. The study provides these guidelines within a specific framework for analyzing the potential impact of distributed food aid as outlined in Chapter 2. We consider issues related to geographic targeting, seasonal targeting, household targeting, and commodity selection. Section 8.4 summarizes observations regarding current food aid distribution activities made during the June/July 2010 field visit. Section 8.5 complements these observations by reviewing evidence of the impact of distributed food aid on market through analysis of market prices. Section 8.4 and 8.6 offers recommendations for adjustments to programming.

8.2. Guidelines to Assist Donors Distributing Food Aid to Avoid Production Disincentives or Market Disruption

This section summarizes key targeting considerations for all *distributed* food aid interventions in Haiti from the perspective of market impact. Considerations include geographic targeting, seasonal targeting, household targeting, and commodity selection.

Importantly, as this study covers a broad range of activities over nearly the entire country, the findings and general guidelines offered are intended to act as general guidance only. It is imperative that donors and implementing partners conduct their own independent needs assessments, market analysis, and formative research to fully understand local conditions and the range of appropriate responses.

8.2.1. Geographic Targeting

Because of the localized nature of the impact of distributed food aid, the vulnerability of small markets to disruptions, and the sensitivity of small farmers to production disincentives, quantities of food which may appear insignificant compared to a country's total food staple consumption can nonetheless have a major impact on markets and production at the local level.

An assessment of localized food deficits is possible using the best available data on relative household food deficits in Haiti to inform geographic targeting based on proxy indicators of additionality. This analysis focuses on indicators of *chronic* food insecurity, and should be viewed as distinct from analysis of *acute* food insecurity arising from specific shocks (e.g., the January 2010 earthquake) because although the impact of specific shocks may be profound, their impacts have been fairly concentrated geographically, and require responses that go beyond long-term distributed food aid.

In determining the geographic target areas appropriate for development interventions, such as under a Title II non-emergency program, a departmental-level food security analysis was performed to determine the most chronically food insecure areas of the country, using secondary department-level data on food security indicators. Indicators include: percent of households reporting poor food consumption (an indicator of food availability and access); number of households reporting poor food consumption (an indicator of the magnitude of the food availability and access problem); poverty levels (a proxy for access); stunting rates for children under five (a measure of chronic malnutrition); and rainfall levels (as a proxy indicator of food availability).¹⁸³ The following tables illustrate the results of the analysis.

Table 39. Indicators of Food Security, by Department

| Department | % HHs with Poor FCS ¹⁸⁴ | %population under poverty line ¹⁸⁵ | Stunting (% ≤ 2 SD) ¹⁸⁶ | Rainfall (mm) ¹⁸⁷ |
|-------------|------------------------------------|---|---|------------------------------|
| West | 4 | 32 | 3.5 | 585 |
| South East | 5 | 65 | 9.3 | 585 |
| North | 12 | 67 | 8.6 | 675 |
| North East | 8 | 84 | 5.8 | 575 |
| Artibonite | 6 | 68 | 8.2 | 625 |
| Center | 3 | 61 | 12.2 | 600 |
| South | 4 | 68 | 12.2 | 725 |
| Grande Anse | 6 | 66 | 10.1 | 725 |
| North West | 12 | 70 | 7.8 | 550 |
| Nippes | 3 | 66 | 10.1 | 675 |

¹⁸³ In preparation for their MYAP, CRS conducted a similar analysis, data for which was shared with and validated by counterparts at the Famine Early Warning System Network (FEWSNET). CRS used stunting rates, average rainfall, poverty rates, literacy rates, diarrhea rates in children under five (as a measure of utilization); levels of threats to floods, hurricanes, and drought (as a measure of risk); and literacy rates (as a measure of education/human capital) as indicators of food security. A ranking of these indicators indicated that the South and Northwest were the most chronically food insecure, and appropriate for targeting of the activities planned under the current MYAP. Following their departmental-level analysis, CRS conducted a commune-level analysis to determine priority communes within the most food insecure areas using additional criteria.

¹⁸⁴ Food Consumption Scores were derived through household surveys as part of the 2007 rural CFSVA.

¹⁸⁵ HISI *Enquête sur les Conditions de Vie Haïti* (ECVH), 2003. Percentage of the population living in extreme poverty, defined as living on less than US\$1 per day.

¹⁸⁶ *Enquete Mortalite, Morbidite, et Utilisation de Services* (EMMUS) III, 2000. Stunting rates are widely regarded as the most reliable indicator of chronic food deficits since it captures availability, access and utilization. The prevalence of stunting among children under 5 should, therefore, be heavily weighted when conducting analysis to guide geographic targeting of assistance to chronic food insecure communities.

¹⁸⁷ FEWSNET average annual rainfall data 1948-2002.

The distribution of food insecurity, based on an analysis of these indicators, illustrates the inherent difficulty in using department-level data in Haiti to inform geographic targeting. Depending on which proxy for availability, access, and utilization is used, one could reasonably conclude that any of the following departments face high levels of food insecurity: North, Northwest, Northeast, South, Center, Southeast, Grand Anse, Nippes. Such department-level indicators do not capture pockets of food insecurity within each department, and therefore can act as general guidance only. It is imperative that donors and implementing partners conduct their own independent needs assessments, market analysis, and formative research -- all at a highly-localized level -- to fully understand local conditions and the range of appropriate responses.

8.2.2. Seasonal Targeting

The majority of food aid distributed in Haiti occurs via Maternal Child Health and Nutrition (MCHN), School Feeding (SF), and Food For Work (FFW) activities, many of which are supported by multiple donors and implemented by multiple NGOs/PVOs. By design, food distribution under MCHN is year-round, SF is during the school year, and FFW is intended to occur during the lean season.

While timing of ration delivery is critical for the success of all activities, from the perspective of market impact, careful timing is most critical for FFW activities. Assuming FFW activities coincide very closely each year with the lean season when domestic stocks are lowest, and staple food prices highest, it is reasonable to assume there will be little to no negative impact on production incentives or local markets. Food distributed during the lean season is more likely to be consumed (rather than sold) by beneficiaries because of shortages of household stocks combined with high market prices. The high variability of staple prices between seasons affects household income and consumption. Where food aid distribution is viewed as either a short-term and/or unreliable source of food, subsistence farmers will be less likely to adapt planting decisions in response to distributed food aid rations.

The seasonal calendar is complex in Haiti due to the variety of agro-climatic conditions and commodities grown within a relatively small geographic area. However, the main lean season for most of the crops is from April to June. The latest available livelihood profiles (2005) indicate that vegetables are the main crop harvested during the winter, though peas are harvested year-round in some parts of the country. Cereal crops such as maize and rice are mostly harvested in the summer, with the exception of millet, which is mostly a winter crop. Rice is grown in only one livelihood zone.

Table 40. Seasonal Calendar, Indicating Harvest (Surplus) Periods (S=Summer (Jun-Aug); A=Autumn (Sep-Nov); W=Winter (Dec-Feb); Sp=Spring (Mar-May))

| | Dry agro-pastoral zone | Plains under monoculture zone | Humid mountain farming zone | Agro-pastoral plateau zone | Agro-pastoral zone | Agriculture and fishing dry zone | Sea salt production zone |
|--------|------------------------|-------------------------------|-----------------------------|----------------------------|--------------------|----------------------------------|--------------------------|
| Maize | S,W | S | Sp | S,A | S,A | S,A | |
| Millet | A | | | A,W | | W | S,W |
| Rice | | S | | | | | |

| | Dry agro-pastoral zone | Plains under monoculture zone | Humid mountain farming zone | Agro-pastoral plateau zone | Agro-pastoral zone | Agriculture and fishing dry zone | Sea salt production zone |
|-------|------------------------|-------------------------------|-----------------------------|----------------------------|--------------------|----------------------------------|--------------------------|
| Beans | | W | Sp | | Sp,A,W | | |
| Peas | S,A | | Sp | W | W | W | |

Source: Compiled by author, based on USAID/FEWS NET, CNSA, USAID Haiti, CARE, CRS, SC, WV (2005), *Livelihood Profiles in Haiti, September 2005*

Informants noted that beneficiaries occasionally sell a portion of the food aid ration at the local market in exchange for more-preferred commodities or to meet non-food needs (e.g., school fees or healthcare costs). During in-country market visits and surveys, however, only small amounts of Title II commodities were found in the marketplace. The most common commodity appeared to be SFB, which was reportedly sold by FFW beneficiaries via forward contracts with Madam Saras, who arranged to collect the commodities on the day of FFW ration distribution.

Timeliness of food aid delivery is a recurrent theme in reviews of program effectiveness. A number of key informants noted problems with delayed delivery of assistance following the earthquake, with wide variance among the timeliness of food/cash distributions. Based on interviews, pipeline disruptions appear relatively minimal outside of major shocks.

Some of the factors that lead aid agencies to undertake ill-informed food aid shipments are due to problems with program *implementation* rather than program *design*. These problems include delayed food shipments, and delayed distributions due to administrative inefficiencies. While all food aid programs are subject to pipeline disruptions, ensuring adequate staffing and proper contingency planning (including possible repositioning of food aid and local procurement to meet shortfalls due to pipeline breaks) can minimize the negative impacts of poorly-timed assistance.

Given Haiti's heavy dependence on rain-fed agriculture, shortfalls of locally-produced commodities follow a strong seasonal pattern in Haiti. A recent study of the impacts of food aid on production incentives in another country context (Ethiopia)¹⁸⁸ cites the importance of conditioning food aid on *local* supply shortfalls, rather than national production figures. The authors conclude that,

...food aid produces no significant disincentive during deficit periods...[however,] food aid that arrives in the absence of a major production shortfall will depress prices. This finding underscores that, were food aid properly and efficiently planned and delivered, it would not likely threaten long-run production¹⁸⁹

While the timeliness of assistance is clearly critical from the perspective of meeting acute food security needs, the importance of timeliness of assistance cannot be overstressed for donors and implementing partners interested in long-term food security outcomes.

8.2.3. Household Targeting / Beneficiary Targeting

While acute food insecurity arising from specific shocks may temporarily alter the appropriate criteria for household/individual targeting, Title II development food aid should be tightly focused

¹⁸⁸ Tadesse and Shively, 2010.

¹⁸⁹ Tadesse and Shively, 2010, p.20

and directed to specific vulnerable groups who face chronic food security. In Haiti, these groups include:

- Pregnant and lactating mothers
- Infants and young children, particularly those under two years of age who require additional nutritional support to ensure positive long-term human capital outcomes (including education, productivity, adult wage-earning potential, and health).
- Vulnerable groups, such as orphans, and people living with HIV/AIDS or TB

Activities designed to support agricultural production and productivity, and other income-generating activities, should avoid the use of food aid rations as direct support for these activities. Instead, food aid rations should be viewed as complementary for specific vulnerable individuals within households targeted for agricultural and/or income-generating activities. In short, donors and partners should avoid sending mixed signals by simultaneously providing food aid rations while attempting to stimulate local production and productivity. Effective targeting of food insecure households, and careful timing of food aid-related activities, including ration distributions, can avoid introducing production disincentives.

8.2.4. Commodity Selection

Local diets must be considered in the selection of appropriate commodities for distribution. To avoid creating a substantial disincentive to production or disrupting local markets, the selection of commodities for distribution should be based on analysis of local market conditions, consumer preferences (particularly the strength of those preferences), and beneficiary willingness to substitute foods for one another. This study provides general guidance regarding the appropriate selection of commodities for distribution. Given the heterogeneity of livelihoods and food preferences in Haiti, and the uneven performance of food markets across the country, it is incumbent upon Title II Awardees and other NGOs involved in food distribution to develop a thorough understanding of local conditions in the areas in which they are distributing (or expect to distribute) food aid.

The most commonly-distributed commodities include cereals, pulses, and oil. Each of these is reviewed in turn.

Choice of cereal. Cereals are the staple food and main source of energy. The type of cereal Awardees should distribute depends on how important it is for the cereal ration to be self-targeting versus, for instance, how important the cereal is for nutritional support or as an asset transfer. Depending on availability, Awardees may have limited control over the selection of a specific cereal that would be most appropriate to their area of intervention. To discourage inclusion error (particularly for FFW), rations should be self-targeting. The appropriate cereal for any nutrition-focused intervention (such as PM2A, a MCHN approach) would not bear the same need for self-targeting as it would for FFW, although there may be reason to design the household ration in a PM2A to be self-targeting.

Title II options include wheat, sorghum, maize, rice, cereal flours, processed cereal grains, and soy-fortified grains. Commercial processing of whole grain cereals form a variety of food aid commodities: flour and meal, parboiled rice, bulgur wheat, soy-fortified cereal grains, soy-fortified bulgur wheat (SFB), soy-fortified wheat flour (SFWL), soy-fortified maize meal (SFCM), and soya-fortified sorghum grits (SFSG). Compared to unprocessed cereals, processed cereals are quicker to cook, more fuel efficient, and therefore preferable, given the extensive environmental degradation in Haiti.

Self-targeting implies that people want the commodity (value it as a consumable), but should only be willing to eat it if they are poor. In other words, it is a commodity which is acceptable, but not preferred. Consumption habits in Haiti are based primarily on regional production. People consume many roots and tubers in Grand'Anse and Nippes, maize and sorghum in the South, and local rice in Artibonite, for example. Plantain and tubers are consumed in the North and Northwest. People prefer to consume rice, maize, and sorghum in rural areas (particularly in production areas), and rice in urban/peri-urban areas (particularly imported rice, which is relatively less expensive following trade liberalization). Maize is consumed in both areas as a substitute for rice. Sorghum is the least preferred in both urban and rural areas, and generally consumed only by the poorest households. Bulgur wheat is considered an inferior substitute for both rice and maize in both urban and rural areas. Given the Haitian diet and consumer preferences, all of the following would be appropriate commodities to ensure self-targeting:

- Bulgur wheat
- Sorghum, particularly in urban areas, where it is considered a less-preferred cereal

Conversely, all of the following would *not* be appropriate commodities to ensure self-targeting:

- Title II rice (a good quality rice)
- Title II maize

Choice of pulses. Due to the relatively low level of livestock and fish consumption, pulses represent a particularly important component of the Haitian diet, representing approximately 20 percent of the protein requirement.¹⁹⁰

The pulse(s) Awardees should distribute depends on how important it is for the cereal ration to be self-targeting versus, for instance, nutritional support. Depending on availability, Awardees may have limited choice in selecting a specific pulse that would be most appropriate to their area of intervention. As with cereals, to discourage inclusion error (particularly for FFW), rations should be self-targeting. The appropriate pulse(s) for any nutrition-focused intervention (such as PM2A, a MCHN approach) would not bear the same need for self-targeting, as it would for FFW, although there may be reason to design the household ration in a PM2A program to be self-targeting.

¹⁹⁰ FAO 1995

In Haiti, local red beans are preferred to local black beans, and local black beans are preferred over imported pinto beans.

Choice of oil. Barring local procurement of a different type of imported edible oil, Awardees do not have control over the type of oil for distribution.¹⁹¹ However, Awardees can adjust the amount of oil to include in the ration. To discourage inclusion error, the overall ration should be self-targeting (i.e., the overall value and the individual components of the ration should be self-targeting).

As discussed in greater detail in Chapters 5 and 9, there is no domestic production of edible oil in Haiti. There are two large importers of oil, who package and distribute both palm oil and various vegetable oils, and many smaller importers. Demand and supply conditions within local market catchment areas will influence whether distributed oil has a depressing effect on prices, thereby disrupting the private sector oil trade.

Based on the apparent high degree of substitutability among the many varieties of edible oil available on the market (especially soybean oil and palm oil), consumer preferences appear relatively weak. This may suggest that distributed Title II vegetable oil has a greater potential to displace normal market purchases, as compared to a commodity with no close substitute. The study team is unaware of any studies reporting the income elasticity of edible oil in Haiti and, unfortunately, there are no data available to estimate the price elasticity of oil.¹⁹² However, the fact that imports increased from 2002-2004 while oil prices were increasing suggests an inelastic demand curve for oils. As prices fell from 2004 -2006, import levels remained relatively steady, again suggesting inelastic demand for oils. However, price changes in palm oil prices lead to significant shifts in the composition of total oil imports. This suggests that perhaps the oil requirement is relatively fixed, but the demand for palm oil is price sensitive.

Alternative commodities, particularly locally-procured commodities, may be available and suitable for distribution under a nutrition-focused intervention. To encourage adoption of nutritious dietary habits among vulnerable groups (especially among PLW and children under five), and to increase the likelihood of sustainability, donors and NGOs should consider incorporating locally-available commodities such as avocados, mangos, plantains (dense in energy), root tubers, and dried fish into programming. Inclusion of local foods will have the added benefit of stimulating the local economy. Title II Non-Emergency Program partners already encourage the formation of Mothers Clubs as a forum for health and nutrition education. Also, some form of PD Hearth will increase the likelihood of adoption and

¹⁹¹ There could be an issue importing GMO-oil from the US, and this conflicting with the GOE Bio-Safety Proclamation of 2009

¹⁹² Considering data from 1995-2009, as the wedge between the world price of soybean oil and the world price of palm oil increased starting in 2002, commercial imports of palm oil dramatically increased, and overtook declining soybean oil imports almost immediately after the price divergence. Total oil imports in 2003-2006 increased to about 160 percent of their 2001 level (which was itself somewhat high), during which period of the world of both oils rose nearly 67 percent, peaking in the latter half of 2003, and settling from 2005 to 2009 at about 1.16 times their 1999-2002 level. While price of soybean oil was quite stable between 2005 and 2009, the price of palm oil was more volatile. During this period, as the price of palm oil increased, approaching the price of soybean oil in late 2006, soybean oil imports increased, while palm oil imports decreased. Though soybean oil prices remained flat, when the price of palm oil began to drop again in early 2007, soybean oil imports rapidly declined as the rate of decline in palm oils substantially subsided. These decisions of commercial importers suggest that palm oil is a less preferred substitute for soybean oil.

sustainability and, over time, reduce the dependence of vulnerable groups on imported foods to meet critical nutritional needs.

Calculating Household Size for Rations. The study team was unable to determine the average household size by either wealth group or department based on secondary data. The 2007 CFSVA reports average household size by livelihood zone, which ranges between 4.4 and 5.7.

For the practical purpose of calculating household sizes and adequate food needs, WFP provides rations based on a household size of five. Based on available data, current programs appear to be designed so that the ration size will not exceed the needs of the household, lessening the chance that food would be resold.

8.3. Activity Types

This section outlines key considerations when choosing between a market-based response to food insecurity versus direct distribution of food aid. Basic considerations for three food distribution activities are outlined: FFW, FFE, and PM2A.

Market-Based Response versus Direct Distribution. Broadly speaking, market-based responses are most appropriate when food access rather than food availability is the underlying cause of food insecurity within a community. Where food is available, market-based responses such as Cash For Work, vouchers (food stamps), or subsidized sales of select food commodities, can help to meet both immediate food security needs, and support the longer-term development of the private sector which is so critical to sustainable improvements in food security at the community level.

When access, as opposed to availability, is the constraint, vouchers (food stamps) can be an appropriate method of improving consumer access while helping to stimulate local markets. Vouchers improve consumer access to a specified range of commodities and support traders in supplying these commodities. Vouchers give beneficiaries some flexibility in choosing the types of food they can purchase, and may also give beneficiaries a choice between purchasing food and necessary non-food items, such as soap.

While vouchers are certainly appropriate in Haiti's urban centers, whether vouchers would be both *feasible* and successful would be highly dependent on the capacity of implementing partners to design such a program, undertake the necessary social marketing, and manage a voucher program which would be free from the threat of counterfeit vouchers.

CFW is one market-based response that can effectively support household access to food and support local market development. In contrast to FFW, CFW should generally be timed to coincide with the harvest season, when marketed food supplies are abundant, and producers and traders are in need of a market for their goods. In urban areas, or in markets where food availability is less seasonal because of availability of imported foodstuffs, this is less true. Depending on the activity, CFW can be more cost-effective in meeting food security needs than in-kind distributed food aid.

Direct Distribution of Food Aid. This section outlines the basic considerations for three food distribution activities: FFW, FFE, and PM2A. These three activities are highlighted because they are among the most popular activities in Haiti across the major donors.

8.3.1. Food For Work (FFW)

The intent of FFW is to create food-wage employment during the hunger period when rural unemployment increases. The rise in unemployment results in lower rural incomes at precisely the time of year when staple prices tend to spike because of food shortages in local markets.

FFW activities will vary, but often involve construction and maintenance of productive community assets. Wage payments are generally made in-kind, as food rations rather than cash. If designed correctly, this practice can stabilize the price of staples in the market and improve food consumption and nutrition of participating households. If designed and implemented appropriately, FFW can also increase productivity on semi-subsistence farms.¹⁹³

To encourage self-targeting, the income transfer value of the ration should be set at slightly less than the prevailing rural wage and include slightly less-preferred food aid commodities. If the value of the FFW ration is too high, it can disrupt local labor markets by attracting more laborers and potentially not benefitting the neediest individuals, i.e., women and families. Inclusion of a food used commonly in child feeding may also help in self-targeting women.

Timing of food distribution is critical. FFW commodity distribution will be less disruptive if distributed during the lean season rather than during the harvest season. During the lean period, rural households, especially the poorest, have little reserves of food from markets because of high prices. By carefully timing FFW activities to coincide with the lean season, FFW will maximize food security impact. As noted above, the seasonal calendar is complex in Haiti due to the variety of agro-climatic conditions and commodities grown within a relatively small geographic area. However, the main lean season for most of the crops is from April to June.

As mentioned earlier, the harvesting seasons in Haiti differ for different crops: vegetables are the main crop harvested during the winter, though peas are harvested year-round in some parts of the country. Cereal crops such as maize and rice are mostly harvested in the summer, with the exception of millet, which is mostly a winter crop. The prices of most grains, including wheat grain, wheat flour, imported rice, imported maize, local maize, and sorghum, tend to decline after the main summer harvest. The only exception to this seasonal variation is the price of local rice, which tends to be fairly stable throughout the year. See the Food Security Annex (Annex III) for further details.

There must be sufficient supervisory capacity for any proposed FFW activities to minimize possible leakages. Where warranted and possible, FFW should target female-headed households, as recent evidence suggests female-headed households are more vulnerable.

¹⁹³ Abdulai, A., C. B. Barrett, and J. Hoddinott. 2005. "Does food aid really have disincentive effects? New evidence from sub-Saharan Africa." *World Development* 33:10.

Prior to such targeting, Awardees should investigate the availability of female labor during the typical lean periods to ensure women could participate effectively in such gender-targeted FFW activities.

For further guidance on the appropriate design of FFW activities, please see USAID's Commodities Reference Guide, accessible via http://www.usaid.gov/our_work/humanitarian_assistance/ffp/crg/module2.html

8.3.2. School Feeding (SF)

School feeding (SF), (aka Food For Education, or FFE), activities are designed to provide food supplements to school-age children and increase school attendance. By increasing school attendance, SF can enhance productivity, increase incomes, and result in greater gender equity.

Because free meals at school represent an income transfer to the student's household, SF can make it feasible for families to send their children to school. In some SF programs, take-home rations are provided and act as an additional contribution to household access to food.

Key considerations to ensure Bellmon compliance of proposed SF programs include:¹⁹⁴

- Geographic targeting of food insecure areas.
- Sufficient supervisory capacity for any proposed SF activities to minimize possible leakages.
- ~~Wet~~ meals, or meals served in the school, will help ensure food rations are consumed by the intended beneficiary, the student.

Take-home rations can act as an effective incentive to promote school attendance, particularly of girls, by partially compensating poor households for the lost income or the time children would normally have spent working at home during school hours.

Awardees should determine whether or not take-home rations are appropriate to ensure school-based meals are not substituting for home consumption, but are in fact additional consumption.

For further guidance on the appropriate design of SF activities, please see USAID's Commodities Reference Guide, accessible via http://www.usaid.gov/our_work/humanitarian_assistance/ffp/crg/module3.html

8.3.3. Prevention of Malnutrition in Children Under Two Approach (PM2A)

Current Title II Non-Emergency Program partners are implementing a Prevention of Malnutrition in Children Under Two Approach (PM2A) for their MCHN programming. PM2A presents both

¹⁹⁴ For additional USAID Food for Peace information about FFE guidance, please see Fiscal Year 2010: Title II Proposal Guidance and Program Policies Draft Date: August 2009. For additional information about FFE programming objectives, please see Bergeron, Gilles and Joy Miller Del Rosso. 2001. "Food For Education Indicator Guide". Washington DC: Food and Nutrition Technical Assistance Project, AED. For a review of the effectiveness of FFE interventions, see Adelman, S., D. Gilligan and K. Lehrer. 2008. "How Effective are Food for Education Programs? A Critical Assessment of the Evidence from Developing Countries," International Food Policy Research Institute Food Policy Review 9, accessible via: <http://www.ifpri.org/sites/default/files/publications/pv09.pdf>

an opportunity for long-term human capital investment and a unique challenge to avoid disincentives in the short-to-medium term. While the traditional recuperative approach targets children who are already malnourished and may have severe, irreversible physical and cognitive damage, PM2A provides food aid to all children between the ages of 6 to 24 months and within a target geographic area. As with the traditional recuperative nutrition approach, the PM2A also targets pregnant and lactating women with Behavior Change Communication (BCC), preventive health care, and food supplementation. Because the key PM2A targeting criteria are based on a child's age and a women's physiological status, rather than on an estimated household food deficit, distributed rations under PM2A activities have greater potential to provide food aid to households for whom the food aid would not represent additional consumption. Initial geographic targeting of areas with a greater proportion of food deficit households, as identified by secondary sources prior to program implementation, will help avoid disruption of local production and markets.

To assess the relative absorptive capacity of food aid on a sub-national basis in Haiti, thereby providing Bellmon guidance on the appropriate magnitude of distributed food aid under a PM2A activity, this report relies on three proxy indicators of additionality: poor Food Consumption Score, rates of extreme poverty, and prevalence of chronic malnutrition of children under five years of age.

Poor Food Consumption Scores (FCS), rates of poverty, and prevalence of stunting in children under five years old are not quantitative measures of a current household food gap, which could then be compared with the ration under the proposed food aid program to determine to what degree the "food gap" might be filled (or potentially overfilled) under the program. All three, however, (particularly taken together) provide strong indications of chronic household food deficits and are reasonable proxy indicators of the probability that food aid rations would represent additional food consumption.

By geographically targeting areas with a high prevalence of households with poor FCS, high rates of extreme poverty, and high prevalence of chronically malnourished children, a PM2A activity will help ensure that any given beneficiary household will more than likely increase overall household food consumption, relative to households in other geographic areas with lower percentages of households with poor FCS, lower rates of extreme poverty, and lower rates of malnutrition among children under age five.

In accordance with formative research on the underlying causes of early childhood malnutrition, PM2A activity guidance includes BCC messages and a suite of health and nutrition-related services. By delivering the food ration as part of a carefully-designed package of MCHN interventions custom-tailored to beneficiary communities, a PM2A program will further increase the likelihood that direct beneficiaries will consume the entire food ration, which will simultaneously maximize nutritional impact and minimize any potential Bellmon concerns.

8.4. Observations Regarding Current Food Aid Distributions

This study was not intended to evaluate current food aid programming, but may nonetheless be instructive for future food aid programming. During the field visits in June/July 2010, the following general observations were made regarding current food aid distributions:

First, it is important to emphasize that large-scale earthquake-related food aid/assistance was necessary and justified due to:

1. Transport constraints in bringing food from rural areas to Port-au-Prince and the immediate environs;
2. The massive flow of IDPs from earthquake-affected areas out to provinces, which increased the burden on households in rural areas, in many cases doubling the average household size from five to 10 members, thereby vastly increasing the dependency ratio;
3. Seeds that would normally be saved for next season's planting had to be consumed because of the increased dependency ratio. This will have a negative impact on next season's harvest that can only be ameliorated through provision of food aid to households hosting IDPs, and provision of agricultural inputs (seeds in particular);
4. Large percentage of depots in Port-au-Prince and the immediate environs were damaged, which resulted in loss of stock that had been available on the day of earthquake;
5. Because the port in Port-au-Prince was heavily damaged, it was very difficult, and in some cases impossible, for importers to access replacement stocks, or additional stocks as the weeks passed;
6. For six to eight weeks following the earthquake, there was no security in the streets to protect the stocks that were still present. Widespread reports of insecurity in Croix-des-Bossales forced wholesalers and retailers to avoid bringing goods to market.

Seven months after the earthquake, there is widespread agreement among stakeholders that distributed food aid is a "catch-22." It is imperative that donors strike a careful and thoughtful balance between: 1) meeting immediate needs through imported distributed food aid and 2) longer-term investment strategies which increase Haiti's domestic production and resiliency to future shocks. Though this issue of balance is always crucial, the current spotlight on recovery efforts in Haiti makes it particularly important.

Needs Assessments. Strategies for medium- and long-term development begin with careful assessments of needs.

As discussed in Chapter 3, the lack of production data in Haiti makes it impossible to estimate a national cereal balance sheet, which is a natural first step in estimating food supply deficits. The important, and unexplained, paradox one sees in Haiti -- much lower levels of malnutrition than one would expect given the high incidence of poverty -- may in part be explained by this

lack of production data coupled with insufficient consumption and expenditure data, which may have led to an overestimate of the average level of household food deficits.

The joint FAO/WFP/MARNDR Crop and Food Security Assessment Mission (CFSAM), last conducted in 2007, provides the best national baseline of needs. A picture of relative need across regions and departments can be developed from this rich set of indicators, as well as targeting criteria for households and individuals.

As mentioned earlier, current and potential future Title II Non-Emergency Program Awardees are expected to conduct their own independent needs assessments, market analysis, and formative research to fully understand local conditions and the range of appropriate responses. Nonetheless, the lack of available data is further complicated by uneven efforts of NGOs and PVOs to conduct needs assessments in Haiti.

Title II Non-Emergency Program Awardees (ACDI/VOCA, CRS, WV) all undertook baselines in 2008 to guide current programming, and produced high-quality, carefully-designed surveys with transparent methodologies. The three partners enlisted the assistance of an independent team of professionals with extensive survey design and M&E experience. This is the type of practice which should be emulated by other NGOs and PVOs.¹⁹⁵ Through its Vulnerability and Mapping Analysis (VAM) Unit, WFP consistently produces the highest-quality needs assessments using well-designed surveys with transparent methodologies. The most recent national survey is the 2007 rural CFSVA. The most recent Emergency Food Security Assessment (EFSA) in the earthquake-affected areas was a joint effort led by the *Coordination Nationale de la Sécurité Alimentaire* (CNSA), with FAO, FEWS NET, *Action contre le faim* (ACF), OXFAM, and WFP participation.

Unfortunately, there are indications that other NGOs and PVOs have undertaken surveys with improper and/or opaque methodologies, making it impossible to interpret their 'findings'. Some of these survey results have been posted on the One Response website, which is an excellent clearinghouse for this type of information and data. However, these posted inaccuracies can confuse stakeholders and potentially lead to inappropriate targeting of assistance, which can then negatively impact the market.

During the field visit, the team interviewed a number of church-based volunteers, many of whom recounted their PVO's method of targeting. Many were providing food aid, often bringing in containers or even suitcases full of food and non-food items. Distribution was often at clinics and schools. When the team inquired about the type of needs assessments that had been conducted, and how targeting criteria had been established, more often than not, the answer was "none"; well-intentioned individuals and small groups simply assumed that since the country is poor, every person they might assist must also be among the poorest and unable to access food and medicines without outside assistance. While this may be true on average, the lack of control over activities undertaken by people who are well-intentioned but have very little

¹⁹⁵ CRS employed a methodology for guiding geographic targeting which is among the most refined this study team has encountered in its studies across sixteen countries. All three Awardees used progressive methodologies developed in consultation with the FANTA-2 team.

to no understanding of the complexities of Haitian society and gradations of need is undoubtedly resulting in a certain level of inappropriate targeting of food aid.¹⁹⁶

Geographic Targeting. As noted above, the current Title II Non-Emergency Program Awardees conducted baselines prior to the start of their programming. However, based on indicators examined in this report, the departments with the greatest level of need are currently not covered by any Title II activities. Of course, there are other considerations for placement of Title II activities; still, it is recommended that donors look to the neediest areas (the North and Northwest and Northeast departments) for future programming.

Following its Development Activity Program (DAP), CRS chose to decrease the breadth and increase the depth of its coverage by narrowing the geographic target area for its Title II Non-Emergency Program to highly food insecure, environmentally-fragile watersheds.

Seasonal Targeting. Findings from the study team's field visit were mixed. While one current partner (ACDI/VOCA) reports they make an appropriate switch from CFW to FFW, WV indicates that although they realize a split CFW/FFW approach would be more appropriate, they are currently involved only in FFW and do not believe USAID will fund CFW. WV representatives in Hinche report that FFW beneficiaries often sell the SFB they receive in the FFW ration to meet cash needs.

Household Targeting / Beneficiary Targeting. As evidenced by the mid-term evaluation of current Title II Non-Emergency Program activities, Awardees have highly-developed targeting criteria intended to boost agricultural production and productivity, and support market linkages, while providing food assistance to the vulnerable groups outlined above. Targeting of these activities appears to be effective.

Targeting of other activities, particularly CFW and FFW, has reportedly suffered from some interference by local officials who have used the opportunity to favor political supporters, or increase political support in anticipation of upcoming elections.

Commodity selection.

- Cereals: Title II Non-Emergency Program Awardees have been distributing CSB/WSB for MCHN and FFE, and soy-fortified bulgur for FFW. The study team is concerned about reports of self-monetized SFB, particularly associated with FFW, and will be conducting a test of bulgur wheat samples from several local markets to determine if indeed it is soy-fortified bulgur. The study team also noted leakage of Title II CSB in Gonaives (about 25 sacks), and heard reports from CRS that beneficiaries occasionally self-monetize CSB (though not WSB) to meet cash needs in the South.

¹⁹⁶ One interviewee proudly recounted how her church group was providing imported food aid to needy school children at a Port-au-Prince school. The team was surprised to learn that the instruction at this school was in English. The young woman explained that many of the children had Haitian-born parents who lived in Florida and wanted their children to receive instruction in English, rather than Creole or French. Given that the parents of these schoolchildren had a choice to send their children to public schools in the U.S., but chose instead to enroll their children in a church-based school in Haiti which received international assistance suggests that these children may not be the neediest. This interviewee's type of story was not unusual, and seriously calls into question whether these well-intentioned groups are reaching the truly neediest.

- Pulses: Title II Non-Emergency Program Awardees have been distributing mostly green peas and yellow split peas in recent years and visits to the field by the study team noted general acceptance of this pulse. Interviews during the field visit also suggest that self-monetization of the pulses distributed rarely, if ever, occurs.
- Oil: As part of the ration, Title II Non-Emergency Program Awardees and WFP have been distributing, on average, the following quantities of vegetable oil per person per month:
 - MCHN: 1,660 grams
 - FFW: 170 grams

Based on 12 months of participation, beneficiaries receive the following quantities of vegetable oil during a single year:

- MCHN: 20 kg
- FFW: 2 kg

Unfortunately, the most recent income and expenditure survey does not report the average consumption per person per year. Therefore, it is not possible for the study team to evaluate whether the above volumes are reasonable given normal consumption patterns. Donors and NGOs should evaluate local consumption patterns to determine if a smaller volume of distributed oil would be appropriate. Interviews during the field visit suggest that self-monetization of vegetable oil occasionally occurs, and is often dependent on cash needs of individual families. This may reflect either (1) FFP oil represents an asset transfer over and above its value as food, or (2) the amount of oil included in the current ration is larger than the amount current beneficiaries would consume regardless of its asset transfer value. However, during the field visit, only a negligible amount of USAID vegetable oil was seen (a few cans for sale at a small wholesaler in Violet).

Market-Based Response versus Direct Distribution. Among the possible market-based responses, the study team found no evidence of the existence of either voucher programs or market assistance programs in Haiti. Unconditional cash transfers to earthquake-affected households, intended to assist households rebuild livelihoods (repay debts, re-stock goods for trading, etc.) were evident, particularly in the most heavily-impacted areas. No problems were reported by any interviewees. After the field trip, the Food For Peace office provided a grant under the Emergence Food Security Program (EFSP) for cash and food vouchers. A US\$35 million grant was given to WFP to fund the cash component of WFP's Cash and Food-for-Work program and a US\$12.5 million grant to Mercy Corp to provide food vouchers that are redeemable by vendors in local market places.

The biggest challenge for donors who are currently funding, or considering funding, Cash For Work activities surrounds the use of CFW for rubble removal. Among USAID CFW partners, an estimated 60 percent of the typical partner's budget is allocated to transport and 20 percent to administrative costs, leaving only 20 percent to supporting livelihoods through CFW

payments.¹⁹⁷ The allocation of costs is likely quite similar across donors supporting CFW activities. The result is that livelihoods are not being supported in an efficient manner, and rubble is being removed, by the shovelful, too slowly to have any real impact on livelihoods.

The greatest challenge for SF activities is that only approximately 10 percent of schools are public, which requires that SF implementing partners work through private and parochial schools. Importantly, it appears there is insufficient monitoring to assess whether SF is actually having an impact on attendance rates.

Dependency. The recent mid-term evaluation of the current Title II Title II Non-Emergency Programs highlights the need to reduce dependency by introducing greater conditionality into activities involving distributed food aid and transfer of assets. The mid-term evaluation team noted that two of the three Title II Non-Emergency Program Awardees,

"operate the MCHN component more as large relief and welfare distribution agencies (free services) than as organizations seeking to help households and communities to develop the skills and whereabouts to sustainably support themselves and build their futures" (p.5)¹⁹⁸

In reviewing approaches to asset transfers, the mid-term evaluation notes that FFW and CFW activities may be creating a production disincentive, or reducing the incentive to engage in entrepreneurial activities.¹⁹⁹ While the study team inquired about the impact of distributed food aid (both cash and in-kind) on labor supply, findings were inconclusive. Title II Non-Emergency Program Awardees, and other NGOs involved in distributed food aid are urged to study the issues of dependency and the potential impact on labor supply, however, since the sustainability of efforts to improve food security are intimately linked to creating incentives for households to engage in private sector activities as NGOs withdraw from the provision of aid over time.

Lack of Coordination/Accountability. With an estimated 10,000 NGOs/PVOs operating in Haiti at present, many key informants describe the situation as chaotic. There is a strong sense that "everyone and no one is in charge." The weakness of the GOH, and its low capacity to regulate or otherwise enforce coordination among the NGOs contributes greatly to the lack of accountability among NGOs in the field. With so many actors trying to push for their piece of the project/budget -- many of them new and inexperienced in Haiti --there is no unifying pull of leadership, and no clear delineation of responsibilities. This is particularly evident in CFW activities, where a lack of standardization in wages, working conditions, and enforcement of safety regulations is pervasive, despite the recent GOH-issued regulations meant to harmonize and standardize CFW activities.

Similar to most post-earthquake food distribution, CFW activities suffer from a lack of quality reporting. Though larger partners with more at stake tend to do a better job at reporting, there is no clear record of numbers of laborers and other performance indicators. It is impossible at this time to know just how much cash is being injected into the economy via CFW activities, and

¹⁹⁷ Personal communication, OFDA representative, June 2010.

¹⁹⁸ Executive summary of Title II MYAP Mid-Term Evaluation, 2010

¹⁹⁹ See discussion about the creation and training of "groups of farmers" in executive summary of Title II Title II Non-Emergency Program Mid-Term Evaluation, 2010, p. 12.

therefore, it is impossible to estimate the inflationary impact of that cash programming. There is an urgent need for coordination.

Evidence of Corruption. The World Bank's Doing Business study ranked Haiti 151 out of 183 economies for doing business, indicating that the regulatory environment for entrepreneurs is difficult to operate in.²⁰⁰ Transparency International's latest corruption perception index from 2009 ranks Haiti as 168 out of 180, indicating that corruption with the public sector is perceived as very high.²⁰¹ This clearly makes for a particularly challenging environment for any donor or NGO to implement programs which involve the transfer of assets -- assets which have both monetary value and political value -- without manipulation or attempted manipulation by non-beneficiaries.

The team heard innumerable accounts of corruption throughout the food distribution network, though evidence was difficult to corroborate, even when it came from reliable sources (e.g., customs officials at the border). Several reliable key informants noted that UNDP's CFW program suffers from corruption, though the team has not yet been able to substantiate this claim.

Evidence of Leakage. During fieldwork, the team noted select food aid commodities for sale in a small number of markets. The team witnessed small amounts of food aid for sale in Croix-des-Bossales (bulgur wheat and CSB), Gonaives (bulgur wheat and CSB), and La Vallée (six sachets of Plumpynut). Given the scale of the emergency response to the earthquake, and the overwhelming cash needs of earthquake-affected households, the amounts for sale in markets are reasonably considered negligible.

8.5. Impact of Distributed Food Aid on Market Prices in Earthquake-Affected Areas

The section above discussed evidence of leakage via poor targeting, overlapping of coverage, corruption, and self-monetization, all of which, in theory, can have a negative impact on local markets. Whether these inclusion errors will negatively impact markets depends on complex factors influencing market prices, which are an important signal to producers and traders. Chapters 5 and 6 discuss the SCP of markets and price formation. Here, and in Annex III, we examine evidence of market impact based on available price data.

Reports of the impact of the earthquake and food aid distributions have produced some counterintuitive findings. Unfortunately, the absence of data has required analysts to rely on incomplete information from which to draw conclusions. Certain adjustments (e.g., to account for seasonality and/or inflation, or simply a disaggregation of the data) may provide insights into price movements.

In its early April 2010 Rapid Market Analysis, WFP reported that staple food prices increased immediately following the earthquake, but had restabilized at a level on average 25 percent

²⁰⁰ <http://www.doingbusiness.org/ExploreEconomies/?economyid=85>

²⁰¹ http://www.transparency.org/policy_research/surveys_indices/cpi/2009/cpi_2009_table

higher than before the earthquake. The study team's price analysis through July 2010 also reveals that prices of all commodities rapidly increased following the earthquake; however, for the time period not immediately following the earthquake, changes in price varied across commodities to the extent that the study team does not feel an overall average of all staple food commodities is appropriate. This report notes that by April, there were *some* lingering effects (higher price levels) in the medium-term for *certain* commodities in *certain* markets. Furthermore, the increased prices of some commodities in the medium-term were largely due to usual seasonal trends. For example, the March 2010 Jacmel price for local maize increased by 20 percent, respectively, from its January 2010 levels. Though it would be easy to attribute the whole of this price increase to the earthquake, this increase is actually lower than the increase during the same time period of 2007. In 2007, Jacmel's local maize price increased by 25 percent from January to March.²⁰² Thus, though price fluctuations can be accredited in part to physical and economic shocks, seasonal trends among specific commodities should also be considered in individual price movements. Presenting an average food price among all commodities can therefore be deceptive, particularly when prices move in different directions according to different commodities and seasonality is not captured.

Although markets are fairly well-integrated, the market for imported goods appears better integrated than the market for local goods. Thus, while the impact of a price change for imported rice is more likely to be transmitted across markets, the impact of a price change for local commodities (local rice or local beans, for example) is less likely to be transmitted across space. The shift from general food distribution to more targeted food distribution in earthquake-affected areas as of mid-April, and the recent increase in cash-based activities, may increase demand on the markets and lead to an increase in food prices. To the extent to which any price increases are transmitted across space and time, however, will depend on the specific commodity in question, as well as the specific market.

Contrary to the April 2010 FEWS NET Executive Brief, which found that the volume of food aid distributed in Haiti by actors *other than* WFP and Title II Non-Emergency Program partners was relatively small, this study team found that the volume of distributed food aid since the earthquake has been significant. Import data from January to mid-June 2010 indicate that many individual humanitarian actors have imported food during this six-month period. The largest player has been Food for the Poor, which has imported over 7,700 MT of rice in the period mid-January to mid-June 2010.

FEWS NET's February Food Security Update reported that the earthquake immediately brought down the market demand for food, principally due to decreased purchasing power attributed to the loss of assets and employment opportunities, but also due to food aid general distributions in earthquake-affected areas. The report also concluded that two factors may have caused a contraction in supply immediately following the earthquake: 1) civil insecurity, which has led to an increase in marketing costs, and 2) importers' uncertainty regarding future market demand and planned food aid deliveries. Our findings corroborate the impact of a loss of purchasing power on demand, as well as the effects of civil insecurity. While importers' uncertainty

²⁰² CNSA/FEWSNET, 2010

regarding planned food aid deliveries may have contributed to a contraction in supply, the destruction of the port and warehouses were also important factors affecting supply. Some six months after the earthquake, the uncertainty of future market demand remains, with even the most savvy market players uncertain about the relative influence of factors behind the decline in demand.

For more in-depth price analysis, please see Annex III.

8.6. Conclusion

Food insecurity in Haiti is not caused by the lack of food availability. Clearly, the private market has the capacity to meet localized food deficits. However, this availability is heavily dependent on imported foods, prices for which are subject to fluctuations in global food prices and, more importantly in Haiti's case, to manipulation by the oligopolistic firms that control an estimated 80 percent of Haiti's marketed food supply. Based on available evidence, these firms engage in rent-seeking behavior which results in unfair market prices for consumers.

These characteristics of the Haitian food supply create an access issue among average Haitians -- an estimated two-thirds whom are unemployed, 50 percent of whom lived on less than US\$1 per day prior to the earthquake. At first blush, the availability of food, combined with the lack of consumer purchasing power, suggests that increasing poor households' income and therefore access to food is the logical answer. However, the structure of the Haitian food market, dominated by a handful of importers who collude to fix prices, is not conducive to long-term food security through increasing incomes alone. Longer-term solutions to reducing food insecurity will require reducing the dependence of the poor on the market in its current structure. This entails: 1) stimulating local production and linking local producers to markets so they can compete with imported goods, while simultaneously 2) increasing incomes so that people can purchase from the least expensive food source -- which may often be importers but, over time, should be local producers.

While the longer-term solutions to enhancing market performance and improved food security will depend on overall investment in agriculture, infrastructure, and development of income-generating opportunities, in the near-term, continued cash and in-kind support will be necessary to ensure basic needs are met in the short- and medium-term.

Chapter 9. Monetization Analysis

9.1. Introduction

The goal of monetization is not only to fund development programs²⁰³, but also to “promote low cost, competitive food markets by encouraging investment in transportation, infrastructure and human capital (traders, entrepreneurs),” through the distribution of the monetized product.²⁰⁴ Challenges to monetization abound to the point that some NGOs no longer want to participate in monetization activities. Monetization requires substantial knowledge of local markets and extensive management capacity, and is inherently risky -- from procurement and shipping risks, to commodity-related financial trade risks, to potentially impacting local markets in negative ways.

This chapter is meant to inform USAID in its determination of the appropriateness of monetization in Haiti during FY11. It covers four critical areas of inquiry:

1. How appropriate is monetization for Haiti during FY11?
2. If monetization is appropriate during this period, which commodities are the most appropriate to monetize?
3. What is the approximate maximum tonnage feasible for monetization for each commodity?
4. Are there special consideration (e.g. sales platform or timing of sales) that should be taken into account when considering/undertaking monetization in Haiti?

The content of this analysis is broken into three core sections: initial commodity selection, commodity-specific market analysis, and monetization recommendation.

9.2. Initial Commodity Selection

The BEST study team performed a desk review to identify an initial set of commodities for study in this report. The selection is based on available trade statistics, previous Bellmon studies, review of other relevant country reports, and interviews with key informants during a June/July

²⁰³ According to the “GRS Report for Congress: Agriculture: A Glossary of Terms, Programs and Laws 2005 Edition” Monetization, --- A P.L 480 provision (section 203) first included in the Food Security Act of 1985 (P.L. 99-198) that allows private voluntary organizations and cooperatives to sell a percentage of donated P.L. 480 commodities in the recipient country or in countries in the same region. Under section 203, private voluntary organizations or cooperatives are permitted to sell (i.e. monetize) for local currencies or dollars an amount of commodities equal to or less than 15 percent of the total amount of the commodities distributed in any fiscal year in a country. The currency generated by these sales can then be used: to finance international transportation. Storage or distribution of commodities; to implement development projects; or to invest and with the interest earned used to finance distribution costs of projects.

²⁰⁴ USAID 1998 Monetization Field Manual

2010 field visit. For the purpose of this study, a commodity selection for review and possible recommendation followed six “tests”:

1. Eligibility for export from the US;²⁰⁵
2. Eligibility for import to Haiti;
3. Significance of domestic demand;²⁰⁶
4. Domestic supply shortfalls are filled through commercial imports and food aid;
5. Presence of adequate competition for the commodities; and
6. Expectations that fair market prices can be achieved.²⁰⁷

Test 1: Eligibility for export from the US. All the commodities discussed in this report are in the FFP import list.

All of the commodities above are imported in Haiti commercially, making them eligible for further consideration in this report. This market analysis therefore considers rice, wheat, wheat flour, vegetable oil (palm, soybean), beans, and maize flour as potential candidates for monetization in FY11.

Test 2: Eligibility for Import. None of the commodities discussed in this report are specifically barred from import into Haiti.

Test 3: Significance of Domestic Demand. To warrant importation and sale of monetized food aid, both local dietary preferences and available market information must strongly suggest that a commodity is consumed in significant amounts (i.e., there is significant demand), and that national production is insufficient to meet the demand (i.e., there is insufficient national supply to meet demand). National demand is estimated based on the latest five-year overall supply trends, equivalent to the sum of domestic production and net trade. One common rule of thumb, which we adapt for the present analysis, is that monetized food aid should not exceed five percent of domestic production and/or 10 percent of average yearly commercial import volumes. Based on the value of the average imports of the last five years, the table below lists the 12 food products with five-year average import values of greater than US\$5 million and which also appear on the FFP list of products eligible for monetization during FY11.

²⁰⁵ This “test” implies that it is also on the FFP list of approved commodities for monetization

²⁰⁶ This threshold is set in the following way: Average import levels for the past five years must be greater than US\$5 million and a regular portion of these volumes must be commercial imports. A threshold is set to ensure efficiencies in the funding of Awardee programs.

²⁰⁷ Implicit in the above six bullets is that the destination market must be able to absorb the volume of monetized commodity in question without “substantial” disruption. Recent precedent follows a ten percent rule--- that is; “substantial” disruption to the market is assumed not to occur below a threshold of either 10 percent of commercial imports or 5 percent of the domestic production of any particular commodity. We will follow this convention throughout this analysis.

Table 41. Average Import Volume for Selected Commodities

| Commodity | Average Value (\$000) of Imports | Commercial imports? |
|----------------------|----------------------------------|---------------------|
| Rice, Milled | 876,463 | Yes |
| Wheat | 287,576 | Yes |
| Wheat flour | 114,752 | Yes |
| Soybean Oil | 111,794 | Yes |
| Dried beans | 68,620 | Yes |
| Maize flour | 46,944 | Yes |
| Rice, husked (brown) | 43,733 | Yes |
| Rice, broken | 41,700 | Yes |
| Black beans | 19,830 | Yes |
| Red beans | 6,513 | Yes |
| Kidney beans | 6,430 | Yes |

Source: Comtrade

The table below summarizes each of the first four tests. The remainder of the analysis will assess the ability of local markets to absorb rice, wheat, wheat flour, vegetable oil, and maize flour, as these are the only commodities that passed the first four tests. If it is determined that local markets are able to absorb these commodities, the analysis will continue to recommend volumes for monetization. Local markets' absorption abilities, as well as recommended volumes, will stem from critical analysis of market competition (which must be adequate, according to test 5) and prices (which must be fair, according to test 6).

Table 42. Initial Selection of Commodities Based on Test 1-4

| Commodity | Deficit in Haiti? | Significance of domestic demand | Eligible for monetization? | Are there policies, regulations or practices that may complicate importation of product? |
|---------------|-------------------|---------------------------------|----------------------------|--|
| Rice | Yes | Yes | Yes | No |
| Wheat | Yes | Yes | Yes | No |
| Vegetable oil | Yes | Yes | Yes | No |
| Wheat flour | Yes | Yes | Yes | No |
| Beans | Yes | Yes | Yes | No |
| Maize flour | Yes | Yes | Yes | No |
| Maize | No | Yes | Yes | No |

9.3. Market Analysis - Rice

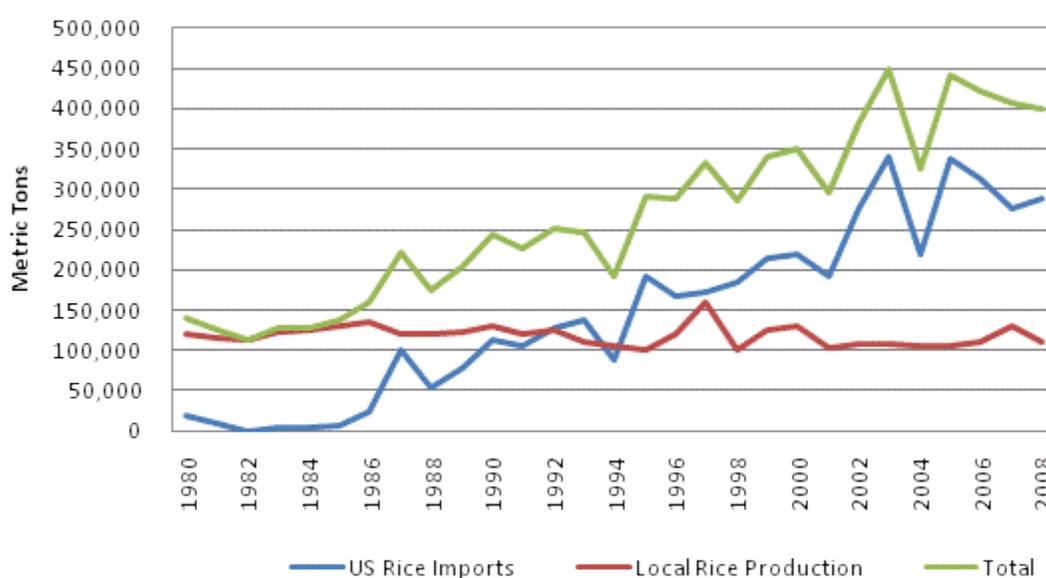
9.3.1. Domestic Production

Rice is the one of most important foodstuff in Haiti. Although Haiti is able to produce rice and has in the past, current production accounts for less than 20 percent of total rice consumed. Rice is one of the varieties of cereals produced for food and animal feeds, along with maize and

sorghum. Maize was the country's leading food crop for a long time, but rice became an increasingly common cereal beginning in the 1960s, when increased irrigation of the Artibonite Valley aided larger-scale farming. Rice production up until the 1980s, however, fluctuated according to government subsidies. By the 1980s, rice production remained somewhat stable; an estimated 60,000 ha of rice yielded an average of 123,000 MT from 1980 to 1987.

From the 1990s to current, rice production has slightly decreased overall. However, total rice consumption has increased in response to population growth and rice imports have significantly grown in comparison to production, as shown in the figure below. Currently, US rice imports make up the majority of all rice consumed in Haiti.

Figure 31. Haiti Rice Production and US Rice Imports, 1980-2008



Source: USDA - FAS and FAO

9.3.2. External Trade

Haiti's rice consumption is about 444,000²⁰⁸ MT per year, of which an average of 60,000 MT to 80,000 MT is produced locally. However, the country is highly dependent on rice imports (mostly from the US), which account for about 82 percent of market share. According to Comtrade, an average of 360,000 MT of rice was imported in the past five years, with annual volumes ranging from 294,000 MT to 419,000 MT. Demand for rice, as illustrated by aggregate supply, has increased over time. Total supply has been growing by about 16 percent per year (excluding the declines in 2004, 2007, and 2008). Rice food aid also increased significantly in the past five years, tripling in 2008 during the food price crisis. Annual volumes range from 14,000MT in 2005 to 50,000 MT in 2008.

²⁰⁸ Rice imports numbers are average import statistics from Comtrade, FAO, ITC, and Haiti Customs. 2009 and 2010 data are from Agemar (Agences Maritimes Réunies S.A)

9.3.3. Competitive Environment

Based on field interviews, a handful of market participants hold a significant amount of power in the imported rice market. The EMMA Port-au-Prince (2010) analysis indicated that six large importers were responsible for 70 percent of rice imports while the other 30 percent of rice imports were handled by 14 smaller importers. While the large importers have some power to set the market price of rice, market prices actually depend on the prevailing price of rice on the world market.

At the wholesale level, the large number of wholesalers does not immediately suggest a concentration of market power; however, in some areas there are limited amounts of wholesalers, and these small groups may marginally benefit from the business.

Given the large number of market participants (retail level) at the local rice market, the market for local rice varieties seems to function competitively. Price in retail markets appears to be determined by supply and demand, with no market players able to unilaterally set prices.

9.3.4. Recommendation

In spite of meeting all key criteria for monetization, rice is excluded as a candidate for monetization for two reasons.

- Haiti's rice industry has been profoundly and negatively impacted by rice imports, which have increased rapidly since the 1980s. Commercial imports have become and risk continuing to be a disincentive to local production and therefore politically sensitive.
- A handful of market participants hold a significant amount of power in the imported rice market, which could create an uncompetitive market environment.

9.4. Market Analysis - Wheat and Wheat Flour

9.4.1. Domestic Production

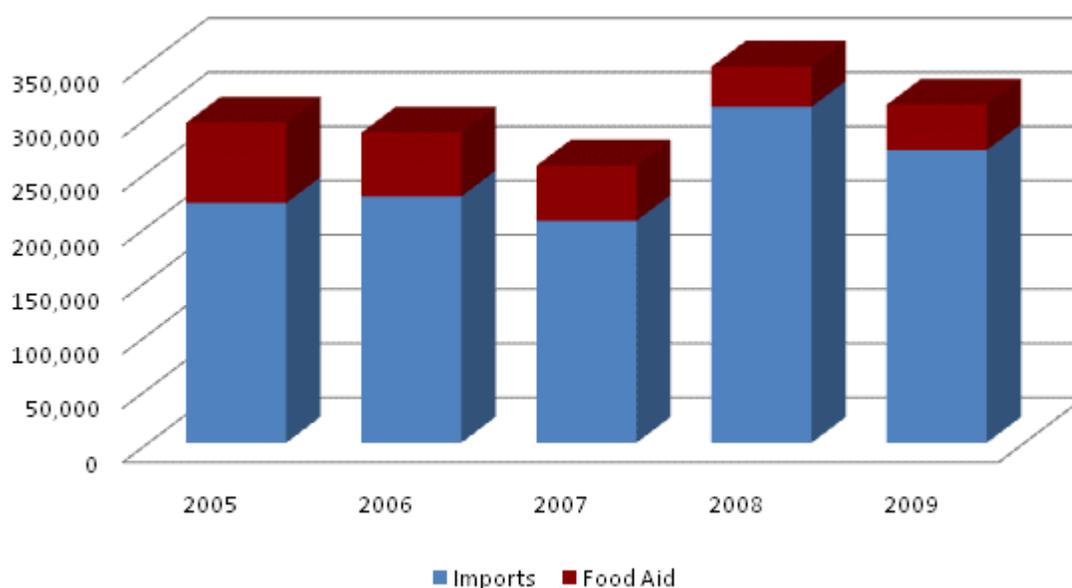
There is no known production of wheat in Haiti. However, wheat products are common, and bakeries can be found in urban and rural areas. Vendors sell a variety of wheat-based breads, especially “*boy*” (a baked bun made from a quarter-pound of dough), a primary source of calories in most Haitians' diet.

9.4.2. External Trade

Most wheat grain in Haiti comes from commercial imports and food aid, as shown in the figure below. Most wheat flour, on the other hand, comes from commercial imports, domestic production, and informal trade. Haiti's only wheat processing mill in the country, Les Moulins d'Haiti, was destroyed by the earthquake, and since then the country has had to import all its wheat flour.

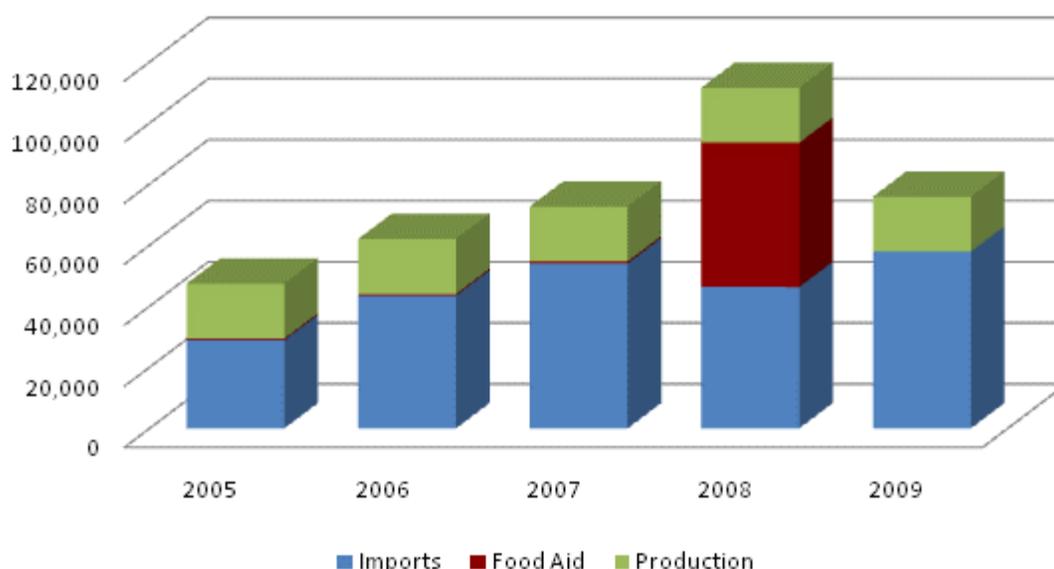
Annual wheat available in Haiti averaged 245,000 MT over the past five years.²⁰⁹ Of this, about 50,000 MT per year was food aid. Imports of wheat have increased over the years, peaking at 309,697 MT in 2008. In 2009, wheat imports slightly declined to 269,000 MT. Most wheat imports originate in the US, with the remainder coming from Argentina, Canada, and France. The amount of wheat food aid received has generally decreased over the years, from 73,000 MT in 2005 to 37,000 MT in 2008. In 2009, food aid numbers increased slightly to about 42,000 MT, which is likely due to the 2008 hurricanes and increases in global food prices.

Figure 32. Domestic Wheat Supply (MT)



Total tonnage of wheat flour available in Haiti is difficult to accurately quantify because of informal trade between Haiti and the Dominican Republic (DR). LMH estimated that official statistics from the Dominican Republic only capture about 50 percent of the trade between the Dominican Republic and Haiti. According to information from the GOH and other secondary sources, wheat flour available in Haiti averaged about 63,000 MT per year in the past five years, ranging from 28,000 MT in 2005 to 57,000 MT in 2009. Imports account for approximately 71 percent of total supply and domestic production accounts for approximately 28 percent of total supply. Wheat flour food aid flows have been fairly stable ranging from 453 MT in 2005 to 567 MT in 2007. A World Vision report states that Haiti, and especially its northern areas, increased imports from the DR prior to the earthquake. This increased the imports of Haiti's medium-level importers. Wheat flour exports from the DR to Haiti have nearly doubled in the past five years, as shown in the table below.

²⁰⁹ All wheat flour import data are from Comtrade.

Figure 33. Domestic Wheat Flour Supply (MT)**Table 43. Wheat or Meslin Flour Exports from Dominican Republic to Haiti**

| Year | Value (\$000) | Net Weight (MT) |
|------|---------------|-----------------|
| 2009 | 20,574.25 | 40,323.09 |
| 2008 | 20,577.00 | 32,394.61 |
| 2006 | 12,661.62 | 32,373.25 |
| 2007 | 14,386.61 | 31,289.00 |
| 2005 | 6,785.25 | 18,818.39 |
| 2004 | 2,667.30 | 7,829.69 |
| 2003 | 996.61 | 5,689.79 |

Source: Comtrade

The same report states that there are four mills in the DR: Molinos del Ozama (the former State mill, Molinos del Cibao (source of much of the flour imported into North of Haiti), Molinos del Higuamo, Molinos Cesar Iglesias. All the mills are currently exporting wheat flour into Haiti.

9.4.3. Competitive Environment

Haiti's single wheat mill, Les Moulins d'Haiti (LMH), has been the single buyer of Hard Red Winter Wheat (HRWW) grain from The Haiti Monetization Consortium for the past twelve years. LMH's mill was completely destroyed in the earthquake. The owners have already started reconstruction, and the mill is expected to operate by spring 2011. In the interim, LMH is importing and distributing wheat flour. At the time of the earthquake, LMH produced about 18,000 MT of wheat flour (300,000 sacks of 50 kg per month). This accounted for 80 percent of all wheat flour consumed in the country²¹⁰.

²¹⁰ Schwartz, Tim. Wheat flour Monetization in Haiti Report.

Before the earthquake, slightly over 20 companies imported wheat and wheat flour, though, as described above, a large majority of these actors have minimal market share as compared to the largest wheat grain importers (LMH and donors) and the largest wheat flour millers/importers (LMH and donors, who both boosted wheat flour imports in the wake of the earthquake).

This number may have changed slightly since the earthquake, as some companies disappeared while new ones entered the market. Although there are no legal barriers of entry into the market, high levels of investment and a 19 percent tax of imports limit the number of actors involved in the market.

The presence of numerous wheat flour importers in the country might suggest a competitive market; however, the two largest importers have significant power to set prices at the wholesale level. Wheat flour comes from various countries (DR, US, Italy, France, Martinique, Turkey, etc.), and importers face different transaction costs according to brand and quality. The largest importers have enough market share and power to set wholesale prices to ensure generous profits above and beyond what would be expected in a competitive market. Given the structure of the imported wheat market, the smaller importers match the price set by the two leaders, regardless of the varying transaction costs each faces.

9.4.4. Monetization Past Performance

The table below shows historical monetization volumes of Awardees during the last five years. Prior to the earthquake, the USAID Title II-funded Title II Non-Emergency Program (ACDI/VOCA, CRS, and WV) relied on the monetization of a single commodity, HRWW. CARE, CRS, SCF, and WV monetized between FY04 and FY08, with CRS as the lead agency on Title II monetization. Monetization sales were conducted in Port-au-Prince. In FY09-present, ACDI, CRS, and WV are the partners involved in the monetization of wheat and wheat flour, with WV as the lead agency. In 2008, 34,690 MT of HRWW (in 50 kg bags) were monetized, and in 2009, 45,710 MT (in 50 kg bags) were monetized.²¹¹

Table 44. Past Wheat and Wheat Flour Monetization

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Total |
|--------------------|------------------|------------------|------------------|------------------|------------------|---------------------------------|-------------------|
| Wheat flour | | | | | | 19,000.00 | 19,000.00 |
| ACDI | | | | | | 4,654.00 | 4,654.00 |
| CRS | | | | | | 2,644.00 | 2,644.00 |
| WV | | | | | | 11,702.00 | 11,702.00 |
| Wheat | 70,000.00 | 57,180.00 | 50,460.00 | 34,690.00 | 45,710.00 | | 318,040.00 |
| ACDI | | | | 6,250.00 | 16,310.00 | | 22,560.00 |
| CARE | 18,460.00 | 14,750.00 | 8,576.00 | | | | 64,216.00 |
| CRS | 16,600.00 | 11,760.00 | 11,481.00 | 12,615.00 | 6,430.00 | | 72,076.00 |
| SCF | 8,970.00 | 8,630.00 | 8,917.00 | | | | 32,197.00 |
| WV | 25,970.00 | 22,040.00 | 21,486.00 | 15,825.00 | 22,970.00 | | 126,991.00 |
| Total | 70,000.00 | 57,180.00 | 50,460.00 | 34,690.00 | 45,710.00 | 19,000.00 ²¹² | 337,040.00 |

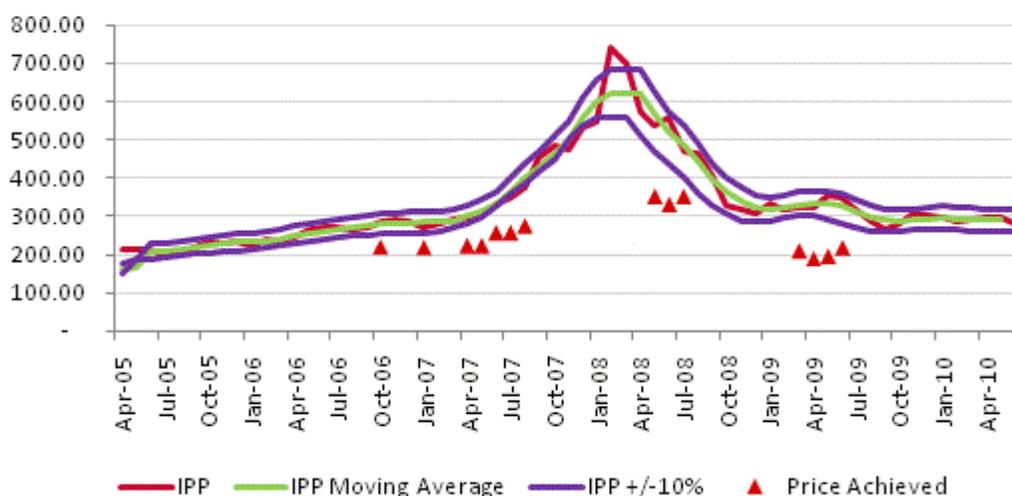
Source: AMEX International

²¹¹ 2008 and 2007 from AMEX

²¹² Most of the 19,000MT of wheat flour is planned monetization and not past. About 4,000 MT have been monetized so far.

The figure below compares wheat monetization sale prices with the calculated IPP price of wheat delivered on a CIF basis to Port-au-Prince. The graph shows that the 2007 transactions were on average 19 percent below the estimated IPP while the 2008 transactions were approximately 24 percent below IPP.²¹³ The 2009 prices averaged 33 percent below IPP.²¹³

Figure 34. Comparison of Wheat Prices Achieved and Calculated IPP



Source: USDA/Agricultural Marketing Service, Government of Haiti and Amex

Given that the 2007 and 2008 transactions occurred against the backdrop of volatile world food prices, it is difficult to assess the specific cause of this relatively poor performance. Discussions with the GOH's Bureau de Monetization (BDM) revealed that Les Moulins d'Haiti had increased its demand for concessions over time, which could have contributed to the high difference between IPP and actual sale prices. One of these concessions is that LMH elected to buy wheat on credit.

ACDI/VOCA planned a pilot small lot sale of vegetable oil, with a lot of 600 MT of soy oil scheduled to arrive in Port-au-Prince in February. The objective was to diversify the Title II Non-Emergency Program partners' income stream. Please refer to the vegetable oil section on this chapter for more details.

After LMH was destroyed in the earthquake, WV, CRS, and ACDI/VOCA began preparations to monetize wheat flour. Their intentions were to generate cash for programming, and to increase the supply of wheat flour on the market, thereby driving prices down, and making bread more readily available to consumers²¹⁴ To do this, the partners placed Call Forwards (CF) for 19,000 MT of wheat flour over four months. The monetization schedule was scheduled as follows:

- First CF: 3,950 MT (1st CF end of February – Arrival End of March 2010)

²¹³ IPP calculated assuming no port charges. Cost of bagging and inland freight since LMH had their own port

²¹⁴ Schwartz, 2010.

- Second CF: 5,550 MT (2nd CF in March – Arrival End of April 2010)
5,500 MT (2nd CF in March – Arrival End of May 2010)
- Third CF: 4,000 MT (3th CF in April – Arrival In July 2010)

After the earthquake, wheat flour was substituted for wheat grain (HRWW) due to the mill damage. Originally, the first shipment of wheat flour for monetization was scheduled to arrive in Port-au-Prince by the end of March and the last shipment by the end of July. But due to the following challenges, the wheat flour monetization has been delayed by more than two months:

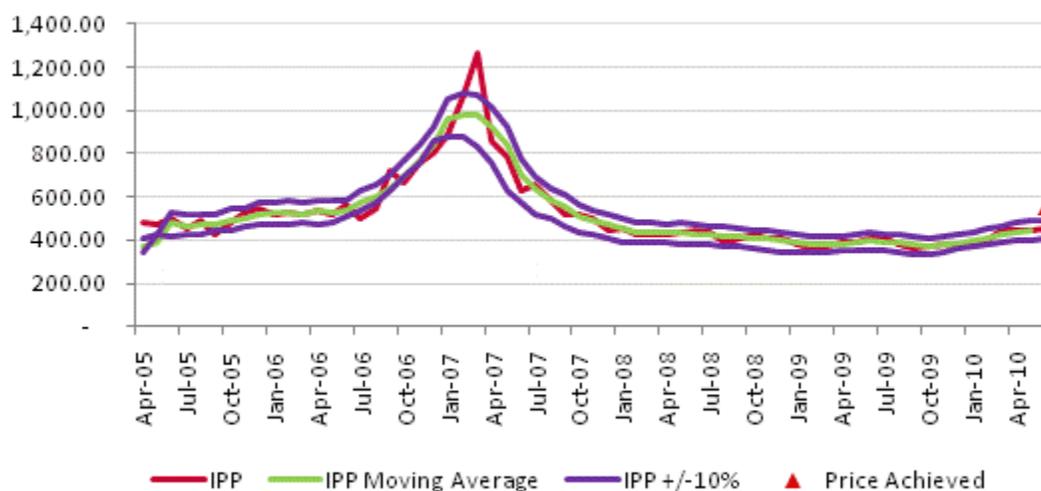
- The bags for wheat flour monetized were marked "Not for Sale" and therefore not appropriate for sale in Haiti. FFP considered re-bagging very expensive and decided to procure different wheat flour instead, which delayed operations.
- The new wheat flour needed to be fumigated before it could be shipped, which further delayed delivery.
- A change in the specification was requested, from nine percent to 11.3 percent, however, this happened before the offers were received and was promptly corrected.

The monetization schedule was then revised as follows:

- First CF: 3,950 MT (1st CF in February – Arrived in four batches the last one was on July 22nd, 2010).
- Second CF: 5,550 MT (2nd CF in March - Arrived early August)
5,500 MT (2nd CF in March - Arrived early August)
- Third CF: 4,000 MT (3rd CF in April - Arrival at end of August 2010)

Title II Non-Emergency Program partners, BDM, and buyers settled on a price of US\$27.75 per 50 kg bag for the first bread flour consignment of 3,950 MT. The price, which was originally set at US\$29 per 50 kg bag, was renegotiated by the buyers due to the delay in the bread flour's arrival and change in market price. The Mission and partners allowed the buyers to change the price (which was not allowed in the original contract) in favor of taking the issue to court.²¹⁵

²¹⁵ WVI interview

Figure 35. Comparison of Wheat Flour Prices Achieved and Calculated IPP

Source: USDA/ERS, Government of Haiti and Amex

The figure above indicates that monetization achieved a price above IPP by 22 percent.²¹⁶ Reports from the field suggested that the buyers bought the flour at very high prices as the graph shows.

Profit levels have rarely been made available to field researchers, but discussion with market actors suggest that profits have been somewhat higher than normal in recent months. Although large commodity traders usually take a return of one to two percent and smaller traders take a return of three to four percent, the market has not been normal or stable in recent months. Because of this instability, large traders may be taking higher returns than normal. Furthermore, price volatility and the high risk of long-term commitments to initiate international shipments present sellers with the opportunity to extract additional profits and therefore provides an explanation for the discrepancy between recent monetization sales prices and IPP.

9.4.5. Recommendations

Wheat meets three of the six key criteria for monetization: eligibility for export from the US, eligibility for export to Haiti, domestic supply shortfall (in this case, which is met through commercial imports and food aid). However, wheat does not meet the remaining two tests for monetization: expectation for a fair market price, and presence of adequate competition.

Expectation for a fair market price. The largely below-average wheat sale prices achieved by Title II Awardees is a strong disincentive to the marketing of wheat, and a model of what donors should avoid in future monetizations. The USG should avoid distorting market incentives by (1) ensuring that commodities are sold within a ten percent margin of estimated IPP; (2) timing the

²¹⁶ The IPP was calculated data for bread flour from ERS

CF and sales so that tenders do not occur when stocks are high; (3) coordinating sales with other donor food aid disbursements.

Presence of adequate competition. As stated earlier, LMH has been the Haiti Monetization Consortium's single buyer of HRWW for the past twelve years. A firm is defined as a monopoly when it is able to become the sole producer of the industry's product, due to a lack of viable competition. Because the LMH does not have to worry about losing customers to competitors, it can set a price that is significantly higher than the economic costs. Their price is also higher than the fair market price or competitive price, and LMH's profits are higher than they would be in a competitive market.

Recommendations for Wheat Flour

- But given that the CS had previously planned to monetize about 19,000 MT of wheat flour, the study team recommends moving forward with the monetization and critically evaluate whether development of the wheat flour market is a reasonable task within their current management capacity. The team does not recommend monetizing above the 19,000MT for the next year for the following reasons: The first two shipments of monetized wheat flour were faced with many challenges. As detailed above, there were many events that resulted in the delay in the arrival of the wheat flour, which resulted in a two month delay and a lower selling price.
- Contract enforcement appears to be unreliable in Haiti. Field interviews suggest that buyers sometimes collude in the bidding process. One importer reported that the floor price was known long before the bidding process began.
- According to the revised monetization schedule, there are still three more shipments scheduled for Haiti – the last being for August 2010. It would be wise not to schedule any more monetization of wheat flour until the shipments have been completed and assessed.
- Wheat flour monetization will probably not be sustainable once LMH's mill is operating again.
- Demand for wheat flour has declined since the earthquake. LMH is unsure which factor(s) are most responsible for the decline. LMH has signed an agreement with IRD to undertake a survey about this issue, and LMH says it will share the results with USAID. LMH expects that possible factors may be:
 - Decline in income due to destruction of livelihoods
 - Physical destruction of small and medium-sized bakeries, especially in Port-au-Prince
 - Increase in imports, such as baked goods imported from DR
 - Increase in the number of smaller market players

The uncertainty of LMH, one of the market's biggest players, is a sign of the general difficulty in identifying specific factors responsible for recent changes in the market.

- Schwartz (2010) notes the importance of maintaining a balance between providing foods at reasonable costs to consumers and strengthening the Haitian economy. The report states that monetization of wheat flour will not benefit the Haitian economy, because it would replace locally-produced crops that can be processed into flour or consumed directly, such as yams, sweet potatoes, and cassava. Production of those three crops was estimated at 1,183,950 MT in 2009. The monetization of wheat flour could also disrupt the business of importers.

9.5. Market Analysis- Vegetable Oil

9.5.1. Domestic Production

There is no reported production of edible oil in Haiti for the past 40 years or so. The country once produced pig lard, but production ceased with the Swine Eradication Program of the late 1970s. Poor and low-income rural families also used to produce coconut oil almost exclusively for their own consumption, but this practice ceased after the country's coconut trees were swept with disease in the 1970s. Currently, Haiti imports coconuts from the DR at a price too high for rural areas to produce coconut oil. Since both animal and coconut oil are no longer produced, household tastes have changed; palm oil, and, increasingly, soybean oil is preferred in Haiti.

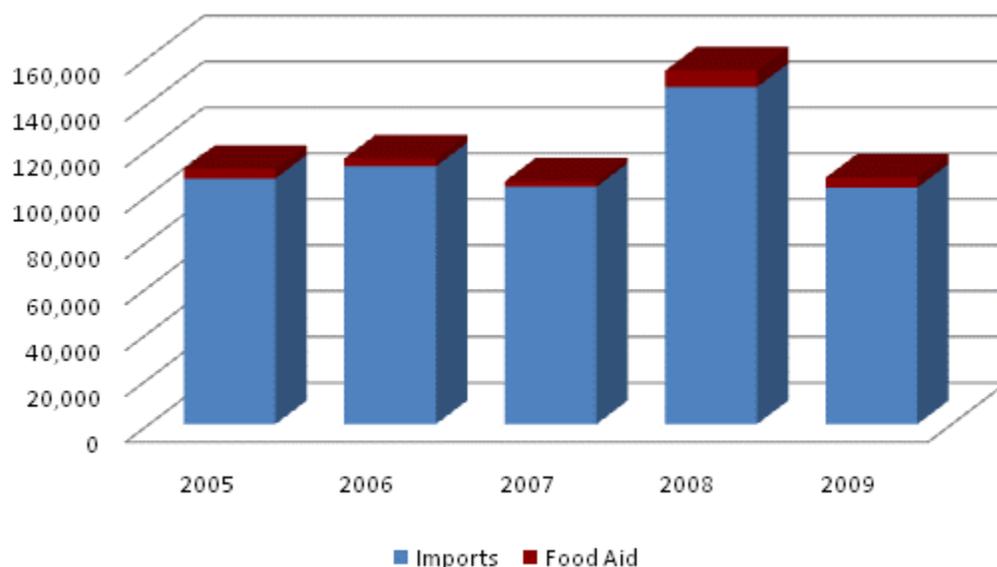
9.5.2. External Trade

Haitians are one of the largest consumers of cooking oil per capita in the Caribbean and Central America.²¹⁷ With no domestic production and a steadily increasing population, Haiti depends on imports to meet a substantial and growing demand. An estimated 65 to 70 percent of the volume of cooking oil in Haiti is palm oil imported from Asia, primarily Malaysia, in bulk form for repacking in drums, pails, and plastic bottles by Huilerie National S.A (HUNASA) and Huileries Haitiennes S.A (HUHSA). The remainder of cooking oil imports comes from South American countries, the Dominican Republic, and the US.

During 2005 to 2009, Haiti imported an average of 114,456 MT of cooking oil per year.²¹⁸ Donor imports accounted for a slight (four percent) amount of total imports. Cooking oil imports (mostly vegetable oils, and especially soybean oil) ranged from 103,000 MT in 2009 to 146,000 MT in 2008. None of the food aid imports were palm oil. Of Haiti's soybean oil imports, food aid accounts for an average of 4,200 MT per year. Food aid during the first six months of 2010 show an 84 percent increase as compared to the annual supply of vegetable oil in 2009. According to data from AgeMar, between January 2010 and June 2010, vegetable oil food aid totaled 27,132 MT and commercial imports totaled about 2,673 MT.

²¹⁷ Bailey, 2006

²¹⁸ Vegetable oil data from Comtrade for 2004-2009

Figure 36. Domestic Vegetable Oil Supply (MT)

9.5.3. Competitive Environment

As discussed in Chapter 5, the market at the importers' level is highly concentrated; two importers hold 41 percent of the edible oil market, and sell mostly palm oil (the cheapest oil on the market). The remaining two large importers hold 18 and 23 percent of the market, respectively, and import palm and soybean oil. The rest of the market is made up of 14 other importers and over 100 wholesalers, selling a variety of cooking oil.

Though there are no formal barriers to entering the oil market, aspiring importers and wholesalers are challenged by: the high level of investment, extreme market coordination at the import and wholesale level, and a well-organized distribution channel.

Since most of the importers sell the same varieties of products, the market structure resembles a 'follow the leader' structure: the larger sellers set the price of oil, and smaller players then sell at the set price. Most smaller sellers stated that they sell at the prevailing market price.

The main concern expressed by the major importers is that the oil market is thin/small, with very many small actors, and any additional supply of oil in the market has the potential to negatively impact their businesses.

9.5.4. Monetization Past Performance

Oil was first monetized in Haiti during FY04/05.²¹⁹ Through the GOH Bureau de Gestion (now called the Bureau de Monetization), MYAP Awardees, and other donors monetized about 2,000 MT of sunflower oil. They received 22 responses to the invitation for bids and six buyers,

²¹⁹ Bailey, 2006

including a bottling company from the palm oil consortium. The specific results of this monetization are not known, but are reported as "good."¹²²⁰

In 2008, with the approval of USAID Food For Peace, ACDI/VOCA planned the monetization of a small lot (1,200 MT) of soybean oil. The objective of the pilot project was "to explore a broadening of the income stream to Title II programs in Haiti."¹²²¹ Because of the world oil and food price crisis of 2008, ACDI/VOCA decided to postpone the project from FY09 to FY10. The approved lot of soybean oil was scheduled to arrive in Port-au-Prince in late February 2010 and the contract with Bureau de Monetization (BDM) was signed on January 11th, 2010. Plans were cancelled the next day due to the earthquake. The first tranche of 600 MT arrived just after the earthquake, but remains in the warehouse with no plans at this time to monetize or distribute the vegetable oil.²²²

9.5.5. Recommendations

Market prices may support the monetization of vegetable oil, but based on the thin local market and the duopolistic nature of the market, the study team recommends against large lot sales of Title II vegetable oil for FY11.

Imported oil prices seem to have followed international market prices in the past three years.²²³ Imported prices rose in 2008 during the world price crisis, and have yet to return to pre-shock levels. From January 2007, to May 2008, prices for edible oils on the international market increased more than 200 percent. From May 2008 to January 2009, prices fell just as fast and nearly as much as they originally rose in 2007. Since January 2009, these same prices began a steady move back upwards, climbing by 16 percent between January 2009 and April 2010, but at a much slower pace than the 2007 increase. Current international prices are at levels similar to mid-2007. At the international level, supply is limited by reduced sunflower, cotton and groundnut oil output and slow growth in palm oil production. Demand has remained relatively constant due to continued growth in Asian food consumption and increased biofuel demand in developed countries.²²⁴ These same factors together are predicted to contribute to long-term increases in prices across international oil markets. Over the last year, imported prices have hovered at approximately US\$1,500 per MT. Current market dynamics are such that there appears to be a window of approximately US\$500 per MT through which USAID could monetize oil. However, this window appears to be closing with international prices rising.

²²⁰ Bailey, 2006

²²¹ Murphy, 2009

²²² After the field visit, the study team learned that ACDI/VOCA planned to transfer the oil to another Title II Non-Emergency Program partner for programming, with appropriate adjustments in future calls forward to account for this additional 600 MT (FFP/W, personal communication, December 2010).

²²³ Wholesale and time series oil prices were not available in Haiti at the time of the report. Retail prices were available on a time-series basis. As a proxy for wholesale prices, the authors subtracted 20 percent from the retail price to come up with a consistent wholesale price. This is in line with the margins found elsewhere in the industry.

²²⁴ FAO

Figure 37. Comparison of Wholesale Port-au-Prince with Calculated IPP(US/MT)

Source: USDA/ERS, Government of Haiti and Amex

ACDI/VOCA had previously planned small lot sales of 1,200 MT of Title II vegetable oil. Given that 600 MT remain in the warehouse, the study team recommends moving forward with the pilot to test whether small lot sales would prove a viable tool for local market development. Intense social marketing would be necessary, to assure potential consumers that smaller traders are selling high-quality US vegetable oil. While the pilot, if successful, may result in an income stream for Title II non-emergency program partners, such a pilot should be evaluated as a market development tool rather than as an income-generating activity. Title II Awardees would need to critically evaluate whether development of the vegetable oil market is a reasonable task within their current management capacity

However, a number of caveats exist that first have to be clarified before moving forward with such a monetization:

- Most market actors are fearful of two large importers' power to flood the market with oil, which would result in temporary losses for the oil market, but ultimately drive away additional competition. Any Title II vegetable oil monetization should be viewed first as a market development tool and only second as an income stream for Title II Non-Emergency Program Awardees.
- Oil data are scarce and questionable, just as the data are for other commodities in Haiti. Data need to be verified and collected in the relevant consumer markets due to the relative thinness of the national market.
- The structure of the oil market is thin/small, with many small actors, particularly at the retail level. While this characteristic of the market structure is amenable to targeted

monetization via small lot sales, additional supply of oil in the market could negatively impact the businesses and livelihoods of oil traders who are not beneficiaries of the targeted monetization.

Barring success of ACDI/VOCA's planned small lot sales of the 600 MT of vegetable oil in their possession at the time of the field visit, the team does not recommend placing new orders of vegetable oil for targeted monetization via small lot sales in FY11. The only reasonable basis upon which to plan future small-scale vegetable oil monetization would be the success of the initial pilot. If monetization were deemed appropriate despite the caveats above, it would be advisable to monetize no more than 1,146 MT of vegetable oil via small lot sales. This volume represents approximately one percent of the 5-year average commercial import volume.

9.6. Market Analysis- Beans

9.6.1. Domestic Production

Beans are a basic staple in the Haitian diet, a critical source of protein, and consumed in both rural and urban areas. Beans are available in Haiti through domestic production and imports (both commercial and food aid).

Beans are produced in all regions in Haiti. The main production areas are the South (20 percent), the Southeast (15 percent), Central Plateau and West (12 percent each), Artibonite (11 percent), and Grand'Anse (10 percent). The other regions produce less than 10 percent each, with the Northwest accounting for the smallest share (three percent).²²⁵ A variety of beans are grown in Haiti, but black and the mottled red beans are the most commonly grown.

Domestic production represents about 76 percent of total bean supply. Bean production has grown more than 69 percent in the past five years, increasing from 56,700 MT in 2004 to 84,000 MT in 2009. Despite this increase in production, bean yields remain low. Average yield per hectare under irrigation is 0.9MT, and 0.7 MT under rain-fed conditions. In 2010, the first season of beans production was severely affected by drought at the beginning of the planting season and heavy rains during the harvest.

9.6.2. External Trade

Haitian beans are considered superior in quality and taste to imported beans, so imports rise and fall in inverse relation to the supply of domestic beans. Prices of imported beans can be up to half the price of locally produced beans, which would suggest that many households would purchase imported beans at the much lower price. However, rather than purchase large quantities of imported, lower-quality beans, households would rather purchase smaller quantities of local, higher-quality beans. The amount to which households purchase imported beans depends on the supply (and therefore, price) of local beans.

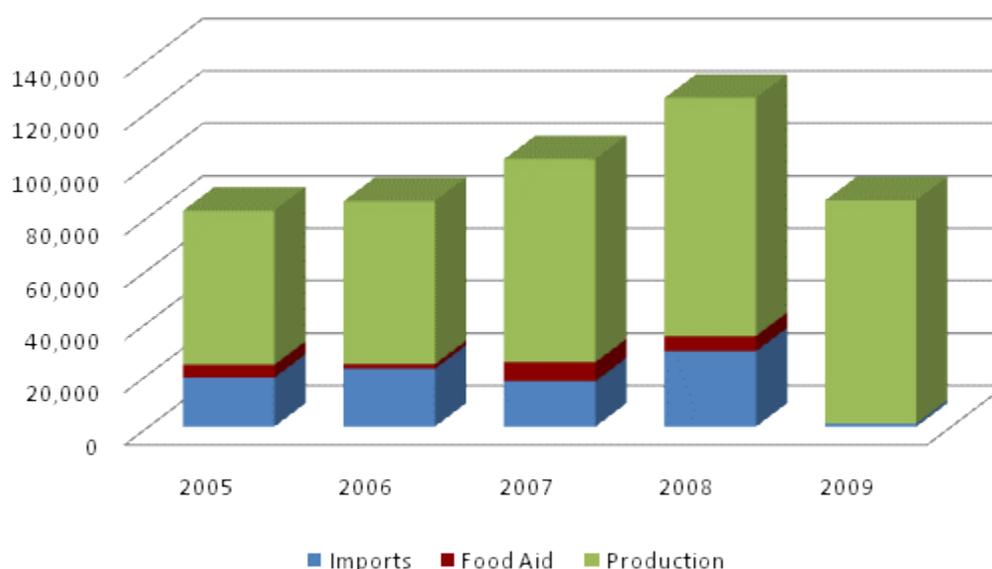
Bean imports averaged at 17,600 MT per year over the last five years. Imports fluctuated during this period and peaked at 28,800 MT in 2008. In 2009, bean imports were very low (509

²²⁵ CNSA 2008 cited by IRC et al. 2010

MT) compared to other years, probably due to an exceptional harvest that year. Commercial imports represent approximately 23 percent of total supply and food aid represents five percent of total supply.

Haiti imports beans from Brazil, Dominican Republic, US, Canada, France, and Italy. Informal trade in beans between the Dominican Republic (DR) and Haiti is strong. According to the EMMA report,²²⁶ several Madam Saras monopolize this trade route, showing that Haitian and DR markets chain actors are able to switch the direction of flow of beans, depending on availability and demand in each country, i.e., DR supplies Haiti in periods when availability of beans is low and vice versa (though flows are generally stronger from DR to Haiti).

Figure 38. Domestic Bean Supply (MT)



9.6.3. Competitive Environment

According to the EMMA report Port-au-Prince of February 2010, the bean market chain involves about 350,000 producers, and thousands of wholesalers, Madam Saras, transporters, and retailers. Port au Prince has about 50 wholesalers involved in bean sales, with about 100 Madam Saras per wholesaler (though Madam Saras may work with more than one wholesaler, and many actually perform the function of wholesalers themselves). The number of vendors and street traders is difficult to quantify.

Given the large number of market participants at each level of the distribution channel, the market for local bean varieties seems to function competitively. Price in retail markets appears to be determined by supply and demand, with no market players able to unilaterally set prices. Investment levels at each segment are relatively small for local bean varieties and allow no

²²⁶ EMMA, 2010.

single individual to exert any degree of market power. There are no significant legal barriers to prevent new actors from entering the market.

Imported beans have fewer market players. Just like the local beans, there are no significant legal barriers to enter the imported bean market, though access to capital may be a barrier preventing some actors from getting entering.

9.6.4. Recommendations

Beans were widely distributed by Title II Awardees in Haiti during FY08 and FY09, following hurricanes of 2008. Beans were distributed in small quantities in previous years. However, beans have never been monetized in Haiti, probably because Haiti generally produces nearly three-quarters of its annual requirement, and domestic and international prices have been unfavorable for successful monetization. Even if financial conditions created a window of opportunity for monetization, this market analysis does not recommend the monetization of beans for the following reasons:

- Disincentive effects on local production are likely to result from the importation of beans, since Haiti produces almost 76 percent of the beans consumed in the country. Furthermore, imports rise and fall in inverse relation to the supply of beans in the market. Monetized beans would likely displace locally produced beans, especially during the periods when local stocks are low and prices are high.
- The structure of the bean market (many small traders, making frequent small purchases) does not appear to be suitable for cost-efficient monetization.

9.7. Market Analysis- Maize and Maize Flour

9.7.1. Domestic Production

Maize is produced across Haiti, with the Southern regions and the Central Plateau accounting for the majority of production. Even according to the lowest reported production figures, Haiti is almost self-sufficient in maize production. Domestic production represents about 98 percent of total maize supply. Over the last five years, maize production has trended upwards in response to high demand and increased areas sown to the crop. Maize production has grown more than 21 percent in the past five years, increasing from 231,000 MT in 2006 to 310,000 MT in 2009.

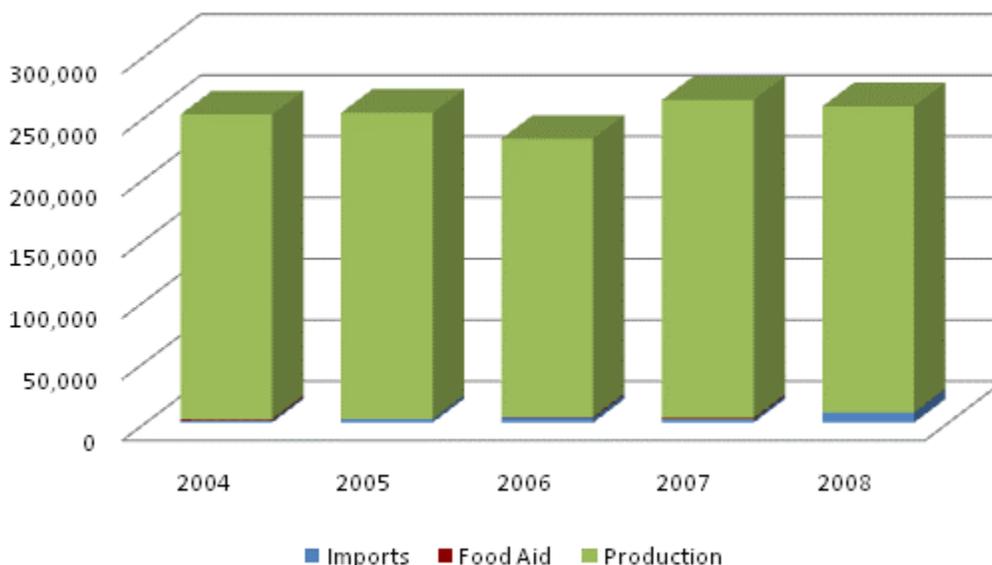
Maize and beans are the most common local foods for sale in markets in Haiti. The CFSVA noted that maize is cultivated by more households than any other food crop: over 70 percent of 3,000 surveyed rural households reported growing maize, followed by tubers (38 percent) and peas (35 percent), plantains and millet (28 percent each), and beans (24 percent).²²⁷ An estimated 60 percent of household maize production is destined for household consumption.²²⁸ Maize is usually marketed as grain, until it reaches the retailer or consumer, either of which mills

227 WFP, CNSA (2007), Analyse compréhensive de la sécurité alimentaire et de la vulnérabilité (CFSVA) en milieu rural Haïtien, November 2007, Haiti

228 CNSA (2010), Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, March 2010, Haiti

the grain into maize flour. It is difficult to quantify the amounts of domestically milled maize flour.

Figure 39. Domestic Maize Grain Supply

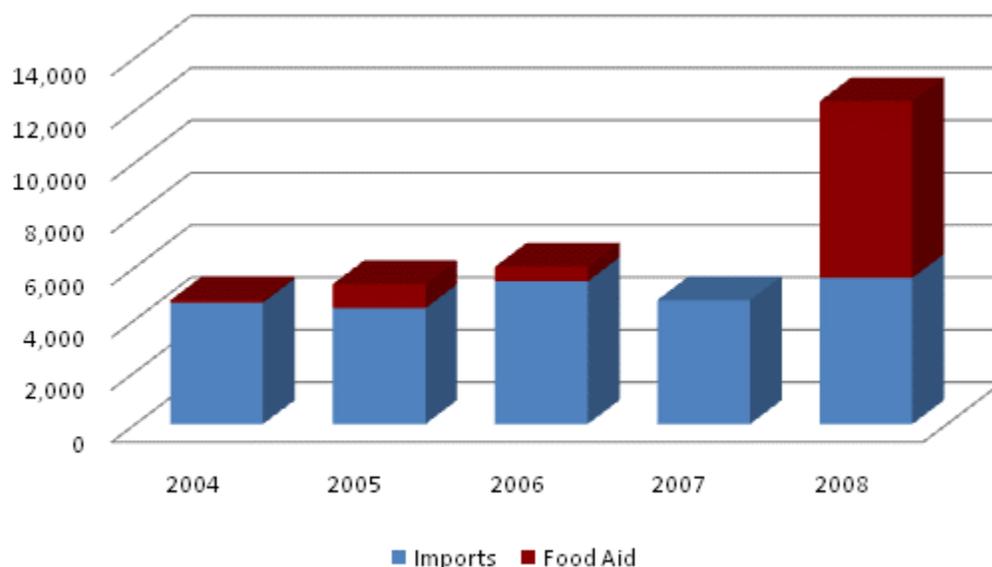


9.7.2. External Trade

Maize production in Haiti appears to be solely for domestic consumption; production supply is topped-up by imports, and there are no known maize exports. Haiti imports some maize to meet national demand. The Dominican Republic accounts for about 98 percent of maize imports in the form of broken maize and maize meal, with the US, Canada, and France accounting for the small remainder.

Maize imports averaged 2,007 MT per year during the past five years. Food aid averaged about one percent of total supply.

Maize flour imports, on the other hand, have increased over the past five-year period. Maize flour imports averaged about 11,000 MT per year, ranging from 4,400 MT in 2005 to 35,000 MT in 2008. Most of the maize flour came from the Dominican Republic, the US, and Brazil. As mentioned in Chapter 5, there is a strong preference for imported maize meal over locally-produced maize meal, due to superior hygiene and food safety standards for imported goods. Both maize grain and flour saw a 67 percent increase in imports in 2008 following the hurricanes.

Figure 40. Domestic Maize Flour Supply

Haiti informally exports a limited amount of maize, as broken grain or maize meal, along the Dominican Republic border.

9.7.3. Competitive Environment

Usually, small importers and large wholesalers (especially those that import rice) import maize and maize flour as a secondary commodity. For maize flour, there is some oligopoly at the import and major wholesale levels, where a small number of participants are able to collectively exert control over supply and market prices. The other levels of the market have a large number of participants. For more information, please refer to the commodity chapter (Chapter 5).

9.7.4. Recommendation

Maize flour meets five of the six key criteria for monetization, with the exception being the adequate competition test. Even if there was adequate competition for the monetization of maize flour, an Awardee must also consider the cost efficiency of monetizing maize flour in Haiti. As the summary analysis in the table below shows, the limited proceeds generated from the appropriate range of monetization tonnage of Title II maize flour sales in Haiti would constrain potential Awardees in meeting their program resource needs.

Table 45. Impact Analysis Summary - Maize Flour

| Monetization Scenario | 1% | 5% | 10% |
|---|--------|--------|--------|
| Est. Commercial Imports (MT) ²²⁹ | 11,056 | 11,056 | 11,056 |

²²⁹ The estimated commercial imports figure is the average of imports for years 2005-2009 (11,056)

| Monetization Scenario | 1% | 5% | 10% |
|---|-------------|--------------|--------------|
| Scenario Volume (MT) ²³⁰ | 54.49 | 272.47 | 544.93 |
| Est. Total Value of Sales (US\$) ²³¹ | \$33,670.16 | \$168,350.78 | \$336,701.56 |

Potential Awardees are strongly encouraged to monitor policy, production, and usage trends for possible future opportunities for importation and monetization of maize flour in Haiti, and/or seek to combine consignment of maize flour with one or more recommended Title II commodities, through a grocery basket approach, and/or seek alternative opportunities through Regional Monetization.

9.8. Regional Monetization

When competition in a commodity market is severely limited, monetization activities in that market run the risk of introducing or intensifying market distortions. These effects frustrate the development of an open and fully competitive market, by contributing to either excessive profits or barriers to entry. By denying producers and consumers the opportunity to operate within a competitive market, over time, the monetization activity could lead to reduced national economic efficiency and assign indeterminate costs to producers and consumers. Monetization in such a market would be contrary to the legal requirements of the U.S. agricultural legislation (e.g. Farm Bill), which requires that monetization does not introduce local market or production disincentives.

Regional monetization (RM), or third-country monetization, can offer a legally-compliant alternative for Awardees operating in a country with less than fully competitive domestic commodity markets. RM provides Awardees with the option of selling into a market where there is sufficient competition among buyers in order to increase the likelihood that bids will be at or near Import Parity Price, which is the best measure of a fair market price. With competition, there is increased assurance that the monetization will not distort the market and will generate higher revenues than if the monetization is conducted in a domestic market with limited or no competition. RM can generate greater revenue for food security activities and thereby increase the efficiencies of the FFP program. It also provides the Awardees with a fallback position if a commodity that was initially recommended for monetization becomes unviable at a later date due to changing market or policy conditions.

RM is a reasonable option in Haiti for the foreseeable future (FY11 and beyond) because:

- Competition in markets for typical Title II commodities (wheat, wheat flour, vegetable oil) is highly limited
- In order to overcome losses over time due to unfair business practices of the large importers who are likely to view Title II wheat flour or vegetable oil sales as directly threatening their market share.

²³⁰ The scenario volume figure is calculated by taking 1%, 5% and 10% of the median imports figure

²³¹ The estimated total value of sale is calculated by multiplying each scenario volume by the sales price estimated (\$617 per MT). The sale price estimate is the average calculated from average monthly IPP price estimates, from April to June 2010

- Monetization should be viewed as an appropriate long-term tool for the development of local markets in Haiti, and not as a source of needed funds for programming.
- There is successful history of regional monetization for Haiti programming. In 2005-2006, USAID had approved an Infrastructure Improvement Project (IIP) for CRS. Since that project was to be financed by monetization, and considering that there was no room to include this additional tonnage to the regular monetization program (the Mill did not want to receive more HRWW from the consortium), USAID approved a third country monetization with CARE-Peru, the lead agency for a CDSO Monetization for the consortium in Peru. This project ran for two years, and was incorporated into the MYAP at the end of the DAP. CARE-Peru was responsible for every aspect of the transaction. The monetization encountered no problems and went to the satisfaction of all the parties. 5,200 MT of Crude Degummed Soybean Oil (CDSO) was monetized in the first year and 6,700 MT was sold in the second year.

However, it is important to note that regional monetization may face challenges. Two apparent challenges are:

- The appropriate third country or regional market is that market in which one may expect to receive a price for a commodity that is reflective of the international price. According to FFP Guidelines, the country must be either a LIFDC or a LDC on the OECD-DAC list. Within the region, only Haiti, Nicaragua, and Honduras are LIFDCs. As the final destination of the commodities sold is indeterminate, the relevant reference to ensure that the Bellmon “market” conditions are satisfied is to ensure that the final negotiated price is comparable to the import price for that market. In addition, the port facilities of the selected market platform need to be sufficient to physically accommodate the commodities. This requires that a Bellmon analysis be conducted in both the recipient country and the country in which RM takes place.

These guidelines specifically read:

“Monetization in the recipient country is preferred over monetization in a “third” country, a country where the food security activities will not be take place. If it is not feasible to monetize in the country where proceeds will be utilized, monetization may be carried out in another LIFDC in the region, i.e. “third country.” A list of low-income food-deficit countries (LIFDCs) can be found on FAO’s web site at <http://www.fao.org/countryprofiles/lifdc.asp?lang=en>. If the LIFDC option is not feasible, then monetization may take place in a U.N. classified, least-developed country (LDC) in the region at <http://www.un.org/special-rep/ohrrls/lcd/list.htm>. In the case of “third country” sales, the USAID Mission and/or U.S. Embassy in both the program country and the monetization country must endorse the plan.”

- USDA/FAS Food for Progress has already approved large-scale monetization activities for both Honduras and Nicaragua. In Honduras, FINCA International is scheduled to monetize about 91,462 MT of wheat with an estimated value of US\$7.8 million. The Government of Nicaragua will monetize about 200,000 MT of tallow and vegetable oil, with an estimated value of US\$7.9 million.

Monetization in a relatively large port city is preferred because inland freight and other costs will be assumed by the buyer. The preferred currency in which the transactions would be

conducted would be specified in the offer. Based on the above criteria, the table below provides an overview of the products and markets that may be considered for regional monetization.

Table 46. Quantities of Select Commodities Imported into Nicaragua and Honduras¹

| Commodity | Honduras (Puerto Cortés) MT | Honduras (Puerto Cortés) US \$000 | Nicaragua (Puerto Corinto) MT | Nicaragua (Puerto Corinto) US \$000 |
|-----------------------------------|-----------------------------|-----------------------------------|-------------------------------|-------------------------------------|
| Maize | 2,950,472 | 516,433 | 915,640 | 194,131 |
| Rice in the husk (paddy or rough) | 1,204,885 | 320,697 | 911,204 | 346,870 |
| Wheat (durum and non-durum) | 2,374,916 | 611,745 | 1,195,877 | 416,924 |
| Wheat flour | 37,091 | 13,837 | 216,145 | 92,320 |
| Soya-bean oil crude | 775 | 678 | 293,430 | 225,702 |
| LIFDC | yes | | yes | |
| Port City | yes | | yes | |

Puerto Cortés, Honduras, is the only deep water port in Central America, and one of the region's largest and best equipped ports. It has 24-hour service, with modern roll-on and roll-off and containerized facilities. The port's sophisticated container handling equipment ensures efficiency and competitive shipping costs to the US. Because of its proximity to U.S. seaports in the Gulf of Mexico and on the East Coast and its outstanding seaport infrastructure, Puerto Cortés was included in the US Container Security Initiative (CSI), the first such port in Central America. In December 2005, the USG signed an agreement with Honduras's government and opened a US Customs Office in Puerto Cortés.

There are six ports in Nicaragua, most of which cannot handle large-scale cargo. The most important port is located at El Corinto, Chinandega, and it processes bulk goods and raw materials like oil and sugar. The port at San Juan del Sur, Rivas, occasionally receives cruise ships and the third seaport at the Pacific Coast at Puerto Sandino, León, handles cargo like oil and goods from small boats. The other three seaports are located at the Atlantic side (at Puerto Cabezas, El Bluff, and El Rama). The National Port Authority (Empresa Portuaria Nacional) manages all of these ports. For international sea freight, Puerto Cortés (in Honduras) and Puerto Limón (in Costa Rica) are frequently used. Although these ports provide superior infrastructure, there is an added expense and extra effort involved to ship the goods from Nicaragua to these ports.

If regional monetization is selected as an option, a widely-advertised competitive procurement using newspapers, internet, and radio is recommended. Advertisement should be explicit regarding commodity specifications, delivery time range, transaction locations, payment terms, and required currency. An auction process using a commodity exchange should be considered. Finally, both the Mission Director of the regional monetization country and the Title II Non-Emergency Program country must endorse the monetization.

¹ Only countries that are classified as LIFDC or Least Developed countries are eligible for regional monetization. Among countries in Central America and the Caribbean, other than Haiti, only Honduras and Nicaragua fit this criteria.

**USAID OFFICE OF FOOD FOR PEACE
HAITI
MARKET ANALYSIS**

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Annex I. Economic Overview

I.i. Macroeconomic Overview

The global price increases in food and fuel and their knock-on effects contributed to high average annual inflation rates in recent years; and rising global food prices, along with damage from four tropical storms¹, contributed to the sharp decline in growth in 2008. Inflation rates are expected to be in the double digits in 2010 in the aftermath of the January 2010 earthquake, which took the lives of over 200,000 people; and economic growth is expected to be negative, due to large-scale damage to key infrastructure (buildings, roads, and water supply), ensuing population displacements, and widespread disruption in economic activities.

Haiti is making progress towards reaching the HIPC (Heavily Indebted Poor Countries) Completion Point, which would provide debt relief; and would qualify the country for additional debt relief under the MDRI (Multilateral Debt Relief Initiative).² After reaching the HIPC Completion Point, Haiti could obtain bilateral relief, bringing the NPV (net present value) debt-to-exports ratio to under 150 percent. However, official public debt obligations would still be high, as IMF and World Bank debt comprised only 1/3 of total external debt stock³ in 2008. In addition to the burden of debt obligations, reconstruction needs in the aftermath of the earthquake are estimated to range from US\$8 billion to US\$14 billion⁴ - costs which are enormous, relative to the size of Haiti's economy in US\$ terms (GDP of US\$7.2 billion in 2008⁵).

Table 1. Haiti: Macroeconomic Overview

| Category | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---------|---------|---------|---------|---------|
| GDP (current, millions of gourdes) | 200,456 | 219,102 | 251,464 | 266,893 | 268,067 |
| GDP growth (constant, annual % change) | 2.3 | 3.3 | 0.8 | 2 | -10 |
| Inflation, GDP deflator (annual % change) | 16.6 | 7.2 | 13.8 | 6.3 | 11.6 |

Table compiled by author, from data in: IMF (2009), Haiti: Fourth Review Under the Three-Year Arrangement Under the Poverty Reduction and Growth Facility, March 2009, Washington, DC; and IMF (2010), Haiti: Sixth Review Under the Extended Credit Facility, February 2010, Washington, DC

I.i.i. Decomposition of GDP (Major Products and Service Industries)

Figures on the decomposition of GDP are difficult to obtain, and outdated. The most recently available data, from 2002, shows that while the agricultural sector employed nearly half of the population, the sector contributed to only 27 percent to GDP.⁶

¹ IMF (2009), Haiti: Enhanced Initiative for Heavily Indebted Poor Countries: Completion Point Document, Washington, DC

² The MDRI provides debt relief under the IMF, the World Bank (through IDA only), and the African Development Fund.

³ IMF (2009), Haiti: Enhanced Initiative for Heavily Indebted Poor Countries: Completion Point Document, Washington, DC

⁴ Cavallo, E.A., A. Powell, O. Becerra (2010), Estimating the Direct Economic Damage of the Earthquake in Haiti, Inter-American Development Bank

⁵ The World Bank's DDP database.

⁶ Verner, D. (2008), Making Poor Haitians Count: Poverty in Rural and Urban Haiti Based on the First Household Survey for Haiti, Policy Research Working Paper 4571, The World Bank

I.i.ii. Trade

The impacts of the global fuel and food price crisis can be seen in changes in imports figures. Expenditures on fuel imports more than tripled between 2005 and 2007, with the amount spent on fuel reaching a peak in 2007.⁷ Expenditures on food imports doubled between 2005 and 2008, with the amount spent on food imports highest in 2008, comprising 1/3 of Haiti's imports.⁸

Table 2. Haiti's Food and Fuel Imports

| Import | 2005 | 2006 | 2007 | 2008 |
|------------------------------|-------|-------|-------|-------|
| Fuel (US\$ million) | 20 | 38 | 68 | 39 |
| Fuel, as % of imports | 2% | 2% | 4% | 2% |
| Food (US\$ million) | 368 | 547 | 566 | 767 |
| Food, as % of imports | 30% | 29% | 30% | 33% |
| Total imports (US\$ million) | 1,226 | 1,903 | 1,888 | 2,322 |

Source: Table compiled by author, based on Comtrade figures, from Haiti's trading partners (mirror data), cited in ITC database

In 2008, Haiti's major bilateral trading partners were the US and Dominican Republic, who together provided 65 percent of Haiti's imports, and received 80 percent of Haiti's exports.⁹

Table 3. Haiti's Top Five Sources of Imports of Goods, in 2008

| Source | US\$ million | % Total Imports |
|--------------------------|--------------|-----------------|
| Total Imports | 2,322 | ... |
| United States of America | 945 | 41% |
| Dominican Rep | 569 | 24% |
| China | 126 | 5% |
| Malaysia | 80 | 3% |
| Brazil | 50 | 2% |

Table compiled by author, based on Comtrade figures, from Haiti's trading partners (mirror data), cited in ITC database

Table 4. Haiti's Top Five Destinations for Exports of Goods, in 2008

| Destination | US\$ million | % Total Exports |
|--------------------------|--------------|-----------------|
| Total exports | 657 | .. |
| United States of America | 464 | 71% |
| Dominican Rep | 62 | 9% |
| Thailand | 20 | 3% |
| Canada | 18 | 3% |
| Belgium | 14 | 2% |

Table compiled by author, based on Comtrade figures, from Haiti's trading partners (mirror data), cited in ITC database

As for the composition of imports, food comprised 37 percent of Haiti's imports from the US, with cereals accounting for 2/3 of these food imports.¹⁰ Slightly over 15 percent of Haiti's imports

⁷ Comtrade figures, from Haiti's trading partners (mirror data), cited in ITC database

⁸ Comtrade figures, from Haiti's trading partners (mirror data), cited in ITC database

⁹ Comtrade figures, from Haiti's trading partners (mirror data), cited in ITC database

¹⁰ Comtrade figures, from Haiti's trading partners (mirror data), cited in ITC database

from the Dominican Republic is food, with cereals accounting for nearly 10 percent of these food imports.¹¹

I.ii. Global and Regional Economic Linkages

Haiti belongs to the WTO (World Trade Organization), and participates in regional trade accords, including FTAA (Free Trade Area of the Americas)¹², CARICOM (Caribbean Community)¹³, and CARIFORUM (Caribbean Forum of ACP¹⁴ states)¹⁵. It is also signatory to the US-Caribbean Basin Trade Partnership Act (CBTPA).¹⁶

I.iii. Poverty

Haiti's current population was estimated to be close to 10 million in 2009.¹⁷ According to the most recent poverty headcount figures (2005), slightly more than half (54 percent) of the population was estimated to be living on less than US\$1 a day; this figure rises to 3/4 (76 percent), if poverty is measured using "the number of people living under US\$2 a day" benchmark.¹⁸

¹¹ Comtrade figures, from Haiti's trading partners (mirror data), cited in ITC database

¹² "ALCA - FTAA - ZLEA - Official Website of the Free Trade Area of the Americas Process (FTAA)." *ALCA - FTAA - ZLEA - Official Website - Sitio Oficial Del ALCA - Site Oficial Da ALCA - Siteweb Officiel De La ZLEA*. 21 June 2006. Accessed 02 June 2010. <http://www.ftaa-alca.org/alca_e.asp>.

¹³ "CARICOM MEMBER STATES." *Government of Jamaica, Jamaica Information Service*. Accessed 02 June 2010. <http://www.jis.gov.jm/special_sections/caricomnew/CaricomMemberStates.html>.

¹⁴ ACP is the organization for African, Caribbean and Pacific states

¹⁵ "Wider Agenda - Development-Economic Partnerships." *European Commission - Trade Websites*. 11 Dec. 2009. Accessed 02 June 2010. <<http://trade.ec.europa.eu/doclib/press/index.cfm?id=497&serie=301&langl=en>>.

¹⁶ "Caribbean Basin Initiative (CBI)." Office of the United States Trade Representative. 19 Mar. 2010. Accessed 02 June 2010. <<http://www.ustr.gov/trade-topics/trade-development/preference-programs/caribbean-basin-initiative-cbi>>.

¹⁷ This figure was estimated by the Institut Haïtien de Statistique et d'Informatique, based on the results from the 2003 general census of the population, which was the first census conducted in 24 years. This figure assumes a population growth of 3% per year.

¹⁸ IMF (2010), Haiti: Sixth Review Under the Extended Credit Facility, February 2010, Washington, DC

Annex II. Household Consumption and Expenditure Patterns

II.i. Sources of Food, Local Diets, and Main Staples

II.i.i. Sources of Food

Market purchases constitute the most frequent food source for most Haitians throughout the year.¹⁹ Though most people in Haiti (83 percent) use cash to purchase food from the market,²⁰ 5.5 percent of the rural population purchases food on credit, as opposed to three percent overall.²¹ As food aid is typically available for less than a one-month period,²² only four percent of the population relies on food from humanitarian assistance.²³

Table 5. Average Number of Months in Which Food Source is Available for Agricultural Households

| Food Consumption Level | Agricultural Production | Animal Production | Harvesting, Hunting | Fishing | Markets | Food transfers of resident household | Food transfers of non-resident households | Food aid |
|------------------------|-------------------------|-------------------|---------------------|---------|---------|--------------------------------------|---|----------|
| Poor | 6.4 | 2.3 | 3.7 | 0.3 | 11.3 | 0.5 | 0.1 | 0.3 |
| Borderline | 7.3 | 2.6 | 4.7 | 0.3 | 11.5 | 0.8 | 0.2 | 0.3 |
| Acceptable | 8.1 | 2.9 | 5.6 | 0.7 | 11.7 | 0.8 | 0.6 | 0.5 |
| Total | 7.9 | 2.8 | 5.3 | 0.6 | 11.6 | 0.8 | 0.5 | 0.5 |

Source: CNSA (2007), *Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien*, WFP

Agricultural production is also an important source of food. Haitians obtain food from agricultural production six to nine months out of the year.²⁴ The crop most frequently planted by households is maize (which is grown by nearly 3/4 of households), followed by tubers, peas, plantains, millet, sorghum, and beans.²⁵

Table 6. Percentage of Households Planting Crops, by Food Consumption Level

| Food Consumption Level | Maize | Rice | Millet, Sorghum | Beans | Vegetables | Sugar Cane | Coffee | Tubers | Plantains | Peas | Orchard Peas | Fruits |
|------------------------|-------|------|-----------------|-------|------------|------------|--------|--------|-----------|------|--------------|--------|
| Poor | 61.4 | 5.6 | 22.6 | 10.2 | 3.5 | 2.9 | 2.4 | 47.5 | 31.2 | 36.5 | 6.7 | 9.6 |
| Borderline | 71.9 | 6.9 | 27.8 | 20.6 | 4.4 | 3.1 | 3.1 | 39.6 | 30.4 | 34.3 | 4.6 | 6.0 |
| Acceptable | 70.4 | 11.0 | 28.9 | 26.4 | 8.7 | 5.4 | 5.0 | 37.0 | 30.6 | 35.0 | 4.1 | 9.3 |
| Total | 70.2 | 10.0 | 28.4 | 24.4 | 7.7 | 4.9 | 4.5 | 38.0 | 30.6 | 34.9 | 4.3 | 8.7 |

¹⁹ CNSA (2007), *Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien*, WFP

²⁰ CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme*, mars 2010

²¹ CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme*, mars 2010

²² CNSA (2007), *Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien*, WFP

²³ CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme*, mars 2010

²⁴ CNSA (2007), *Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien*, WFP

²⁵ CNSA (2007), *Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien*, WFP

Source: CNSA (2007), *Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien, WFP*

Some foods are made from a wheat flour base, and these foods are most frequently sold on the street or in a boutique.²⁶

Table 7. Where Food is Sold

| Food | Bakery | Pâtisserie | Home | Street | Boutik | Restaurant |
|---------------------|--------|------------|------|--------|--------|------------|
| Baked Bread (salt) | X | X | | X | X | |
| Baked Bread (sweet) | X | X | | X | X | |
| Baked Pomket | X | | | X | X | |
| Baked Mimosa | | | | X | X | |
| Baked Kookies | | X | | X | X | |
| Baked Komparet | X | | | X | X | |
| Baked Kawos | | X | | | X | |
| Baked Bonbon siwo | X | | | | X | |
| Baked Cake | X | X | | X | X | |
| Baked Kokonet | | X | | | X | |
| Baked Bonbon dous | | | | X | X | |
| Baked Bonbon sel | | | | X | X | |
| Fried Paté | | | X | X | | |
| Fried Marinad | | | X | X | | |
| Fried Boulet | | | X | | | X |
| Fried Boiled | | | | | | |
| Fried Boy | | | X | X | | X |
| Fried Boy olé | | | X | X | | |
| Fried Espeggetti | | | X | X | | X |

Source: Schwartz, T.T. (2010), *Post-Earthquake Wheat Flour Monetization in Haiti, World Vision International, January 2010*

II.i.ii. Local Diets/Main Staples

According to a 2010 rapid evaluation survey, the types of food which households had consumed within last seven days were mainly grains, legumes, and cooking oil.²⁷ Other foods, such as fish²⁸, were less frequently consumed.

Table 8. Days per Week Foods had been Consumed

| Food | Days per Week Consumed |
|-------|------------------------|
| Oil | 5.9 |
| Rice | 4.9 |
| Bread | 4.5 |
| Peas | 4.5 |
| Fish | 1.9 |

Source: CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, mars 2010*

²⁶ Schwartz, T.T. (2010), *Post-Earthquake Wheat Flour Monetization in Haiti, World Vision International, January 2010*

²⁷ CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, mars 2010*

²⁸ CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, mars 2010*

Rice and beans is a traditional Haitian dish, as well as a large variety of baked foods and a few fried and boiled foods, which are made from a base of wheat flour. Baked foods prepared using wheat flour include: bread, pan dous, pomket, kookies, komparet, kawos, bonbon siwo, gatœ, kokonet, bonbon dous, bonbon sel; fried foods include: pate, marinad, boulet, mimosa; and boiled foods include boy, espeggetti, boy ole.²⁹

Table 9. Food Consumption

| Name of food | Category | Category | Morning (in order of frequency) | Noon (in order of frequency) | Evening (in order of frequency) |
|------------------------|----------|----------|---------------------------------------|------------------------------------|---------------------------------------|
| Bread (Baked) | Salt | Cold | 1 | 2 | 3 |
| Pan dous (Baked) | Sweet | Cold | 0 | 2 | 1 |
| Pomket (Baked) | Sweet | Cold | 0 | 2 | 1 |
| Kookies (Baked) | Sweet | Cold | 0 | 2 | 1 |
| Komparet (Baked) | Sweet | Cold | 0 | 2 | 1 |
| Kawos (Baked) | Sweet | Cold | 0 | 2 | 1 |
| Bonbon siwo (Baked) | Sweet | Cold | 0 | 2 | 1 |
| Gatœ (Baked) | Sweet | Cold | 0 | 2 | 1 |
| Kokonet (Baked) | Sweet | Cold | 0 | 2 | 1 |
| Bonbon dous (Baked) | Sweet | Cold | 1 | 2 | 3 |
| Bonbon sel (Baked) | Salt | Cold | 0 | 2 | 1 |
| Paté (Fried) | Salt | Hot | 1 | 3 | 2 |
| Marinad (Fried) | Salt | Hot | 2 | 3 | 1 |
| Boulet (Fried) | Salt | Hot | 0 | 2 | 1 |
| Mimosa (Fried) | Salt | Cold | 1 | 2 | 3 |
| Boy (Boiled) | Salt | Hot | 1 | 3 | 2 |
| Espeggetti (Boiled) | Salt | Hot | 1 | 3 | 2 |
| Boy olé (Boiled) | Sweet | Hot | 2 | | 1 |

Source: Schwartz, T.T. (2010), *Post-Earthquake Wheat Flour Monetization in Haiti*, World Vision International, January 2010

Food made from wheat flour is most frequently prepared in the home and then sold on the street or in boutiques.³⁰

Table 10. Where Food is Fabricated

| Food | Bakery | Patisserie | Home | Street | Restaurant | Factory | Imported |
|-----------------------|--------|------------|------|--------|------------|---------|----------|
| Bread (salt) (Baked) | X | X | X | | | | |
| Bread (sweet) (Baked) | X | X | X | | | | |
| Pomket (Baked) | X | | X | | | | |
| Mimosa (Baked) | | | X | | | | |
| Kookies (Baked) | | X | X | | | | |
| Komparet (Baked) | X | | X | | | | |

²⁹ Schwartz, T.T. (2010), *Post-Earthquake Wheat Flour Monetization in Haiti*, World Vision International, January 2010

³⁰ Schwartz, T.T. (2010), *Post-Earthquake Wheat Flour Monetization in Haiti*, World Vision International, January 2010

| Food | Bakery | Patisserie | Home | Street | Restaurant | Factory | Imported |
|---------------------|--------|------------|------|--------|------------|---------|----------|
| Kawos (Baked) | | X | | | | | |
| Bonbon siwo (Baked) | X | | | | | | |
| Cake (Baked) | X | X | X | | | | |
| kokonet (Baked) | | X | | | | | |
| Bonbon dous (Baked) | | | | | | X | X |
| Bonbon sel (Baked) | | | | | | X | X |
| Paté (Fried) | | | X | X | | | |
| Marinad (Fried) | | | X | X | | | |
| Boulet (Fried) | | | X | | X | | |
| Boy (Boiled) | | | X | X | X | | |
| Boy olé (Boiled) | | | X | X | | | |
| Espeghetti (Boiled) | | | X | X | | | X |

Source: Schwartz, T.T. (2010), *Post-Earthquake Wheat Flour Monetization in Haiti*, World Vision International, January 2010

II.ii. Sources of Income

The 2010 rapid food security assessment, which surveyed 933 households after the earthquake, found that over 30 percent of income in Port-au Prince/Delmas/Carrefour and Cité Soleil was generated from trade; for Gressier/Léogâne and Petit Goâve/Jacmel, over 30-40 percent of income was derived from agricultural production; for Grande Goâve/Croix des Bouquets, about 45 percent of income was earned from trade and agricultural production combined; and for Petionville/Tabarre, remittances constituted nearly 20 percent of income.³¹ In Gressier/Léogâne and Petit Goâve/Jacmel, nearly 70 percent of surveyed households were worse-off after the earthquake.³²

Urban areas. In 2009, FEWS NET and CNSA conducted an urban livelihoods HEA baseline study in the bidonvilles (shanty towns) of Port-au-Prince. Three teams of interviewers conducted 30 key informant interviews in communities and 110 focus group interviews with household representatives, for a survey total of 500 economically-active households, who were aggregated into very poor, poor, middle, and wealthy groups.³³ According to the study, 65 percent of households living in the bidonvilles were poor, with the poorest households in the capital earning 9,500 to 12,500 gourdes per month, and the wealthiest groups earning 2.5 to 3.5 times more than the poorest.³⁴ In urban areas, most Haitians earn income by working in the informal sector as self-employed traders of used clothing and soap, repairers of appliances and machinery, and unskilled laborers who break rocks for home and road construction.³⁵ The poor tend to earn 90-95 percent of their income via a combination of petty trade, working as street

³¹ CNSA (2010), Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, mars 2010

³² CNSA (2010), Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, mars 2010

³³ FEWS NET and CNSA (2009), Port-au-Prince Urban Baseline: An Assessment of Food and Livelihood Security in Port-au-Prince, April-May 2009, for USAID

³⁴ FEWS NET and CNSA (2009), Port-au-Prince Urban Baseline: An Assessment of Food and Livelihood Security in Port-au-Prince, April-May 2009, for USAID

³⁵ Verner, D. (2008), Labor Markets in Rural and Urban Haiti: Based on the First Household Survey for Haiti, Policy Research Working Paper 4574, The World Bank

vendors, and on odd-jobs in construction, factories, or as porters.³⁶ The few who are employed in the formal sector mainly work in Port-au-Prince, where the public sector provides about half of all formal sector jobs (in education, health, justice, and parastatals).³⁷

Rural areas. In rural areas, people are engaged in subsistence farming.³⁸ The most recent CFSVA of rural areas was conducted prior to the earthquake (2007), and surveyed over 3,000 households. Results from the survey revealed that rural households earn nearly half their income from selling coal and agricultural products.³⁹

Assets. The poorest tend to not own any kind of vehicle; however some poor households own a wheelbarrow or bicycle.⁴⁰

II.ii.i. Remittances

Remittances are an important source of wealth in Haiti. They comprise a large share of GDP, provide income to households with unemployed members, and contribute to financing food expenditures.

Remittances to Haiti have been growing rapidly, constituting around five percent of GDP in the mid 1990s, to nearly 22 percent of GDP by 2006 (representing US\$1.1 billion).⁴¹ Detailed remittance flows data from 2001 shows that more than 1/3 (35 percent) of remittances go to Ouest province (where the capital, Port-au-Prince, is located), while about 10 percent to Nord province.⁴²

Origin. Remittances primarily originate from the US and Dominican Republic, with about 60 percent of transactions passing through licensed businesses such as Western Union and MoneyGram.⁴³ Over half of remittances sent to Haiti from Santo Domingo (Dominican Republic) are sent via informal channels (via family or friends), according to the results of a survey of 300 remittance senders in Santo Domingo.⁴⁴ In 2005, 17 percent of Haitian households said they

³⁶ FEWS NET and CNSA (2009), Port-au-Prince Urban Baseline: An Assessment of Food and Livelihood Security in Port-au-Prince, April-May 2009, for USAID

³⁷ Verner, D. (2008), Labor Markets in Rural and Urban Haiti: Based on the First Household Survey for Haiti, Policy Research Working Paper 4574, The World Bank

³⁸ Verner, D. (2008), Labor Markets in Rural and Urban Haiti: Based on the First Household Survey for Haiti, Policy Research Working Paper 4574, The World Bank

³⁹ CNSA (2007), "Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien"

⁴⁰ FEWS NET and CNSA (2009), Port-au-Prince Urban Baseline: An Assessment of Food and Livelihood Security in Port-au-Prince, April-May 2009, for USAID

⁴¹ World Bank's World Development Indicators, cited in: Todoroki, E., M. Vaccani, W. Noor (2009), The Canada-Caribbean Remittance Corridor: Fostering Formal Remittances to Haiti and Jamaica Through Effective Regulation, World Bank Working Paper Number 163

⁴² Orozco, M. (2006), Understanding the Remittance Economy in Haiti, Inter-American Dialogue, Paper Commission by The World Bank.

⁴³ Orozco, M. (2006), Understanding the Remittance Economy in Haiti, Inter-American Dialogue, Paper Commission by The World Bank.

⁴⁴ Orozco, M. (2006), Understanding the Remittance Economy in Haiti, Inter-American Dialogue, Paper Commission by The World Bank.

received informal remittances (cash carried by travelers) rather than through money transfer agencies.⁴⁵

Frequency. Remittances are sent more frequently than 10 times a year, and 40 percent fall between US\$101 and US\$300.⁴⁶ Approximately 1/3 of every US\$100 in remittances is spent on food.⁴⁷

Recipients. A survey of 578 remittance recipients, primarily in Port-au-Prince, revealed that over 50 percent of recipients are unemployed.⁴⁸ The Haitian diaspora sends remittances home primarily to help pay for basic family needs.⁴⁹

II.iii. Expenditure Patterns/Budgets

In April 2008, the food price crisis sparked food riots, and rampant unrest included the looting of businesses.⁵⁰ In August and September 2008, four tropical storms struck Haiti in succession.⁵¹ After these events, the 2009 HEA baseline urban study observed that both the poor and wealthy purchased most of their food in the markets,⁵² and the poor spent most of their money on food.⁵³ After the 2010 earthquake, a rapid food security assessment survey of 933 households⁵⁴ revealed similar results: prior to the earthquake, over half of household income was spent on food; after the earthquake, food expenditures rose to 80 percent.⁵⁵

⁴⁵ Simmons, A., D. Plaza, et al (2005), *The Remittance Sending Practices of Haitians and Jamaicans in Canada*, North York, Centre for Research on Latin America and the Caribbean (CERLAC), York University, cited in: Todoroki, E., M. Vaccani, W. Noor (2009), *The Canada-Caribbean Remittance Corridor: Fostering Formal Remittances to Haiti and Jamaica Through Effective Regulation*, World Bank Working Paper Number 163

⁴⁶ Orozco, M. (2006), *Understanding the Remittance Economy in Haiti*, Inter-American Dialogue, Paper Commission by The World Bank.

⁴⁷ Orozco, M. (2006), *Understanding the Remittance Economy in Haiti*, Inter-American Dialogue, Paper Commission by The World Bank.

⁴⁸ Orozco, M. (2006), *Understanding the Remittance Economy in Haiti*, Inter-American Dialogue, Paper Commission by The World Bank.

⁴⁹ Orozco, M. (2006), *Understanding the Remittance Economy in Haiti*, Inter-American Dialogue, Paper Commission by The World Bank.

⁵⁰ FEWS NET and CNSA (2009), *Port-au-Prince Urban Baseline: An Assessment of Food and Livelihood Security in Port-au-Prince, April-May 2009*, for USAID

⁵¹ FEWS NET and CNSA (2009), *Port-au-Prince Urban Baseline: An Assessment of Food and Livelihood Security in Port-au-Prince, April-May 2009*, for USAID

⁵² FEWS NET and CNSA (2009), *Port-au-Prince Urban Baseline: An Assessment of Food and Livelihood Security in Port-au-Prince, April-May 2009*, for USAID

⁵³ FEWS NET and CNSA (2009), *Port-au-Prince Urban Baseline: An Assessment of Food and Livelihood Security in Port-au-Prince, April-May 2009*, for USAID

⁵⁴ Surveyed households were located in: Port-au-Prince, Crossroads, Delmas, Léogâne, Gressier, Jacmel, Petit Goave, Petionville, Tabarre, Cité Soleil, Grand Goave, Croix des Bouquets. CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme*, mars 2010

⁵⁵ CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme*, mars 2010

Annex III. Food Security

III.i. Introduction

This Annex provides supplementary information on important factors that affect food security in Haiti. The Annex is organized as follows: (1) identification and description of Livelihood Zones, (2) a brief overview of the underlying causes of acute and chronic food insecurity, including typical hazards and shocks (3) review of the most recent food security assessments, (3) an overview of the seasonality of commodity prices, and (4) a discussion of the impact of the 2008 food price crisis and 2010 earthquake on market prices.

III.ii. Identification and General Description of Livelihood Zones

Haiti is divided into seven livelihood zones:

1. Dry agro-pastoral zone
2. Plains under monoculture zone
3. Humid mountain agriculture zone
4. Plateau agro-pastoral zone
5. Agro-pastoral zone
6. Dry agriculture and fishing zone
7. Sea salt production zone.⁵⁶

In every livelihood zone (except the sea salt production zone), a combination of cereals and vegetables are grown. Average annual rainfall amounts are highest in the humid mountain farming zone (over 2000 mm), and lowest in the dry agro-pastoral zones (600 mm), with rainfall in most regions ranging from 600-1300 mm. Sharecropping arrangements, whereby landless laborers farm an area of agricultural land in exchange for a certain share of total crop output, are in place in two of the zones.

Table 11. Rural Livelihood Zones

| Zone | Annual avg rainfall (mm) | Sharecropping (x=yes) | maize | peas | millet | beans | rice |
|----------------------------------|--------------------------|-----------------------|-------|------|--------|-------|------|
| Dry agro-pastoral zone | 600 | | x | X | x | | |
| Plains under monoculture zone | 600-1300 | | | | | | x |
| Humid mountain farming zone | 2000-2500 | X | x | X | | x | |
| Agro-pastoral plateau zone | 1000-1300 | X | x | X | x | | |
| Agro-pastoral zone | 1000-1200 | | x | X | | x | |
| Agriculture and fishing dry zone | 800-1100 | | x | X | x | | |

⁵⁶ USAID/FEWS NET, CNSA, USAID Haiti, CARE, CRS, SC, WV (2005), Livelihood Profiles in Haiti, September 2005

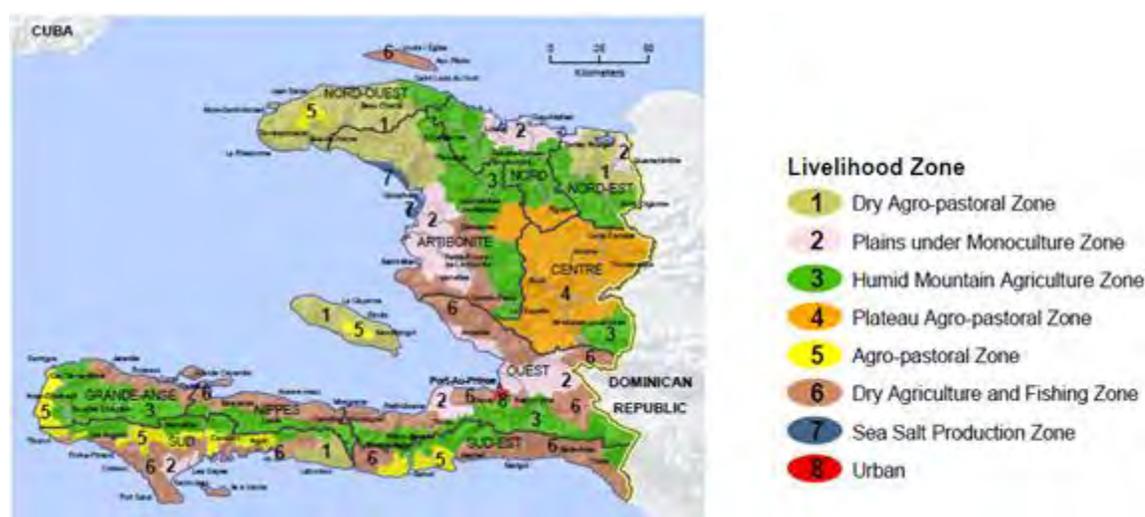
| Zone | Annual avg rainfall (mm) | Sharecropping (x=yes) | maize | peas | millet | beans | rice |
|--------------------------|--------------------------|-----------------------|-------|------|--------|-------|------|
| Sea salt production zone | .. | | | | x | | |

Source: Compiled by author, based on USAID/FEWS NET, CNSA, USAID Haiti, CARE, CRS, SC, WV (2005), *Livelihood Profiles in Haiti, September 2005*

III.iii. Dominant Livelihood Strategies, by Livelihood Zone

Across most of the livelihood zones, the majority income earned by poor households is from paid labor, with the exception of households in the sea salt production zone who earn most of their money from the sale of agricultural products.⁵⁷ By specific livelihood zone, poor households earn most of their income from: paid labor (dry agro-pastoral, humid mountain farming, and agro-pastoral zones); combination of labor and charcoal sales (agro-pastoral plateau and agricultural and dry fishing zones); combination of labor and crop sales (plains under monoculture zone); and agricultural production (sea salt production zone).⁵⁸

Figure 1. Map of Livelihood Zones



III.iv. Underlying Causes of Chronic and Acute Food Insecurity

Chronic food insecurity in Haiti is due to: (i) ecological and climate-related challenges; (ii) land ownership arrangements, such as sharecropping where those farming the land are entitled only to a part of the crops they produce; and (iii) lack of security in unloading zones of Port-au-Prince (i.e., Cité Soleil Port), which hinders food from rural areas getting to urban markets.⁵⁹

Causes of acute food insecurity include: (i) price shocks stemming from the food price crisis and the earthquake of January 2010; (ii) earthquake-related physical and socio-economic damage; and (iii) port security issues.

⁵⁷ USAID/FEWS NET, CNSA, USAID Haiti, CARE, CRS, SC, WV (2005), *Livelihood Profiles in Haiti, September 2005*

⁵⁸ USAID/FEWS NET, CNSA, USAID Haiti, CARE, CRS, SC, WV (2005), *Livelihood Profiles in Haiti, September 2005*

⁵⁹ USAID/FEWS NET, CNSA, USAID Haiti, CARE, CRS, SC, WV (2005), *Livelihood Profiles in Haiti, September 2005*

Earthquake-related issues related to household food insecurity include: (i) direct damage to property (e.g., housing); (ii) population displacement; and (iii) difficulties in earning sufficient income to meet household needs.⁶⁰

III.v. Typical Hazards/External Shocks

Food security is impacted by economic and environmental shocks. Economic shocks include sudden increases in the world price of food commodities, general inflation, exchange rate fluctuations, and changes in trade policies, all of which can impact the price of food, household purchasing power, and therefore household access to purchased food. Environmental shocks to food security in Haiti include: (i) loss of arable land, via erosion, landslides, or sink holes; (ii) damage to crops from pests, rodents, predator birds; and (iii) climate-related shocks such as droughts, floods, and fire. All zones are vulnerable to a combination of two or three types of shocks.

Table 12. Hazards to Crop Production

| Zone | erosion/landslide/sink holes | pests/rodents/predator birds | droughts | fire | floods |
|----------------------------------|------------------------------|------------------------------|----------|------|--------|
| Dry agro-pastoral zone | x | | x | | |
| Plains under monoculture zone | | x | | | x |
| Humid mountain farming zone | x | x | | | |
| Agro-pastoral plateau zone | x | | x | x | |
| Agro-pastoral zone | | x | | | x |
| Agriculture and fishing dry zone | x | x | | | x |
| Sea salt production zone | | | x | | x |

Source: Compiled by author based on 2005 livelihood zones report

III.vi. Food Security Assessments

As noted in Chapter 3, although there have been a number of food security assessments, very few have employed a reliable and transparent methodology, which makes their 'findings' impossible to interpret. The two most recent food security assessments from reliable sources, the CFSVA and the EFSA, provide detailed information about the prevalence of chronic food insecurity across rural Haiti (rural CFSVA 2007), as well as acute food insecurity among earthquake-affected households (urban EFSA Mar 2010).

III.vi.i. Chronic Food Insecurity

The 2007 CFSVA surveyed over 3,000 households in rural areas, and found that those populations with poor food consumption levels endured insufficient food consumption levels for nearly half of the year.⁶¹

⁶⁰ CNSA (2010), Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, Mars 2010

⁶¹ CNSA (2007), Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien, WFP

Table 13. Average Number of Months of Insufficient Food Supply, by Food Consumption Level

| Food consumption level | # of months of insufficient consumption |
|------------------------|---|
| Poor | 6.1 |
| Borderline | 5.5 |
| Acceptable | 4.8 |
| Total | 5.0 |

Source: CNSA (2007), *Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien*, WFP

The rural CFSVA notes that the Nord, Nord-Est, and Nord-Ouest have the largest share of households with poor food consumption scores.

Table 14. Distribution of Households According to Their Food Consumption Scores (FCS), by Department (%)

| | Poor | Poor/Borderline | Acceptable |
|------------|------|-----------------|------------|
| Haiti | 5.9 | 19.1 | 75 |
| Sud-Est | 4.6 | 14.7 | 80.7 |
| Sud | 3.8 | 12 | 84.2 |
| Nippes | 2.8 | 7.9 | 89.3 |
| Grand Anse | 6 | 25.4 | 68.6 |
| West | 3.7 | 16.2 | 80.1 |
| Center | 2.9 | 15.4 | 81.7 |
| Artibonite | 5.7 | 20 | 74.3 |
| Nord-Est | 8.4 | 27 | 64.6 |
| Nord | 12.2 | 25.7 | 62.1 |
| Nord-Ouest | 11.8 | 30.5 | 57.7 |

Source: Table compiled by author, based on Figure 20 in source: CNSA (2007), *Analyse Compréhensive de la Sécurité Alimentaire et de la Vulnérabilité (CFSVA) en Milieu Rural Haïtien*, WFP

III.vi.ii. Acute Food Insecurity

The rapid Emergency Food Security Assessment (EFSA), or according to its French title, Enquete sur la Sécurité Alimentaire en Situation d'Urgence (ESASU), in earthquake-affected areas conducted in March 2010 interviewed 944 households across six geographic strata affected by the earthquake. Of these, Pétionville and Tabarre have the largest share of food insecure people.⁶²

Table 15. Food Insecurity by Geographic Region

| Regions | Highly Food insecure | Moderately Food insecure | Food secure | Food Insecure (Moderate + High) |
|-----------------------------|----------------------|--------------------------|-------------|---------------------------------|
| S1 (PaP, Delmas, Carrefour) | 13% | 14% | 73% | 27% |
| S2 (Gressier, Léogâne) | 5% | 20% | 75% | 25% |
| S3 (Petit Goâve, Jacmel) | 4% | 25% | 71% | 29% |
| S4 (Pétionville, Tabarre) | 4% | 28% | 68% | 32% |
| S5 (Cité Soleil) | 4% | 18% | 78% | 22% |

⁶² CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme*, Mars 2010

| Regions | Highly Food insecure | Moderately Food insecure | Food secure | Food Insecure (Moderate + High) |
|--------------------------------------|----------------------|--------------------------|-------------|---------------------------------|
| S6 (Grand Goâve, Croix-des-Bouquets) | 3% | 17% | 81% | 19% |

Source: CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, mars 2010*

III.vii. Coping strategies

When confronted with food insecurity, households employed a number of coping strategies after the earthquake. The 2010 EFSA reports that the most frequently cited strategies were: (i) migrating for work or food more frequently than usual; (ii) depending on seasonal work; (iii) reducing health expenditures; and (iv) consuming seeds stocks intended for use during the next planting season.⁶³

Table 16. Prevalence of Households Utilizing Food Strategy Post-Earthquake

| | Consumption of seeds stocks held for next season | Decrease purchases or not purchasing agricultural inputs (i.e. fertilizer) | Harvesting Earlier than Usual | Selling more animals than usual | Selling of household goods | Selling of productive assets | Reduce health related spending | Migrate for work, or to find food more frequently than usual | Depend on seasonal work |
|--------------------------------------|--|--|-------------------------------|---------------------------------|----------------------------|------------------------------|--------------------------------|--|-------------------------|
| S2 (Gressier, Léogâne) | 34% | 21% | 32% | 17% | 14% | 2% | 15% | 12% | 12% |
| S3 -(Petit Goâve, Jacmel) | 38% | 25% | 25% | 19% | 8% | 10% | 16% | 9% | 18% |
| S6 (Grand Goâve, Croix-des-Bouquets) | 23% | 15% | 20% | 22% | 14% | 9% | 15% | 14% | 22% |
| C2 Rural | 9% | 7% | 5% | 3% | 11% | 6% | 17% | 17% | 16% |
| S1 (PaP, Delmas, Carrefour) | 6% | 5% | 2% | 5% | 6% | 6% | 19% | 21% | 12% |
| S4 (Pétionville, Tabarre) | 9% | 5% | 4% | 0% | 4% | 3% | 17% | 20% | 18% |
| S5 (Cité Soleil) | 1% | 2% | 0% | 10% | 8% | 3% | 15% | 25% | 27% |
| C1 Urbain | 8% | 1% | 1% | 3% | 6% | 0% | 10% | 23% | 25% |
| Total | 12% | 8% | 7% | 7% | 7% | 5% | 16% | 19% | 17% |

Source: CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, mars 2010*

III.viii. Seasonality of Activities and Prices

This section covers the seasonality of activities and prices. The next section will focus on commodity price shocks during the food price crisis and in the aftermath of the January 2010 earthquake.

III.viii.i. Seasonality of Activities

The latest available livelihood profiles (2005) indicate that vegetables are the main crop harvested during the winter, though peas are harvested year-round in some parts of the country. Cereal crops such as maize and rice are mostly harvested in the summer, with the exception of millet, which is mostly a winter crop. Rice is grown in only one livelihood zone.

⁶³ CNSA (2010), *Evaluation rapide d'urgence de la sécurité alimentaire post-séisme, mars 2010*

Table 17. Seasonal Calendar, Indicating Harvest (Surplus) Periods (S=Summer (Jun-Aug); A=Autumn (Sep-Nov); W=Winter (Dec-Feb); Sp=Spring (Mar-May))

| | Dry agro-pastoral zone | Plains under monoculture zone | Humid mountain farming zone | Agro-pastoral plateau zone | Agro-pastoral zone | Agriculture and fishing dry zone | Sea salt production zone |
|--------|------------------------|-------------------------------|-----------------------------|----------------------------|--------------------|----------------------------------|--------------------------|
| Maize | S,W | S | Sp | S,A | S,A | S,A | |
| Millet | A | | | A,W | | W | S,W |
| Rice | | S | | | | | |
| Beans | | W | Sp | | Sp,A,W | | |
| Peas | S,A | | Sp | W | W | W | |

Source: Compiled by author, based on USAID/FEWS NET, CNSA, USAID Haiti, CARE, CRS, SC, WV (2005), *Livelihood Profiles in Haiti, September 2005*

III.viii.ii. Seasonality of Prices

This price analysis covers the period of April 2007 through July 2010, capturing the effects of the food and fuel price crisis in part of 2007 through mid 2008, and the price shocks from the January 2010 earthquake. This section provides an overview of nominal retail commodity prices in annual average terms of nine major market regions, geographically spread across the country: Croix-des-Bossales, Cap-Haitien, Gonaives, Jacmel, Ouanaminthe, Port de Paix, Cayes, Hinche, Jeremie. This is followed by a detailed analysis of nominal retail commodity prices during 2009, in average monthly terms, across four to five major market regions⁶⁴, also geographically spread across the country: Croix-des-Bossales, Cap-Haitien, Cayes, Hinche, and Jeremie.

Overview of Annual Average Commodity Prices

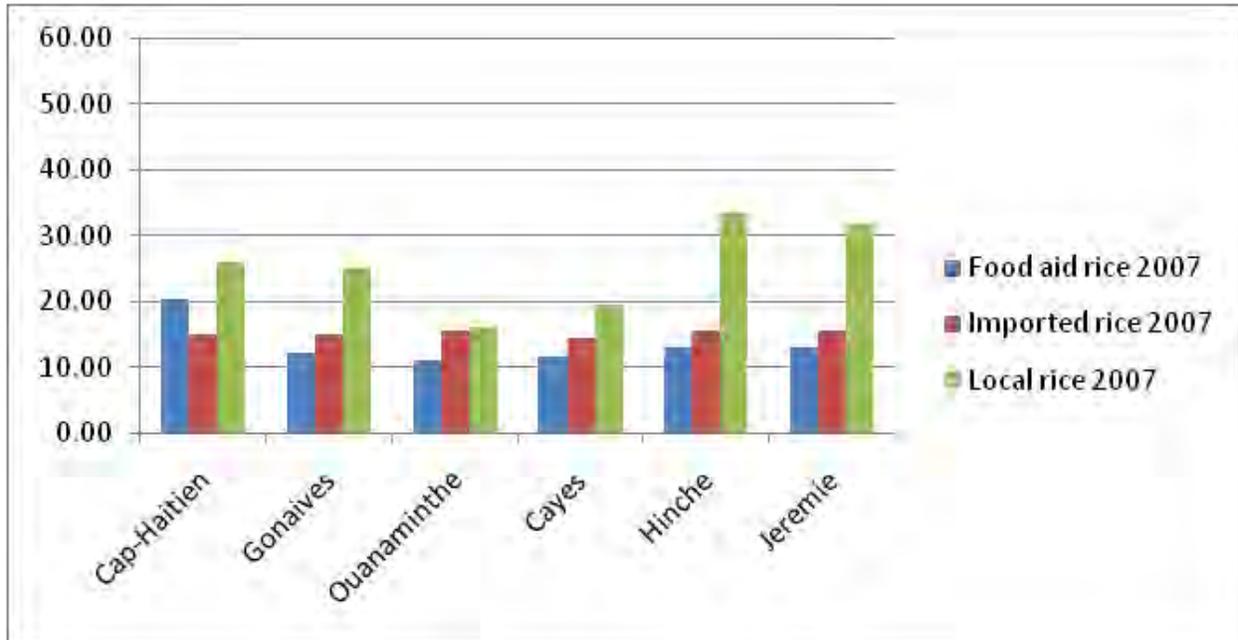
In response to significant quantities of food aid sold on markets prior to the earthquake, CNSA/FEWS tracked the price of food aid during 2007 and 2008. Analysis of this data revealed that in most markets, in average annual terms, food aid rice prices were lower than local and commercially imported varieties, food aid edible oil prices were lower than local edible oil varieties, and food aid beans prices were lower than local red and black beans. This finding indicates not only that leakage of food aid occurs⁶⁵ (i.e., food aid is being sold on markets), but given that the price of food aid commodities is generally lower than that of local and/or imported varieties of these commodities, food aid could be introducing a disincentive to both local producers and importers to sell those types of commodities.⁶⁶

⁶⁴ The nominal retail commodity "market" price data represent an average of prices across markets within those areas. Due to time constraints, 4-5 "markets" were selected from different geographical areas of the country, to provide a more detailed analysis of price differences within Haiti.

⁶⁵ Several sources claimed that the primary source of leakage was institutional, rather than households selling rations. However, it should be noted that the teams did not observe significant amounts of food aid for sale on the market, with the exception of about 25 bags of CSB in the Gonaives market. The southern team did hear accounts of Madam Saras engaging in forward contracts with FFW beneficiaries for SFB.

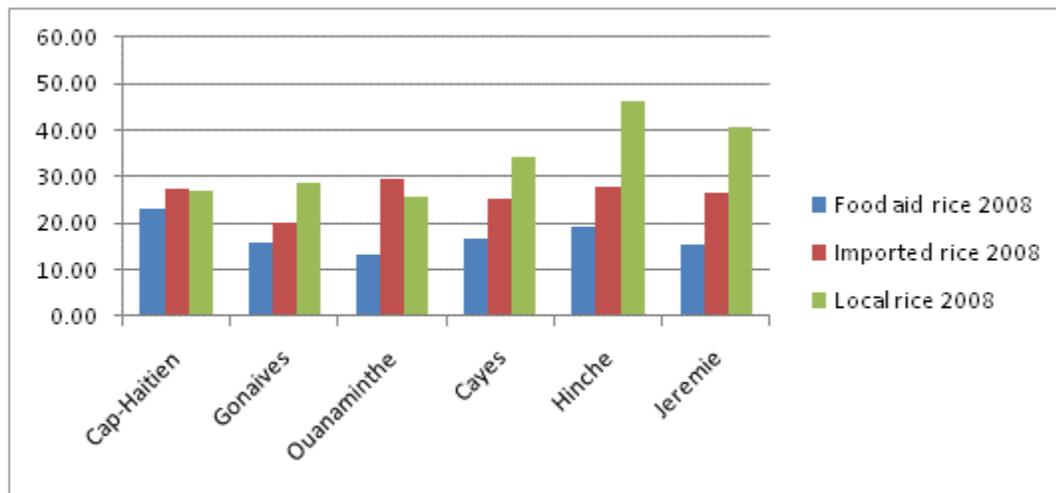
⁶⁶ Food aid would be introducing a disincentive only in the case where a food aid commodity is regarded by consumers as a substitute for a local or imported variety.

Figure 2. Average Annual Price of One Pound of Rice (Food Aid, Imported, Local), in Haitian Gourdes, by Market, 2007⁶⁷



Source: Compiled by author, based on data from USAID/Haiti price bulletins

Figure 3. Average Annual Price of One Pound of Rice (Food Aid, Imported, Local), in Haitian Gourdes, by Market, 2008⁶⁸



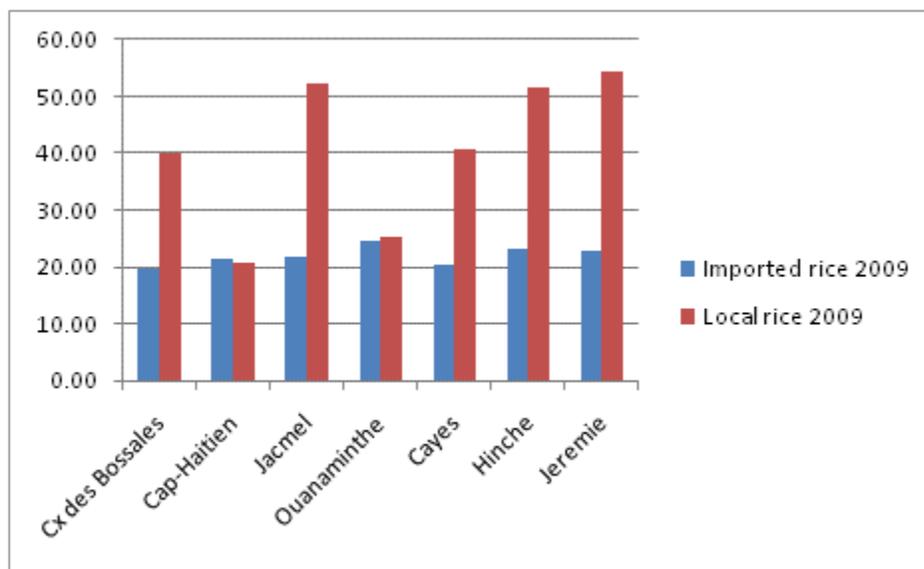
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

⁶⁷ Data not available on food aid for Croix-des-Bossales, Jacmel, Port de Paix 2007, 2008

⁶⁸ Data not available on food aid for Croix-des-Bossales, Jacmel, Port de Paix 2007, 2008

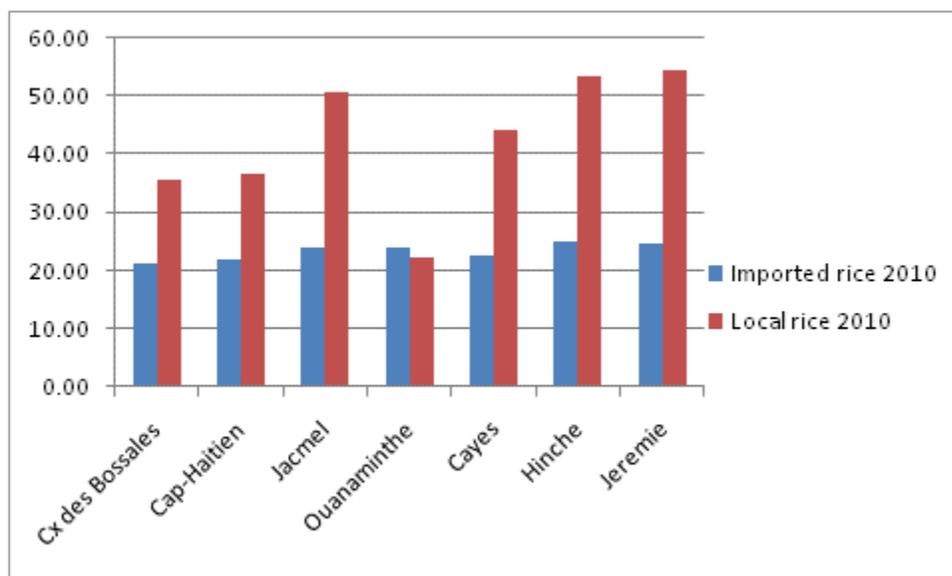
By 2009 and early 2010, imported rice prices were lower than local rice prices, in annual average terms, across six of the seven reporting markets.

Figure 4. Average Annual Price of One Pound of Imported and Local Rice, in Haitian Gourdes, by Market, 2009⁶⁹



Source: Compiled by author, based on data from multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 5. Average Annual Price of One Pound of Imported and Local Rice, in Haitian Gourdes, by Market, 2010⁷⁰



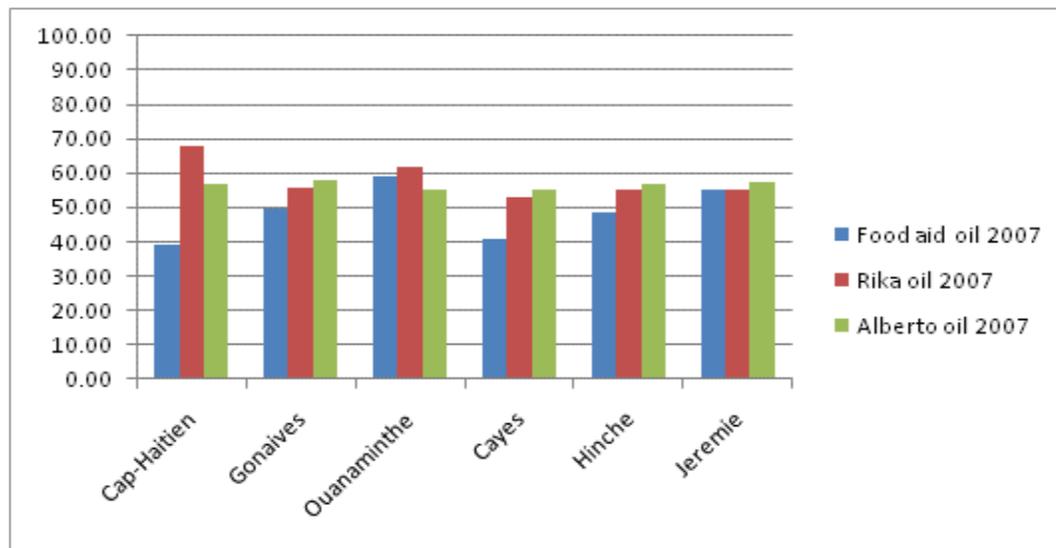
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

⁶⁹ Data not available for Gonaives 2009.

⁷⁰ Data not available for Gonaives 2009.

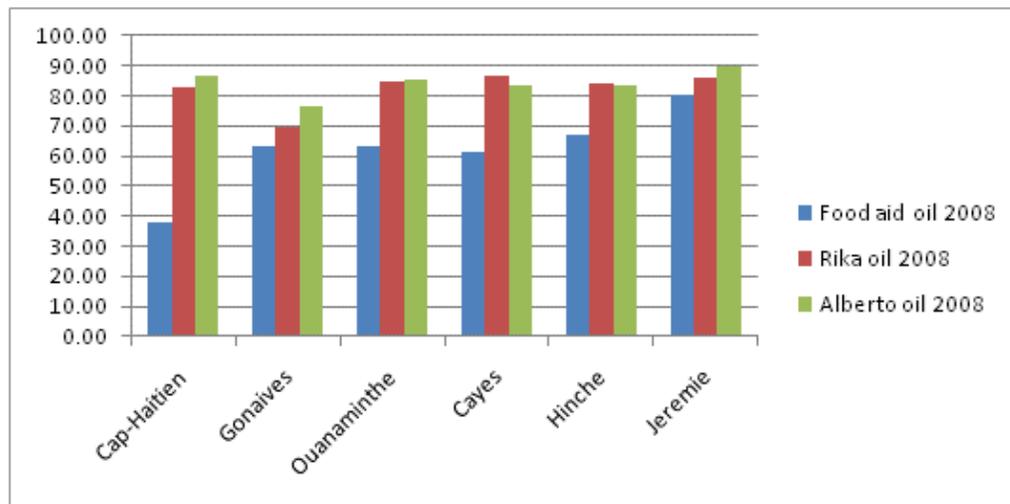
Food aid oil prices also exhibit a similar trend for 2008, with food aid oil prices lower than local oil prices. This was the case for some markets in 2007 as well.

Figure 6. Average Annual Price of One Liter of Imported and Food Aid Oils, in Haitian Gourdes, by Market, 2007⁷¹



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 7. Average Annual Price of One Liter of Imported and Food Aid Oils, in Haitian Gourdes, by Market, 2008⁷²



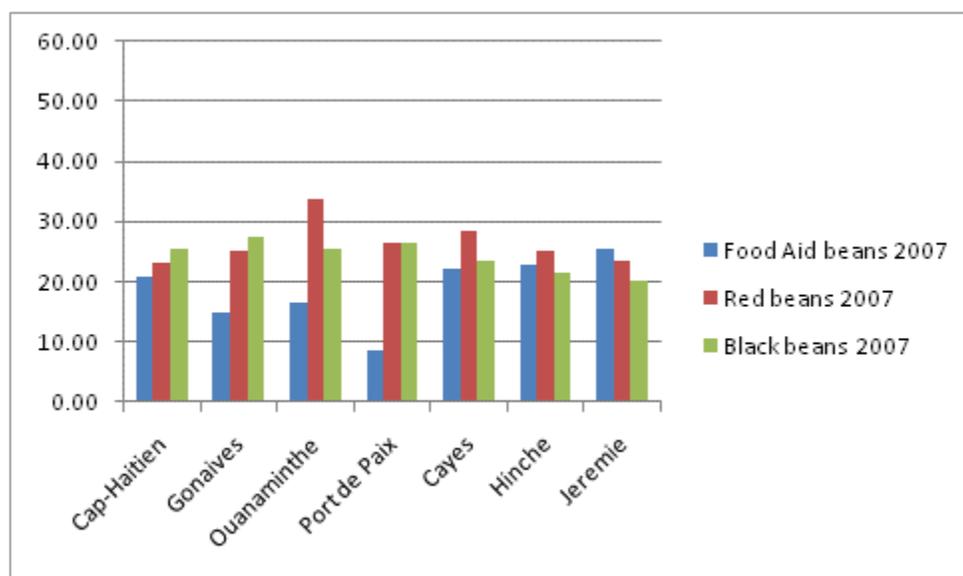
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

⁷¹ Food aid data not available for Croix-des-Bossales, Jacmel, Port de Paix, 2007, 2008.

⁷² Food aid data not available for Croix-des-Bossales, Jacmel, Port de Paix, 2007, 2008.

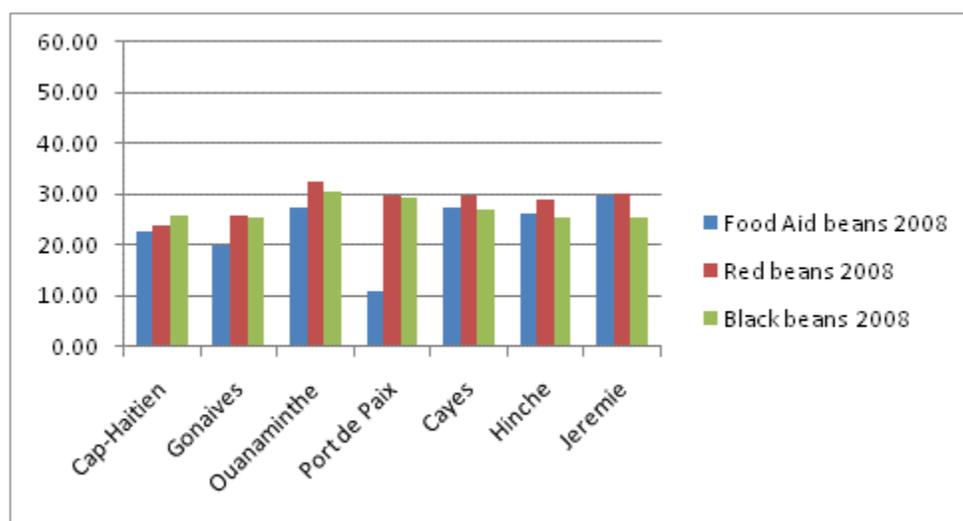
Food aid beans prices were lower than local beans prices across five major markets in 2007 and four major markets in 2008.

Figure 8. Average Annual Price of One Pound of Beans (Red, Black, Food Aid), in Haitian Gourdes, by Market, 2007⁷³



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 9. Average Annual Price of One Pound of Beans (Red, Black, Food Aid), in Haitian Gourdes, by Market, 2008⁷⁴



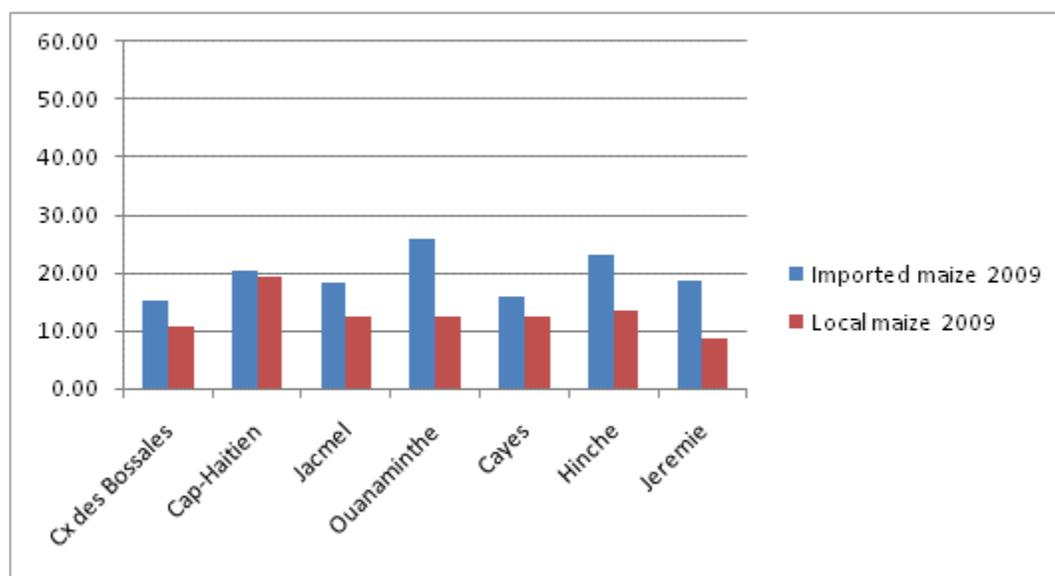
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

⁷³ Food aid prices not available for Croix-des-Bossales and Jacmel, 2007, 2008.

⁷⁴ Food aid prices not available for Croix-des-Bossales and Jacmel, 2007, 2008.

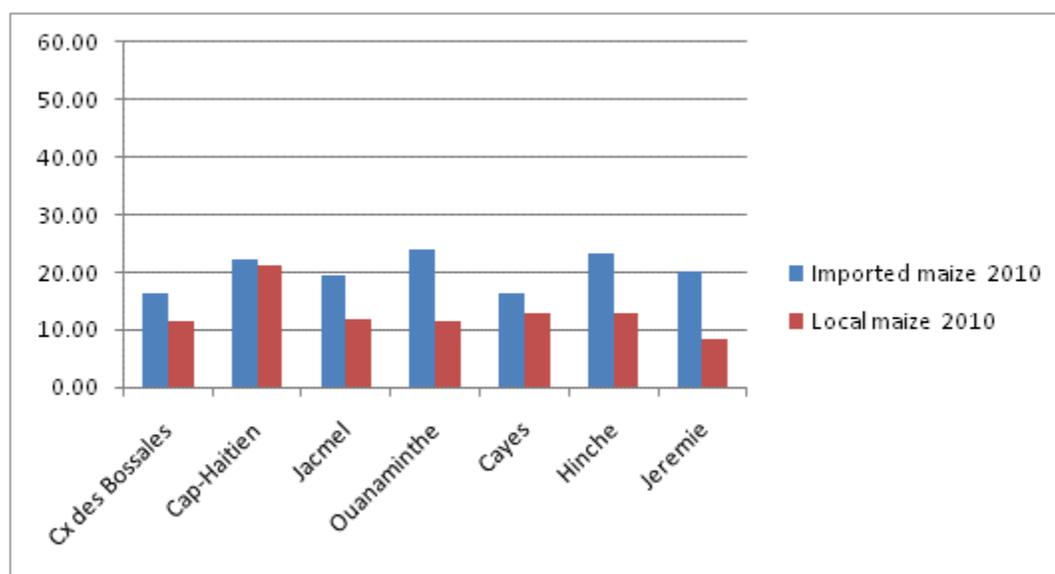
As for maize, imported maize prices were higher than local maize prices, across all major reporting markets, in both 2009 and 2010.

Figure 10. Average Annual Price of One Pound of Imported and Local Ground Maize Prices, in Haitian Gourdes, by Market, 2009⁷⁵



Source: Compiled by author, based on data from multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 11. Average Annual Price of One Pound of Imported and Local Ground Maize, in Haitian Gourdes, by Market, 2010⁷⁶



Source: Compiled by author, based on data from multiple CNSA Fiches hebdomadaires des produits locaux et importés

⁷⁵ Data not available for Gonaives 2009, Port de Paix 2009, 2010.

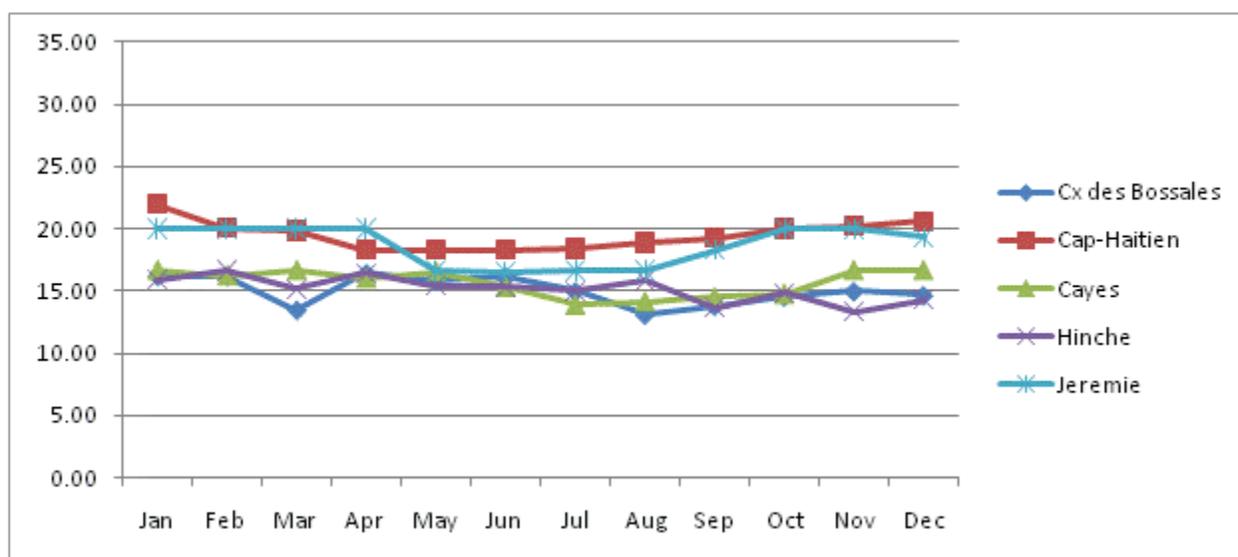
⁷⁶ Data not available for Gonaives 2009, Port de Paix 2009, 2010.

Seasonality in Commodity Prices

Nominal price data from five major markets, in five geographically distinct areas of Haiti: Croix-des-Bossales (Port-au-Prince, West), Cap-Haitien (North), Cayes (South), Hinche (Central Plateau), and Jeremie (Grand'Anse) are analyzed in the seasonality section. Prices from 2009 are used to represent a "normal year" because: (i) food prices had leveled off by 2009, following the food price crisis of 2007-2008; (ii) 2010 data is skewed by price spikes following the January 2010 earthquake.

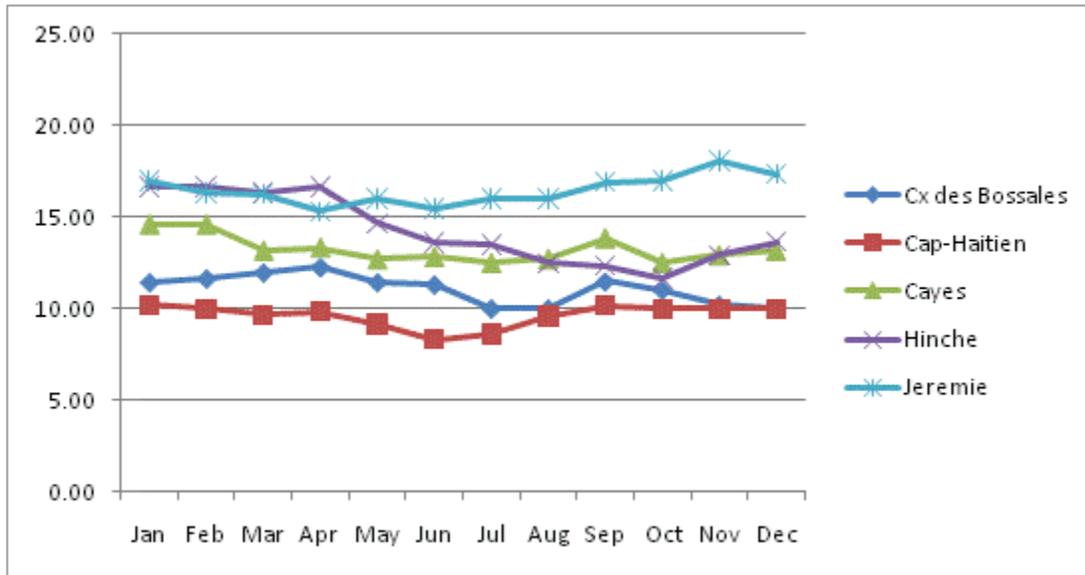
The prices of most grains, including wheat grain, wheat flour, imported rice, imported maize, local maize, and sorghum, tend to decline after the main summer harvest, as shown in the figures below. The only exception to this seasonal variation is the price of local rice, which tends to be fairly stable throughout the year. There also is a large differential in local rice prices between markets. For instance, the price is fairly constant and relatively low in Cap-Haitien, as it is a large inflow market located close to the rice nexus for the country, L'Estere. In comparison, prices have stabilized at around 150 percent the Cap-Haitien price in Hinche and Jeremie. Local rice prices are particularly volatile in Cayes and Croix-des-Bossales, where they average about double the price in Cap-Haitien.

Figure 12. Average Monthly Price of One Pound of Bulgur Wheat, in Haitian Gourdes, 2009



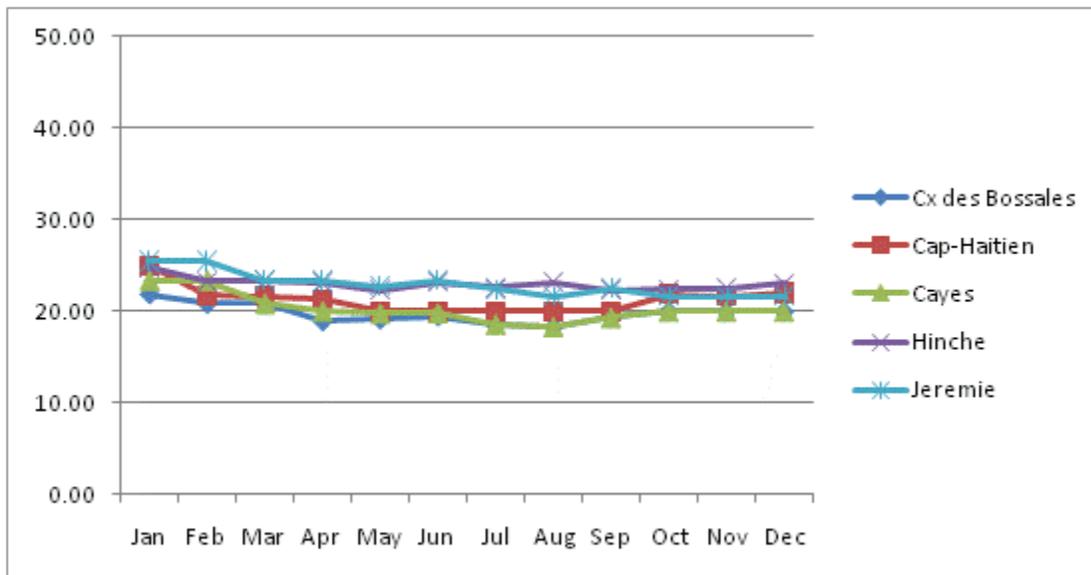
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 13. Average Monthly Price of One Pound of Wheat Flour, in Haitian Gourdes, 2009



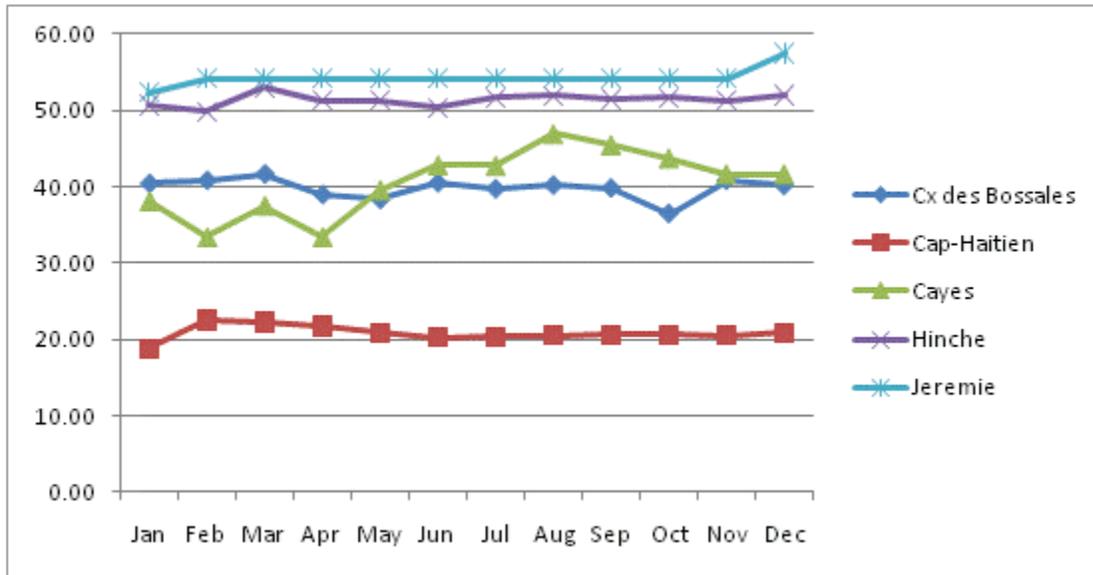
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 14. Average Monthly Price of One Pound of Imported Rice, in Haitian Gourdes, 2009



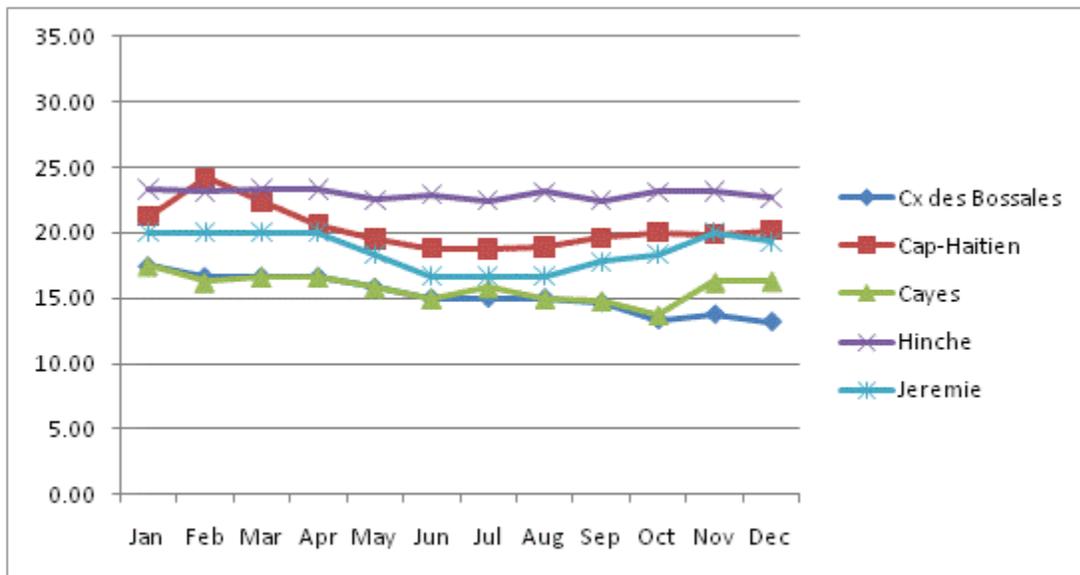
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 15. Average Monthly Price of One Pound of Local Rice, in Haitian Gourdes, 2009



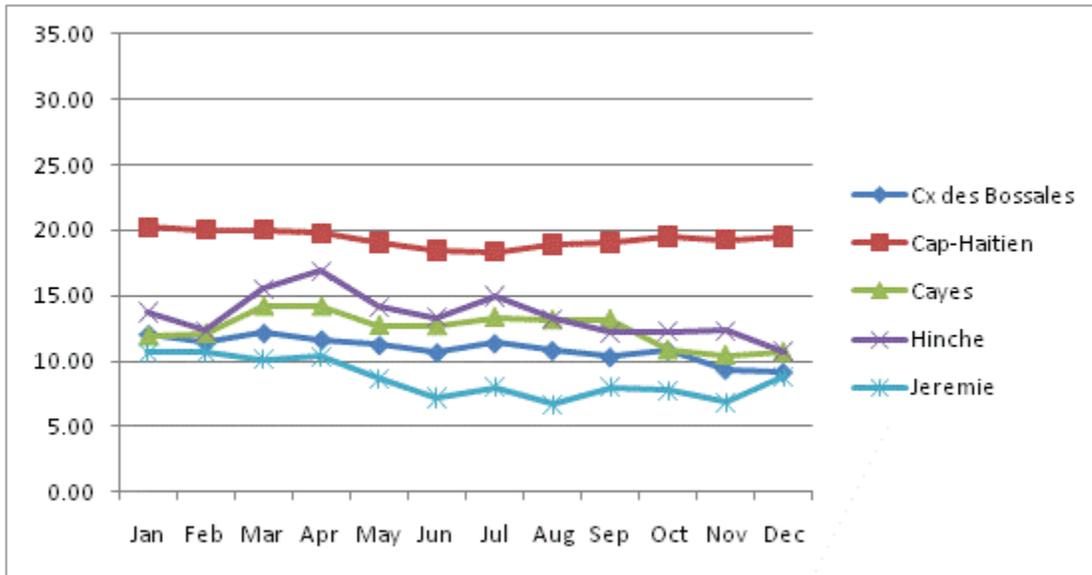
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 16. Average Monthly Price of One Pound of Imported Ground Maize, in Haitian Gourdes, 2009



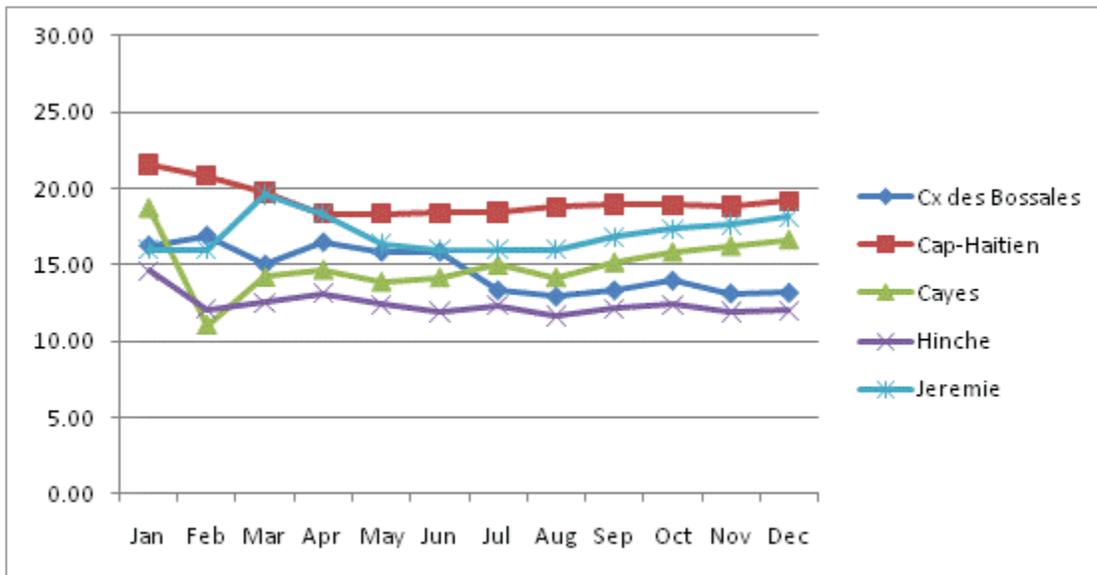
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 17. Average Monthly Price of One Pound of Local Ground Maize, in Haitian Gourdes, 2009



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

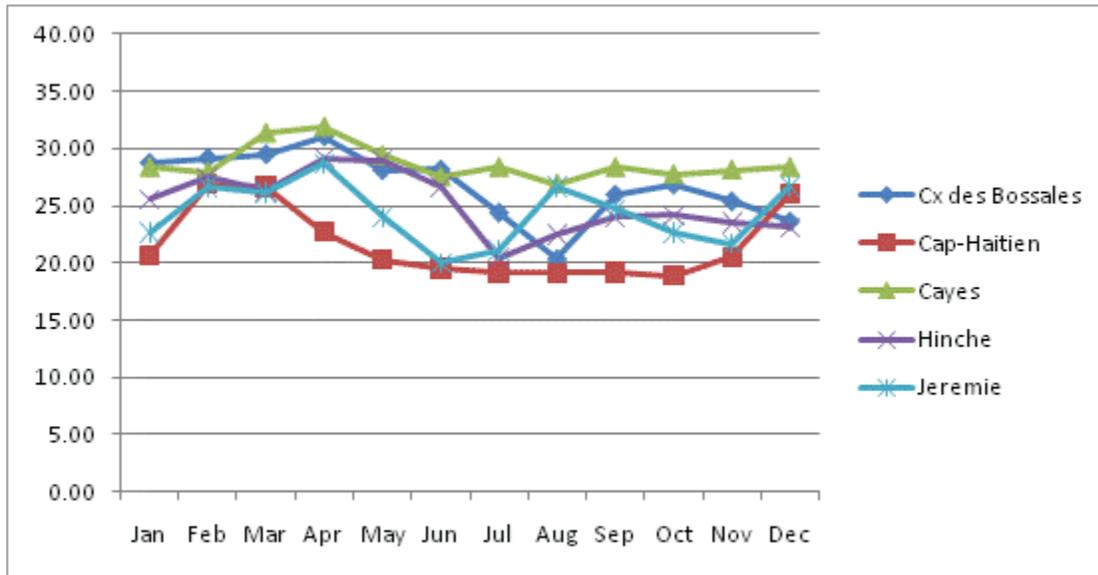
Figure 18. Average Monthly Price of One Pound of Sorghum, in Haitian Gourdes, 2009



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

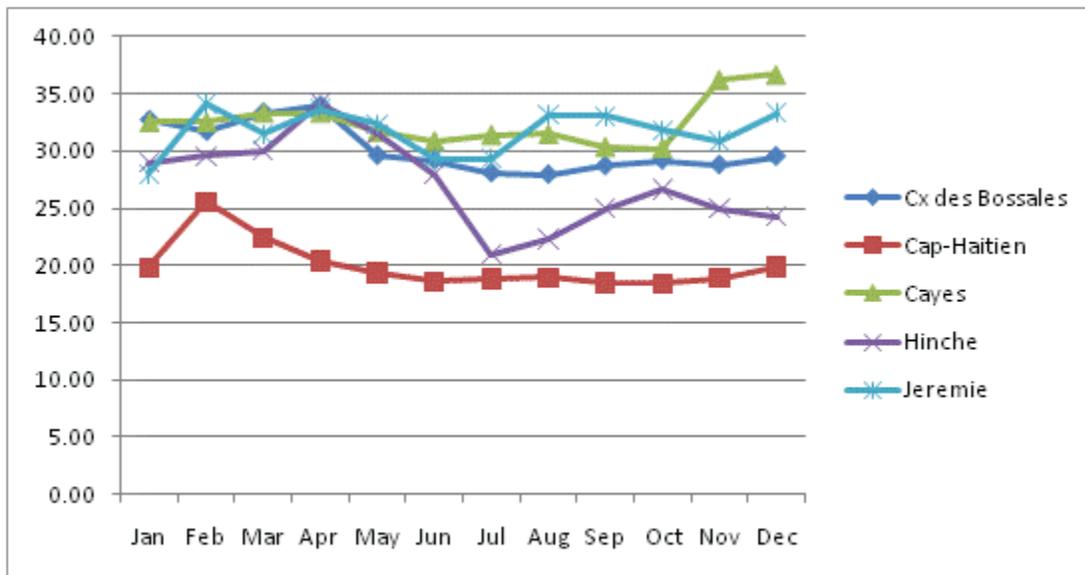
Similar to vegetable prices, black and red beans prices vary depending upon the season in which they are harvested, as harvest times differ across locations.

Figure 19. Average Monthly Price of One Pound of Black Beans, in Haitian Gourdes, 2009



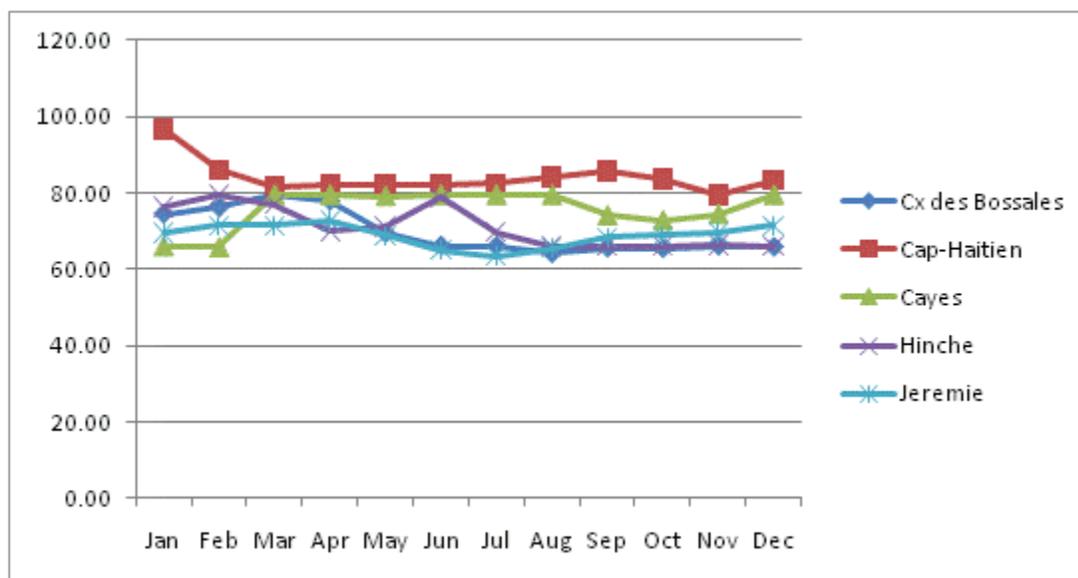
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 20. Average Monthly Price of One Pound of Red Beans, in Haitian Gourdes, 2009

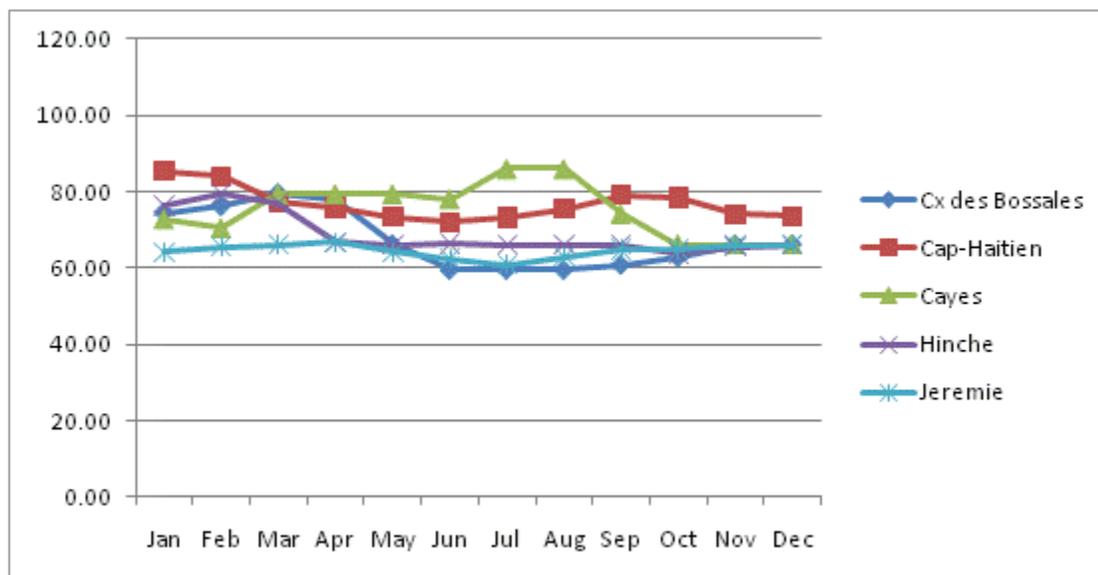


Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

As for edible oil prices, Rika oil prices were generally lower in the summer of 2009, while Alberto oil prices were fairly stable throughout the year.

Figure 21. Average Monthly Prices One Liter of Alberto Oil, in Haitian Gourdes, 2009

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 22. Average Monthly Price of One Liter of Rika Oil, in Haitian Gourdes, 2009

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

III.viii.iii. Price Shocks: Food Price Crisis and January 2010 Earthquake

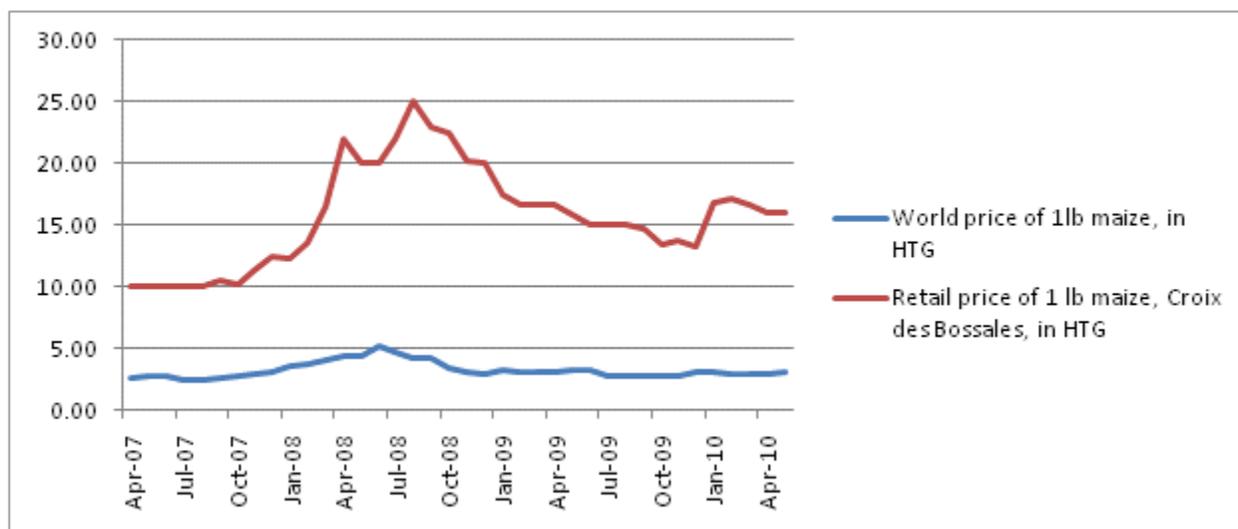
Overview and Comparison

Food security is also impacted by economic shocks, such as changes in food prices, given that food prices tend to change quickly while incomes lag behind. Since wage setting does not

occur in automatic response to upward shifts in prices, incomes do not adjust quickly enough to compensate for the loss in purchasing power resulting from sudden price changes. Rapid increases in food prices, caused by economic shocks, can cause households which were previously able to afford enough food to feed the entire household to reduce caloric intake in order to afford necessary expenditures. Reducing caloric intake has implications for health and ultimately labor force productivity, which in turn impacts economic growth.

It should be noted that the global price shocks were of significantly greater magnitude and duration than those following the earthquake, though the effects of price hike following the earthquake were likely more acute. The example of imported maize is representative of the delay in price transmission and weak correlation between world prices and retail commodity prices in Haiti, as well as the relative size of the shocks. The figure below plots the world price of maize and the Port-au-Prince retail price of imported maize from April 2007 through May 2010.

Figure 23. World and Retail Price of Maize, in Haitian Gourdes, April 2007-May 2010



From April to July 2007, the world price of maize and the retail price of maize in Croix-des-Bossales were both relatively stable, with retail prices 3.8 times the world price of maize. The global food crisis caused the world price of maize to increase by 116 percent between July 2007 and 2008. During the same period, the retail price of maize in Croix-des-Bossales increased by exactly 100 percent. After the peak in June 2008, the global price of maize fell more quickly than it rose, and by February 2008, it re-equilibrated at 10 percent above the price level prior to the spike. On the other hand, the retail price of imported maize continued to rise beyond the world price zenith through August 2008, when it reached 150 percent of the previous year's price. The retail price began to decline, but less rapidly than it rose, and by February 2009, the retail price remained 67 percent higher than the July 2007 price (as opposed to a 10 percent differential for the world price), and five and a half times the world price.

Though the Haitian gourde depreciated by 8.1 percent relative to the US dollar from January to December 2008⁷⁷, it should be noted that exchange rate fluctuations do not account for the divergence between world and retail prices as world price has been converted to Haitian gourdes. Rather, the graph above illustrates the inflammatory effect of an increase in world prices upon Haitian markets, and the downward stickiness of prices in Haiti. Given the concentration of market power in the import commodity markets (see Chapter 5), it is safe to assume that importers and first-level wholesalers capture the rents derived from the wedge between world and retail prices.

In December 2009, well after the global price had re-equilibrated at 10 percent above pre-crisis levels, the retail price of imported maize was still 32 percent higher than the July 2007 price, or 4.3 times above world price. Retail prices in Haiti had not yet recuperated from the global food crisis when the earthquake hit in January 2010, causing a further discrepancy between the world price of maize and the retail price. Though world prices remained relatively stable, prices in Croix-des-Bossales jumped 30 percent between December 2009 and February 2010, but began dropping the following month.

It should be noted that the two-month, 30 percent price increase triggered by the earthquake was more sudden than the relatively slower onset of the global food crisis, which resulted in a greater magnitude price increase of 150 percent over twelve months. The 30 percent retail increase over the two months following the earthquake came on top of a December 2010 price which was already 32 percent above the pre-global food crisis price. In other words, the retail price of maize in February 2010 was 71 percent above the July 2007 price.

The following section on external shocks focuses on specific price impacts of the global food price crisis and the January 2010 earthquake on Haiti's commodity markets.

Food Price Crisis - Specific Price Impacts

Nominal price data from April 2007 to December 2008, across the same five markets, is analyzed to capture the timing and impact of food price shocks across different commodity markets, and different geographical markets. The percent change indicates the price increase, which is the change in prices when comparing the lowest price during the period relative to the price spike, calculated as the difference between the highest recorded price (maximum) and the lowest recorded price (minimum) during that period. For certain grains, prices increased over 100 percent (more than doubling) during the food price crisis.

Overall, many of the highest food price spikes (lowest recorded price relative to the highest recorded price) occurred in Cayes and Hinche markets. The highest price spikes occurred in: Cayes for imported rice, local rice, Rika oil, food aid oil; Hinche for wheat flour, food aid rice, imported maize, local maize, sorghum, black beans, red beans; Croix-des-Bossales for wheat grain; and Jeremie for Alberto oil. An overview of price shocks follows in the tables below.

⁷⁷ To calculate 8.1% depreciation, the author calculated the difference between the exchange rate in Dec08 and Dec07, as a proportion of the exchange rate in Dec07.

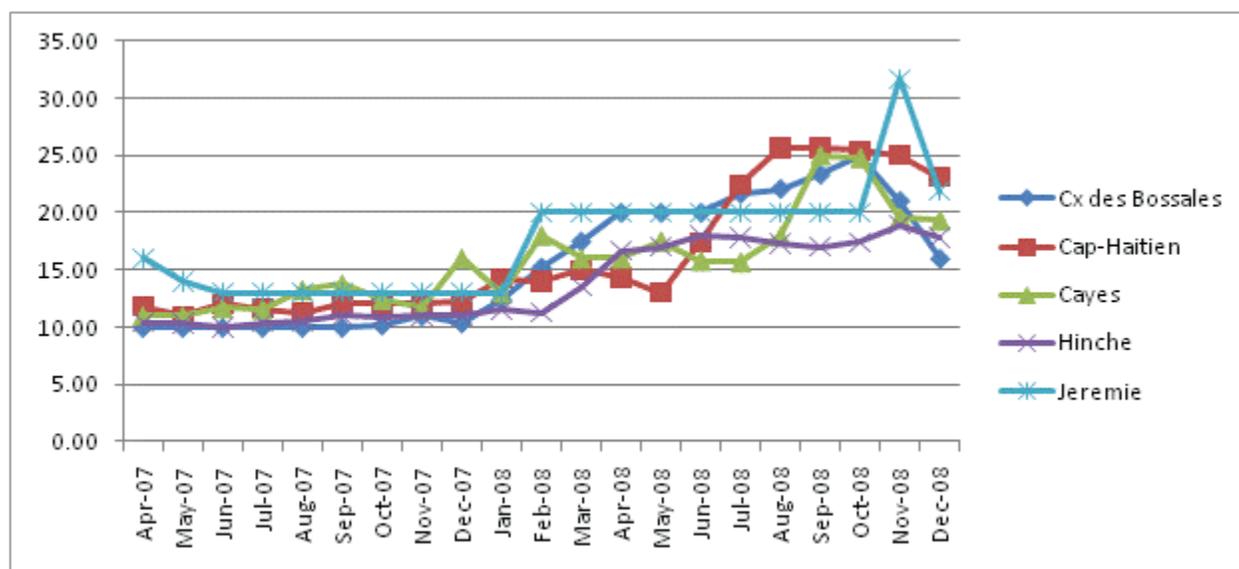
Wheat grain prices ranged from 10 to 13 gourdes per pound at their lowest point, to 19 to 32 gourdes at their highest point. The highest price spike occurred in Croix-des-Bossales market, in Port-au-Prince (150 percent).

Table 18. Average Monthly Wheat Grain Prices, April 2007 to December 2008, Gourdes per 1 Lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|-------|-------------------|
| Croix-des-Bossales | 10.00 | 25.00 | 150% |
| Cap-Haitien | 11.00 | 25.66 | 133% |
| Cayes | 11.00 | 25.00 | 127% |
| Hinche | 10.00 | 18.91 | 89% |
| Jeremie | 13.00 | 31.66 | 144% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 24. Average Monthly Price of One Pound of Bulgur Wheat Grain, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Wheat flour prices ranged from eight to 11 gourdes per lb before the shocks to a high of 15 to 23 gourdes. The highest price spike in wheat flour prices occurred in Hinche (167 percent).

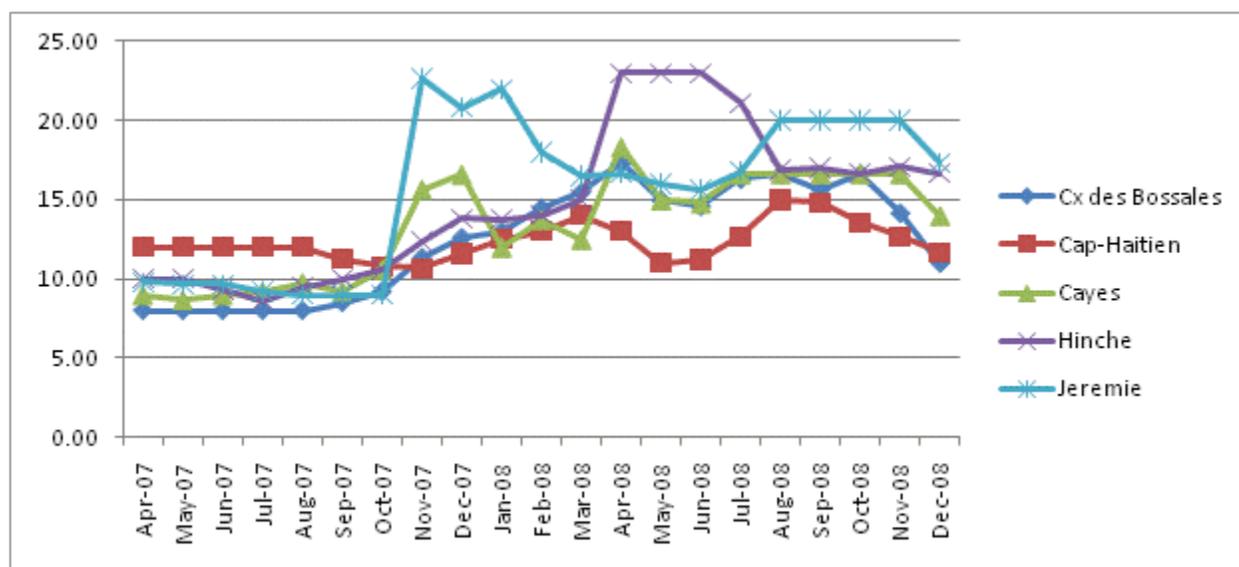
Table 19. Average Monthly Wheat Flour Prices, April 2007 to December 2008, in Gourdes per 1lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|-------|-------------------|
| Croix-des-Bossales | 8.00 | 17.33 | 117% |
| Cap-Haitien | 10.67 | 15.00 | 41% |
| Cayes | 8.67 | 18.33 | 112% |
| Hinche | 8.60 | 23.00 | 167% |

| Price shocks | Min | Max | % change, Max/Min |
|--------------|------|-------|-------------------|
| Jeremie | 9.00 | 22.67 | 152% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 25. Average Monthly Price of One Pound of Wheat Flour, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

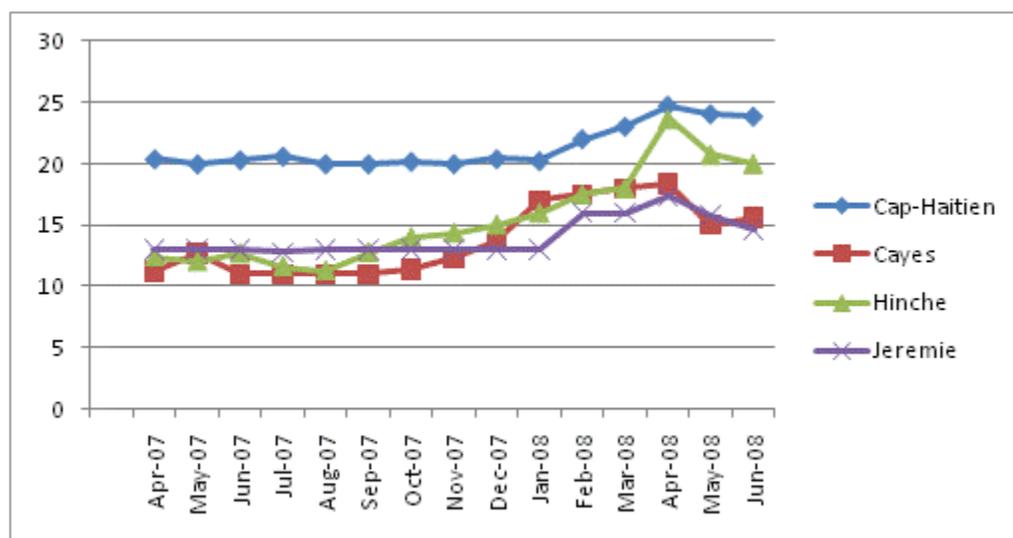
Food aid rice prices ranged from 11 to 20 gourdes per lb at their lowest point, to a high of 17 to 25 gourdes. The highest price spike in food aid rice occurred in Hinche (110 percent).

Table 20. Average Monthly Food Aid Rice Prices, April 2007 to December 2008, in Gourdes per 1lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------|-------|-------|-------------------|
| Cap-Haitien | 20.00 | 24.67 | 23% |
| Cayes | 11.00 | 18.33 | 67% |
| Hinche | 11.25 | 23.67 | 110% |
| Jeremie | 12.80 | 17.33 | 35% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 26. Average Monthly Price of One Pound of Food Aid Rice, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

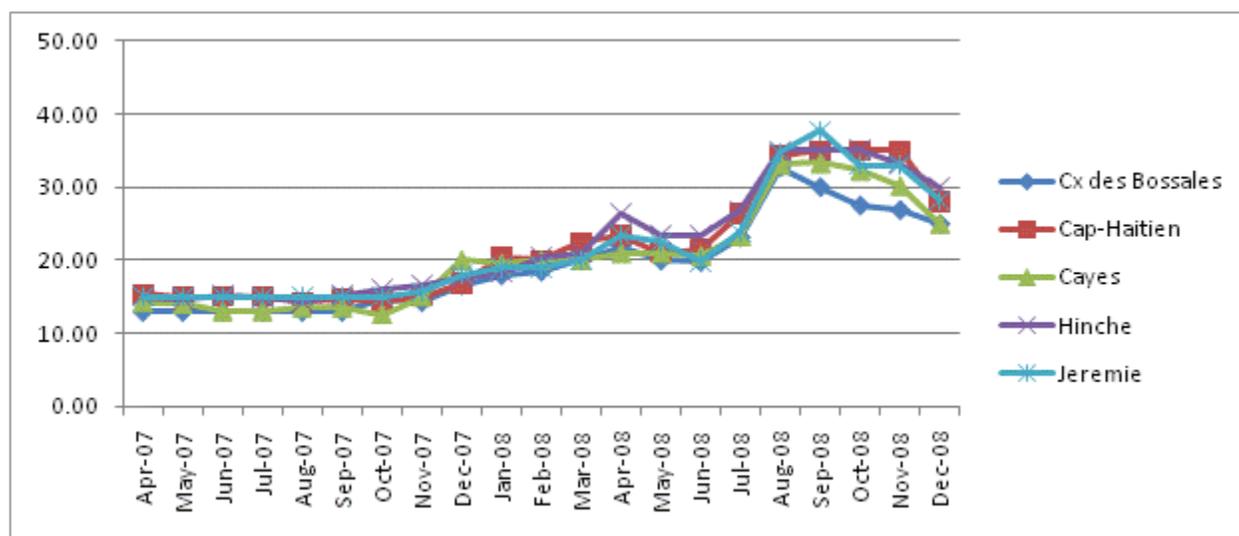
Imported rice prices ranged from close to 13 up to 15 gourdes per pound at their lowest point, reaching 33 to 38 gourdes at their high point. The highest price spike in imported rice prices occurred in Cayes (165 percent).

Table 21. Average Monthly Imported Rice Prices, April 2007 to December 2008, Gourdes per 1lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|-------|-------------------|
| Croix-des-Bossales | 13.00 | 32.71 | 152% |
| Cap-Haitien | 14.25 | 35.00 | 146% |
| Cayes | 12.60 | 33.33 | 165% |
| Hinche | 14.25 | 35.17 | 147% |
| Jeremie | 15.00 | 37.70 | 151% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 27. Average Monthly Price of One Pound of Imported Rice, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Despite the increase in imported rice prices, fueled by the global price spike and exacerbated by the depreciation of the Haitian gourde relative to the US dollar (by 8.1 percent over the course of 2008), import volumes increased over the same period. Households struggling to keep up with the doubling in average annual inflation rates shifted from more expensive, preferred local goods to less expensive, less-preferred imported food goods.

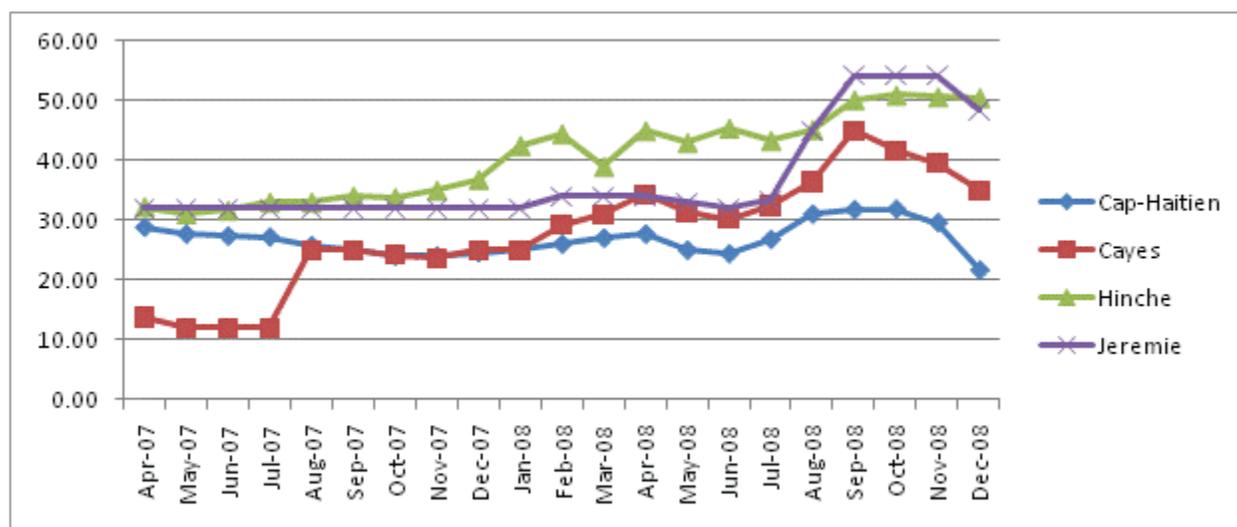
Local rice prices ranged from 12 to 32 gourdes per lb at their lowest point, to 32 to 54 gourdes per lb at their highest point. The highest price spike in local rice prices occurred in Cayes (275 percent).

Table 22. Average Monthly Local Rice Prices, April 2007 to December 2008, Gourdes per 1lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------|-------|-------|-------------------|
| Cap-Haitien | 21.66 | 31.83 | 47% |
| Cayes | 12.00 | 45.00 | 275% |
| Hinche | 31.00 | 50.96 | 64% |
| Jeremie | 32.00 | 54.16 | 69% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 28. Average Monthly Prices of One Pound of Local Rice, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

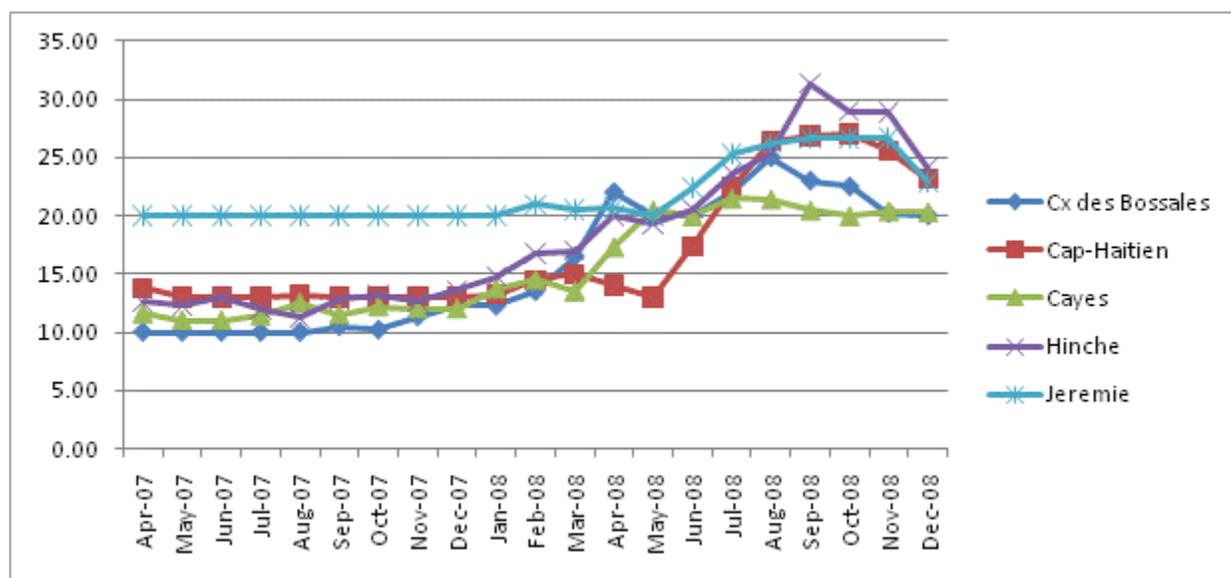
Imported maize prices ranged from 10 to 20 gourdes per lb at their lowest point, to 22 to 27 gourdes at their highest point. The highest price spike in imported maize prices occurred in Hinche (178 percent).

Table 23. Average Monthly Imported Maize Prices, April 2007 to December 2008, Gourdes per 1lb

| Price shocks | Min | Max | % change, MAX/MIN |
|--------------------|-------|-------|-------------------|
| Croix-des-Bossales | 10.00 | 25.00 | 150% |
| Cap-Haitien | 13.00 | 27.04 | 108% |
| Cayes | 11.00 | 21.49 | 95% |
| Hinche | 11.25 | 31.33 | 178% |
| Jeremie | 20.00 | 26.66 | 33% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 29. Average Monthly Price of One Pound of Imported Ground Maize, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

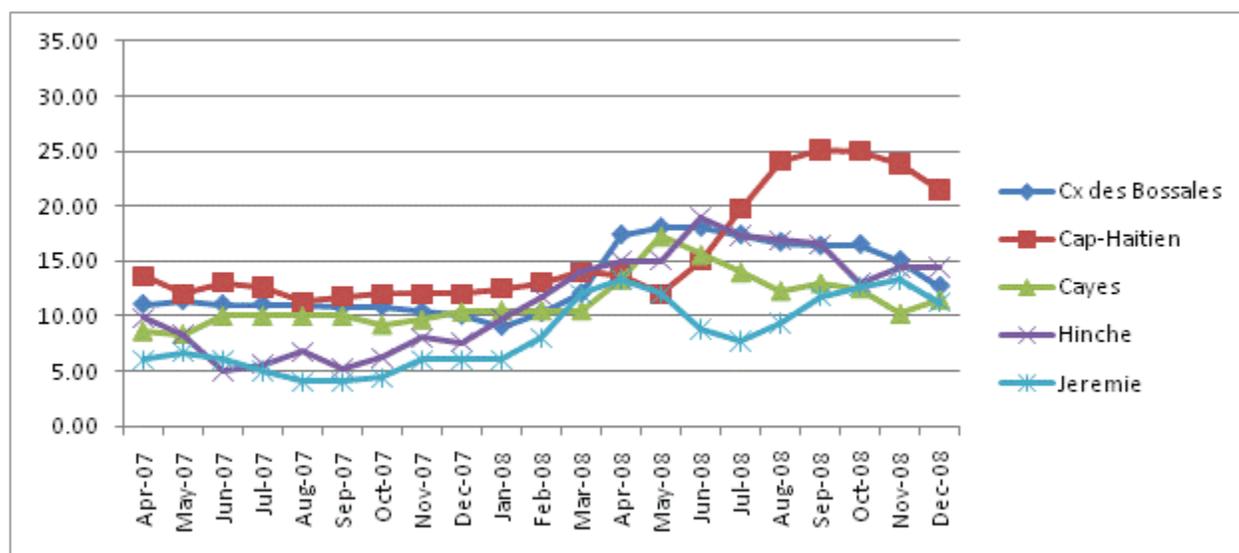
Local maize prices ranged from four to 11 gourdes per lb at their lowest point, to a high of 13 to 25 gourdes. The highest price spike in local maize prices occurred in Hinche (280 percent).

Table 24. Average Monthly Local Maize Prices, April 2007 to December 2008, Gourdes per 1lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|-------|-------------------|
| Croix-des-Bossales | 9.00 | 18.00 | 100% |
| Cap-Haitien | 11.25 | 25.10 | 123% |
| Cayes | 8.33 | 17.25 | 107% |
| Hinche | 5.00 | 19.00 | 280% |
| Jeremie | 4.00 | 13.33 | 233% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 30. Average Monthly Price of One Pound of Local Ground Maize, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

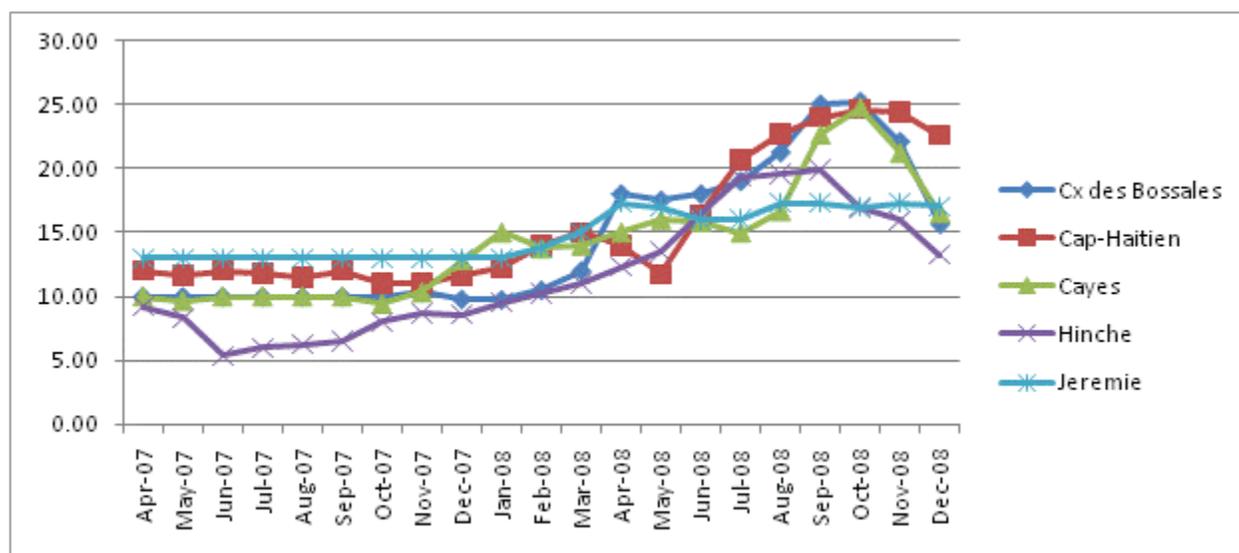
Sorghum prices ranged from five to 13 gourdes at their lowest point, to 17 to 25 gourdes at their highest point. The highest price spike in sorghum prices occurred in Hinche (273 percent).

Table 25. Average Monthly Sorghum Prices, April 2007 to December 2008, Gourdes per 1lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|-------|-------------------|
| Croix-des-Bossales | 9.75 | 25.21 | 159% |
| Cap-Haitien | 11.00 | 24.66 | 124% |
| Cayes | 9.40 | 24.79 | 164% |
| Hinche | 5.33 | 19.90 | 273% |
| Jeremie | 13.00 | 17.33 | 33% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 31. Average Monthly Price of One Pound of Sorghum, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

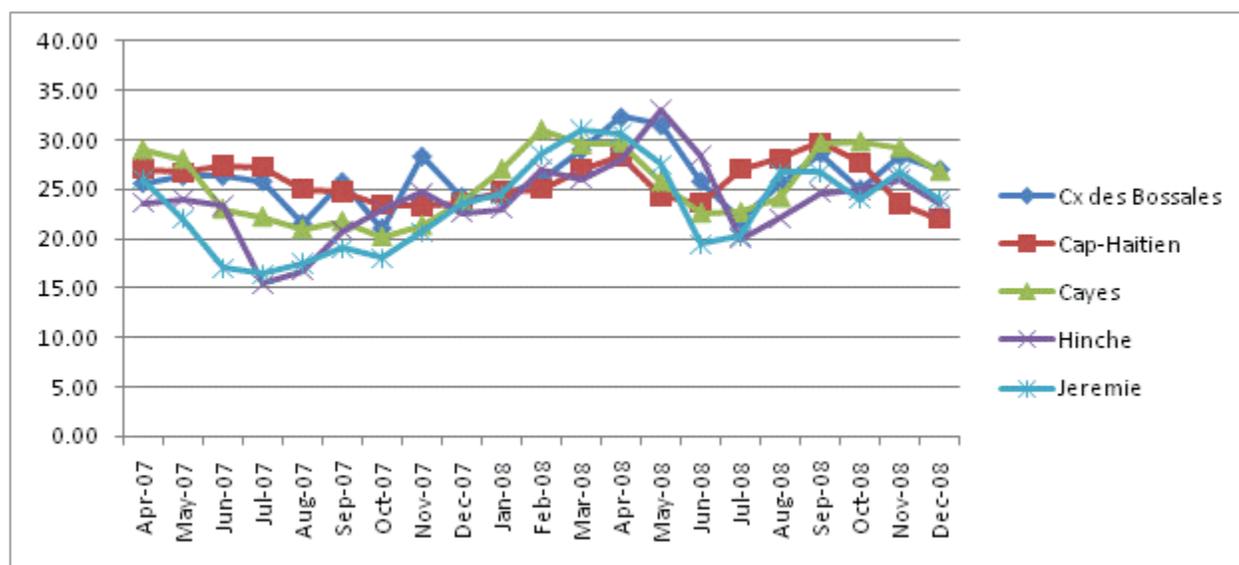
As for legume prices, black bean prices ranged from 15 to 22 gourdes per lb at their lowest point, to 30 to 33 gourdes at their highest point. The highest price spike in black bean prices occurred in Hinche (114 percent).

Table 26. Average Monthly Black Beans Prices, April 2007 to December 2008, Gourdes per 1lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|-------|-------------------|
| Croix-des-Bossales | 21.00 | 32.33 | 54% |
| Cap-Haitien | 22.00 | 29.73 | 35% |
| Cayes | 20.20 | 31.00 | 53% |
| Hinche | 15.40 | 33.00 | 114% |
| Jeremie | 16.40 | 31.00 | 89% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 32. Average Monthly Price of One Pound of Black Beans, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

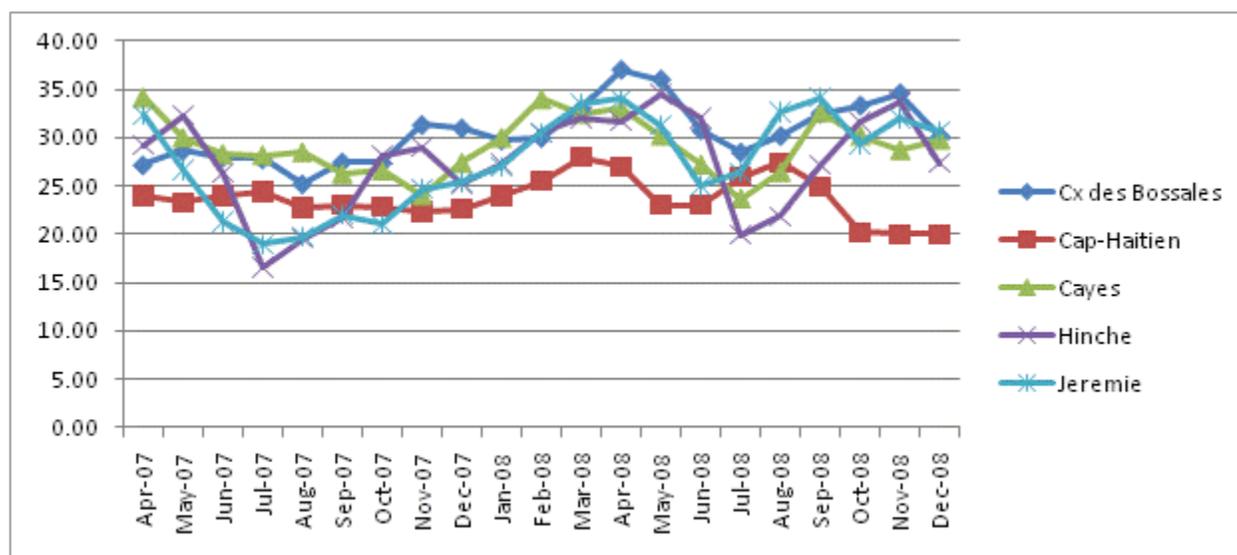
Red bean prices ranged from 17 to 25 gourdes per lb at their lowest point, to 28 to 37 gourdes at their highest point. The highest price spike in red bean prices occurred in Hinche (108 percent).

Table 27. Average Monthly Red Beans Prices, April 2007 to December 2008, Gourdes per 1lb

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|-------|-------------------|
| Croix-des-Bossales | 25.25 | 37.00 | 47% |
| Cap-Haitien | 20.00 | 28.00 | 40% |
| Cayes | 23.66 | 34.20 | 45% |
| Hinche | 16.60 | 34.50 | 108% |
| Jeremie | 19.00 | 34.13 | 80% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 33. Average Monthly Price of One Pound of Red Beans, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

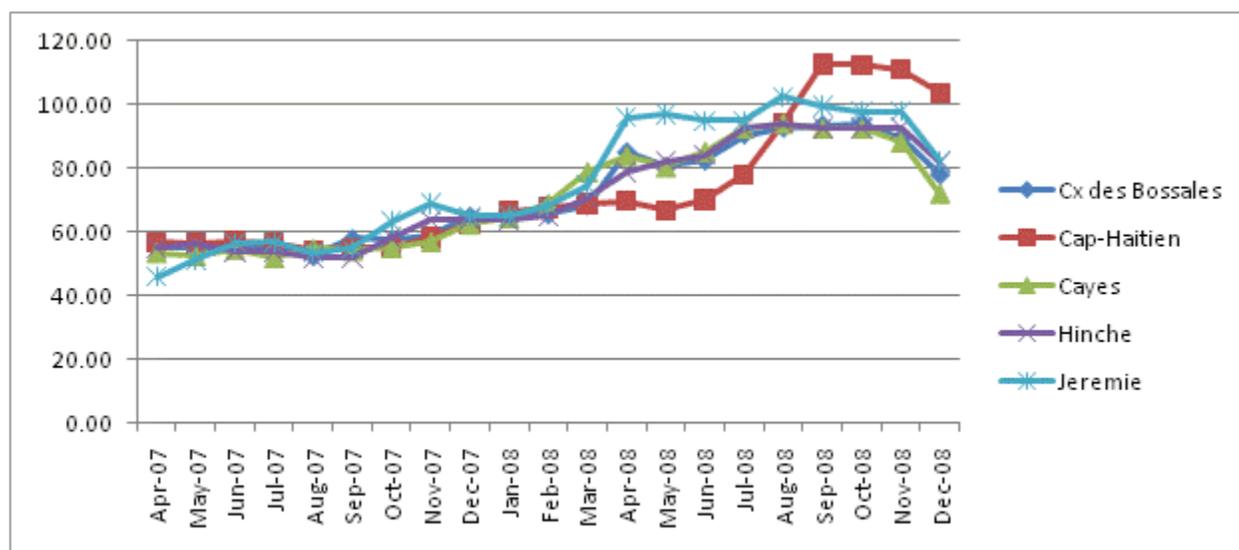
Regarding edible oil prices, Alberto oil prices ranged from 46 to 54 gourdes per litre at their lowest point, to 94 to 113 gourdes at their highest point. The highest price spike in Alberto oil prices occurred in Jeremie (123 percent).

Table 28. Average Monthly Alberto Oil Prices, April 2007 to December 2008, Gourdes per 1 Litre

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|--------|-------------------|
| Croix-des-Bossales | 52.75 | 93.91 | 78% |
| Cap-Haitien | 54.25 | 112.69 | 108% |
| Cayes | 52.00 | 94.24 | 81% |
| Hinche | 52.00 | 94.24 | 81% |
| Jeremie | 46.00 | 102.51 | 123% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 34. Average Monthly Price of One Liter of Alberto Oil, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

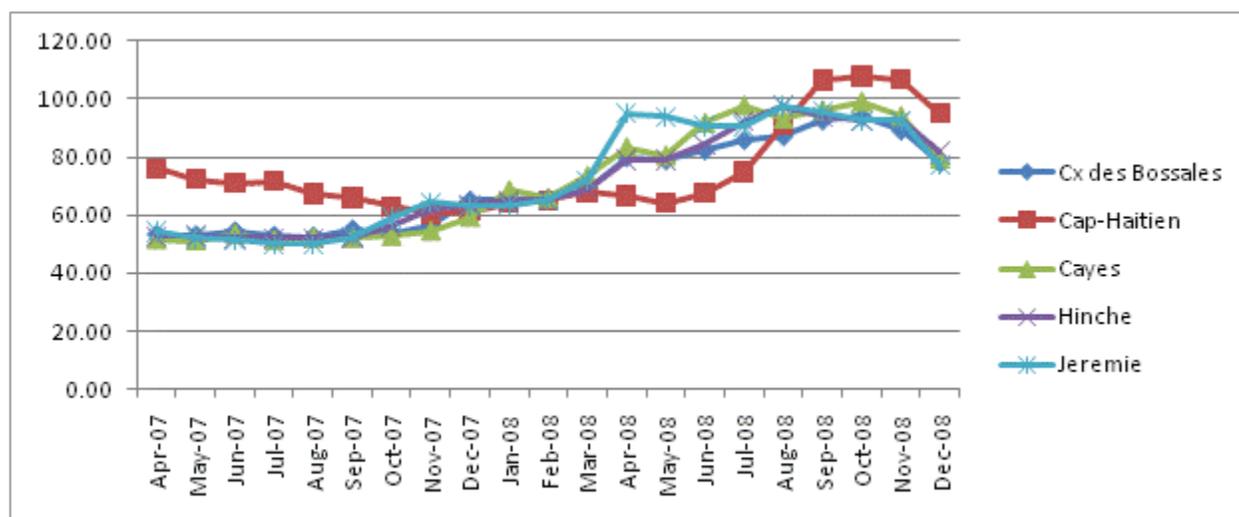
Rika oil prices ranged from 50 to 60 gourdes per litre at their lowest point, to 94 to 108 gourdes at their highest point. The highest price spike in Rika oil prices occurred in Cayes and Jeremie (both 95 percent).

Table 29. Average Monthly Rika Oil Prices, April 2007 to December 2008, in Gourdes per 1 Litre

| Price shocks | Min | Max | % change, Max/Min |
|--------------------|-------|--------|-------------------|
| Croix-des-Bossales | 52.50 | 93.91 | 79% |
| Cap-Haitien | 60.33 | 107.80 | 79% |
| Cayes | 51.00 | 99.20 | 95% |
| Hinche | 52.00 | 97.55 | 88% |
| Jeremie | 50.00 | 97.55 | 95% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 35. Average Monthly Price of One Liter of Rika Oil, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

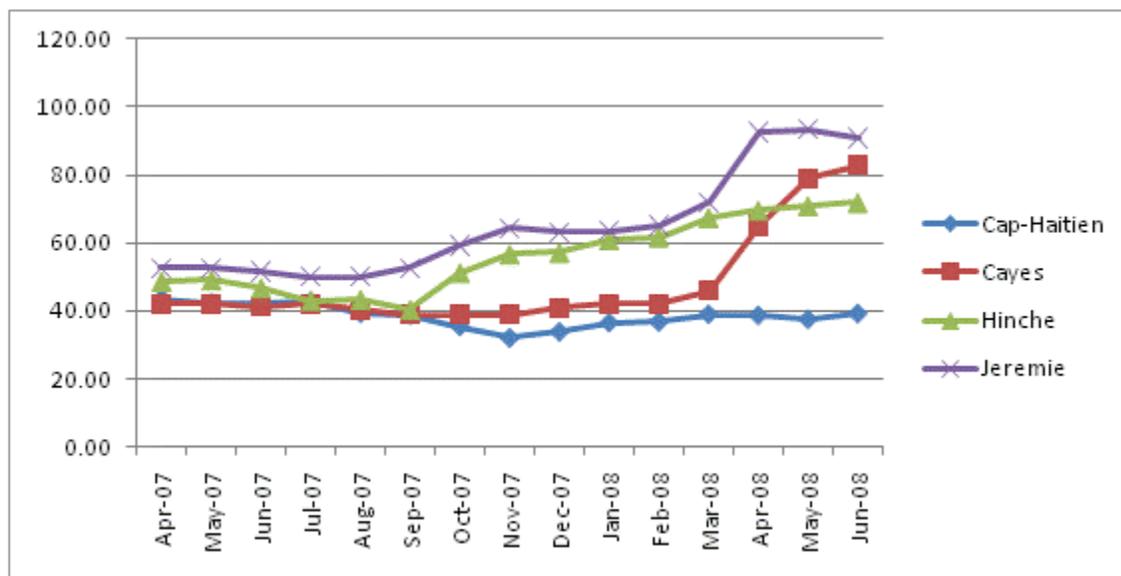
Food aid oil prices ranged from 32 to 50 gourdes per liter at their lowest point, to 44 to 94 gourdes per liter at their highest point. The highest price spike in food aid oil prices occurred in Cayes (112 percent).

Table 30. Average Monthly Food Aid Oil Prices, April 2007 to December 2008, in Gourdes per 1 Litre

| Price shocks | Min | Max | % change, Max/Min |
|--------------|-------|-------|-------------------|
| Cap-Haitien | 32.00 | 43.60 | 36% |
| Cayes | 39.00 | 82.80 | 112% |
| Hinche | 40.25 | 72.00 | 79% |
| Jeremie | 50.00 | 93.50 | 87% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 36. Average Monthly Price of One Liter of Food Aid Oil, in Haitian Gourdes, Prior to and During Food Price Shocks



Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

January 2010 Earthquake - Specific Price Impacts

This section examines the prices of staple Haitian foods (grains and beans), prior to and following the January 12, 2010 earthquake. The calculations in the tables below are based on average weekly nominal price data, by commodity, across the five markets examined above, for the period December 1, 2009 (1 month prior to the earthquake) through July 26, 2010.

Overall, price increases following the earthquake were very rapid, with some lingering effects (higher price levels) in the medium-term for certain commodities in certain markets. Croix-des-Bossales market in Port-au-Prince suffered from the highest price spikes for a number of commodities one week after the earthquake, and price levels for many staple commodities remain higher than their December 2009 level, many months after the earthquake. One week after the earthquake, Cayes and Croix-des-Bossales were particularly impacted by price shocks, with the largest price spikes for wheat grain, wheat flour, imported rice, local rice, and local maize all occurring in Cayes; the largest price spikes for wheat flour⁷⁸, imported maize, sorghum, and black beans occurring in Croix-des-Bossales; and the largest price spike for red beans occurring in Hinche. For certain commodities in certain markets, the price level at the end of July was higher than at the beginning of December 2009, especially for Croix-des-Bossales market in Port-au-Prince (imported maize, local maize, black beans, red beans, sorghum), Cap-Haitien (wheat grain, local rice, imported maize, local maize, sorghum, and red beans), and Cayes (black beans), which suffered lingering price increases many months after the earthquake. This section summarizes major price changes by commodity and market.

⁷⁸ Same percentage increase in wheat flour prices as in Cayes.

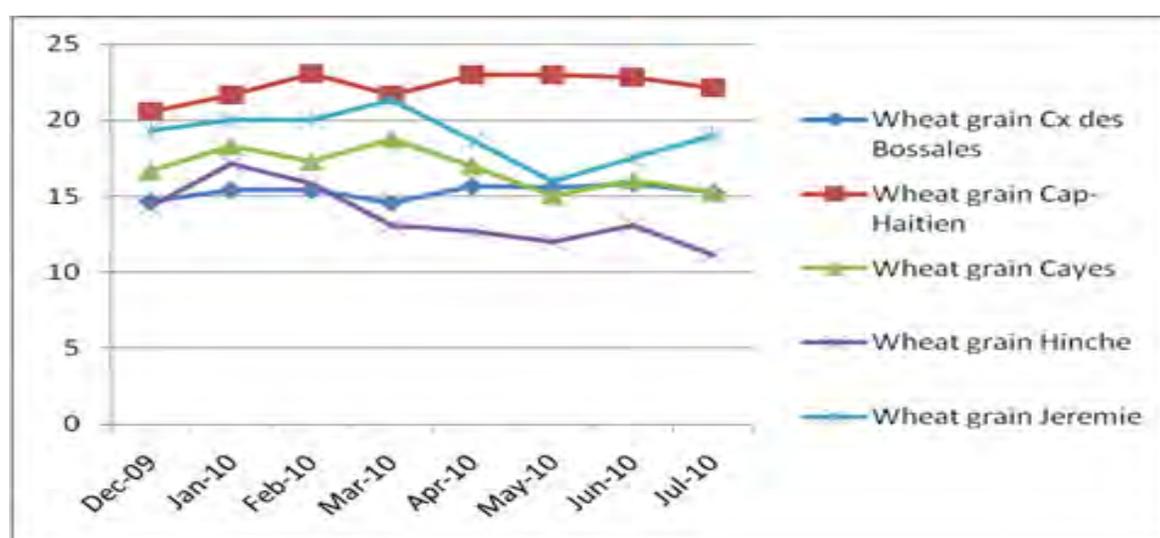
Price data for wheat grain show that one week after the earthquake, the largest price increase was in Cayes. The price level for wheat grain at the end of July was higher than its level at the beginning of December in Cap-Haitien.

Table 31. Average Weekly Wheat Grain Prices, Dec 2009-Jul 2010, Gourdes per 1 Lb

| Wheat Grain | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 12.50 | 20.00 | 15.00 | 11.00 | 16.00 |
| Max | 16.67 | 23.33 | 20.83 | 18.66 | 22.66 |
| % chg 12Jan10-19Jan10 | 11% | 3% | 25% | 12% | 0% |
| % chg 01Dec09-26Jul10 | 0% | 8% | -4% | -17% | -20% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 37. Average Monthly Wheat Grain Prices, Dec 2009- Jul 2010 Gourdes per 1 lb



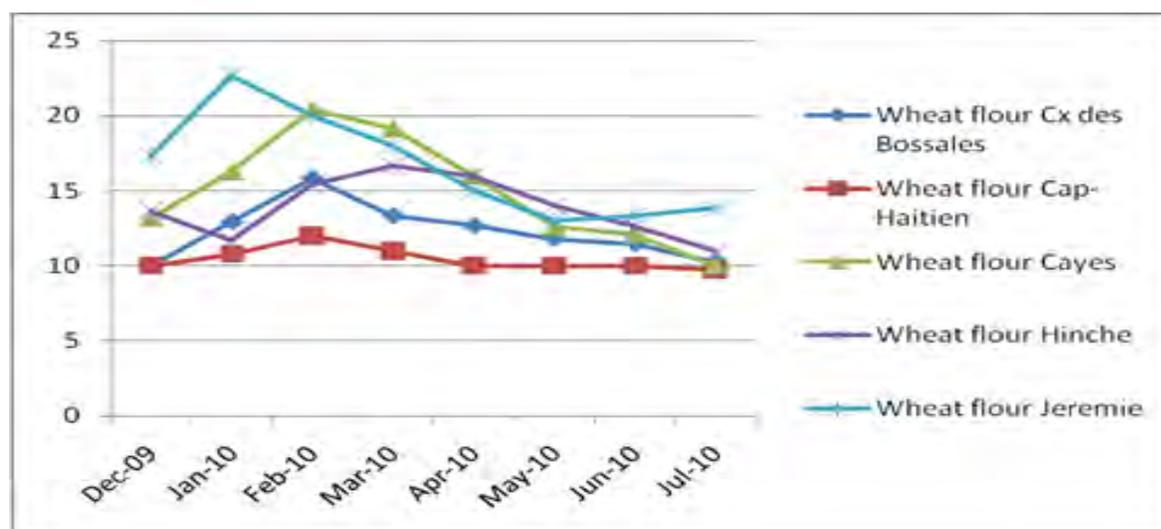
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Wheat flour prices increased most in Croix-des-Bossales and Cayes one week after the earthquake. The price level for wheat flour at the end of July had declined from its level at the beginning of December in most markets.

Table 32. Average Weekly Wheat Flour Prices, Dec 2009-Jul 2010, Gourdes per 1 Lb

| Wheat Flour | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 10.00 | 9.00 | 10.00 | 10.83 | 13.00 |
| Max | 16.66 | 12.00 | 25.00 | 16.66 | 33.33 |
| % chg 12Jan10-19Jan10 | 50% | 5% | 50% | 0% | 7% |
| % chg 01Dec09-26Jul10 | 0% | -10% | -20% | -6% | -8% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 38. Average Monthly Wheat Flour Prices, Dec 2009- Jul 2010, Gourdes per 1lb

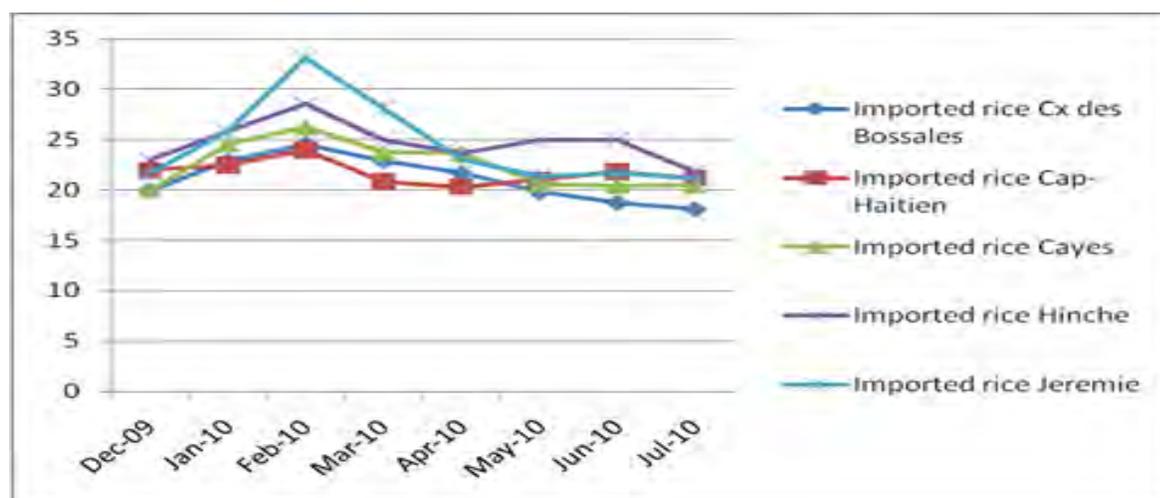
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Imported rice prices had increased most in Cayes market one week after the earthquake. The price level for imported rice at the end of July had declined from its level at the beginning of December in most markets.

Table 33. Average Weekly Imported Rice Prices, Dec 2009-Jul 2010, Gourdes per 1 Lb

| Imported Rice | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 18.00 | 20.00 | 19.17 | 20.00 | 21.00 |
| Max | 26.66 | 24.00 | 30.00 | 29.16 | 33.33 |
| % chg 12Jan10-19Jan10 | 25% | 0% | 50% | 18% | 23% |
| % chg 01Dec09-26Jul10 | -10% | -5% | 0% | -12% | -3% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 39. Average Monthly Imported Rice Prices, Dec 2009-Jul 2010, Gourdes per 1lb

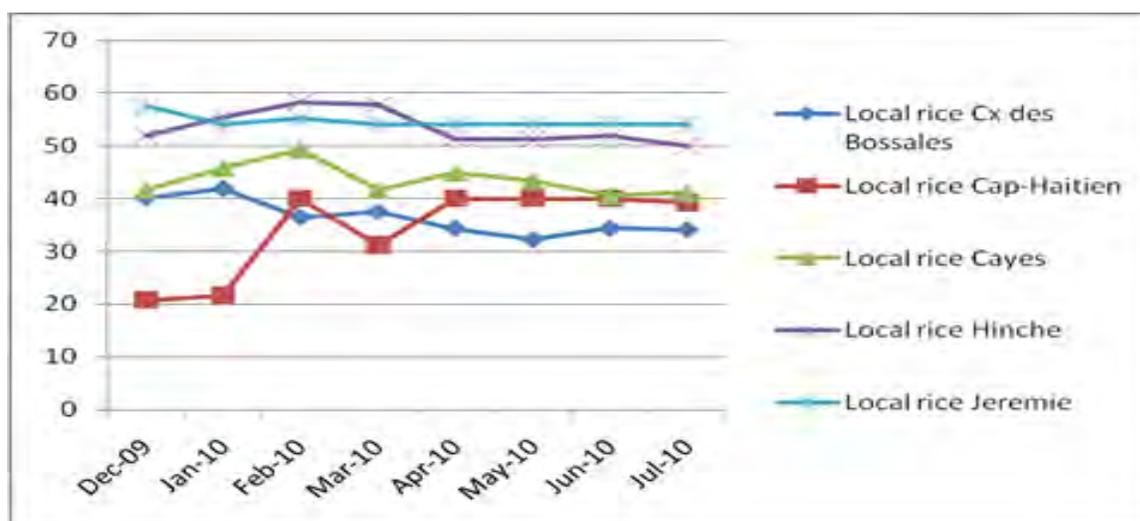
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Local rice prices increased the most in Cayes one week after the earthquake. The price level for local rice at the end of July was higher than its level at the beginning of December in Cap-Haitien (where prices remain double).

Table 34. Average Weekly Local Rice Prices, Dec 2009-Jul 2010, Gourdes per 1 Lb

| Local Rice | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 29.00 | 20.83 | 37.50 | 50.00 | 54.00 |
| Max | 45.83 | 40.00 | 51.66 | 58.33 | 58.33 |
| % chg 12Jan10-19Jan10 | 15% | 2% | 20% | 11% | 0% |
| % chg 01Dec09-26Jul10 | -8% | 82% | -2% | -5% | 0% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 40. Average Monthly Local Rice Prices, Dec 2009-Jul 2010, Gourdes per 1lb

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

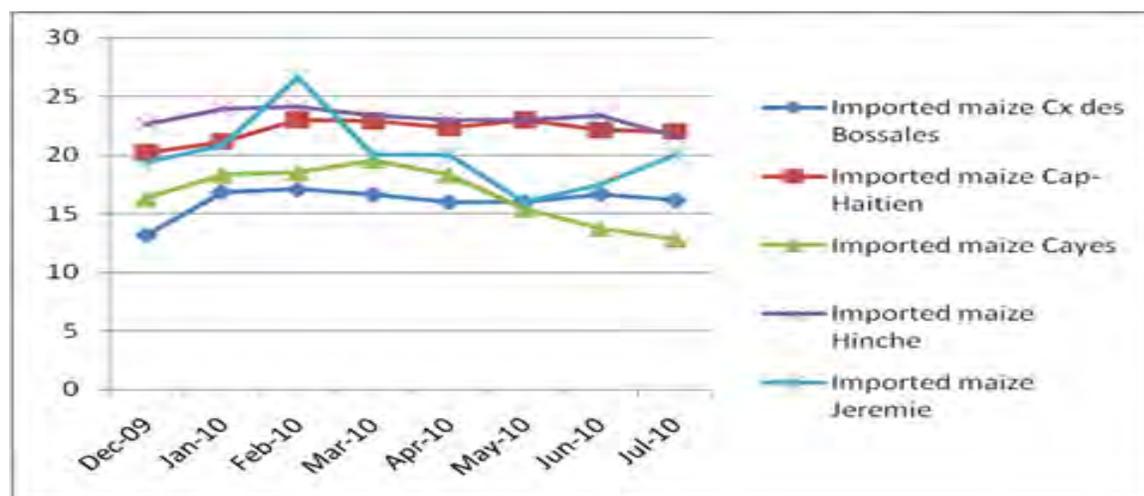
Imported maize prices increased the most in Croix-des-Bossales one week after the earthquake. The price level for imported maize at the end of July was higher than its level at the beginning of December in Croix-des-Bossales and Cap-Haitien.

Table 35. Average Weekly Imported Maize Prices, Dec 2009-Jul 2010, Gourdes per 1 Lb

| Imported Maize | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 13.33 | 20.00 | 12.00 | 20.00 | 16.00 |
| Max | 20.83 | 23.33 | 22.50 | 25.66 | 26.66 |
| % chg 12Jan10-19Jan10 | 56% | 5% | 25% | 0% | 0% |
| % chg 01Dec09-26Jul10 | 20% | 10% | -20% | -14% | 0% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 41. Average Monthly Imported Maize Prices, Dec 2009-Jul 2010, Gourdes per 1lb



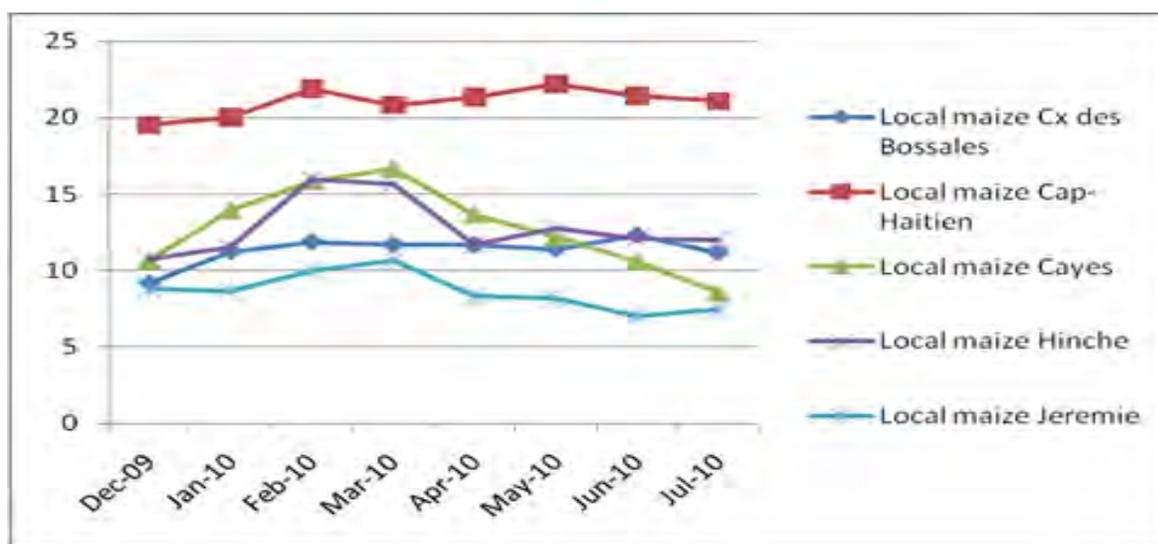
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Local maize prices increased the most in Cayes one week after the earthquake. The price level for local maize at the end of July was higher than its level at the beginning of December in Croix-des-Bossales and Cap-Haitien markets.

Table 36. Average Weekly Local Maize Prices, Dec 2009-Jul 2010, Gourdes per 1 Lb

| Local Maize | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 10.00 | 19.16 | 8.00 | 9.33 | 6.00 |
| Max | 12.50 | 23.00 | 20.83 | 16.66 | 10.66 |
| % chg 12Jan10-19Jan10 | 25% | 3% | 92% | 50% | 17% |
| % chg 01Dec09-26Jul10 | 32% | 8% | 0% | -6% | -36% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 42. Average Monthly Local Maize Prices, Dec 2009-Jul 2010, Gourdes per 1lb

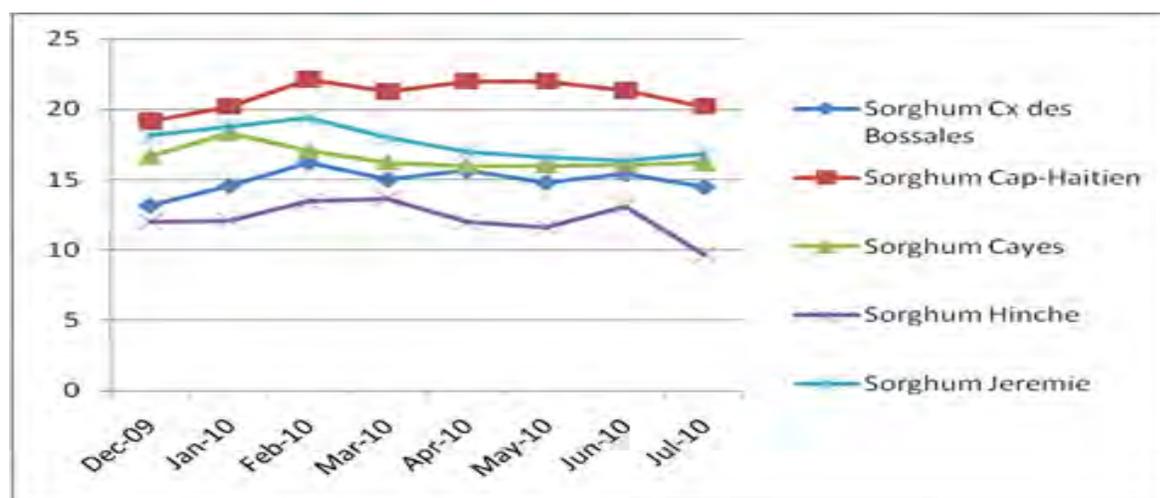
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Sorghum prices increased the most in Croix-des-Bossales the week after the earthquake. The price level for sorghum at the end of July was higher than its level at the beginning of December in Croix-des-Bossales and Cap-Haitien.

Table 37. Average Weekly Sorghum Prices, Dec 2009-Jul 2010, Gourdes per 1 Lb

| Sorghum | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 11.66 | 19.16 | 11.66 | 8.00 | 16.00 |
| Max | 18.33 | 22.50 | 20.83 | 14.00 | 20.00 |
| % chg 12Jan10-19Jan10 | 43% | 2% | 25% | 33% | 0% |
| % chg 01Dec09-26Jul10 | 13% | 4% | -4% | -20% | -14% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 43. Average Monthly Sorghum Prices, Dec 2009-Jul 2010, Gourdes per 1lb

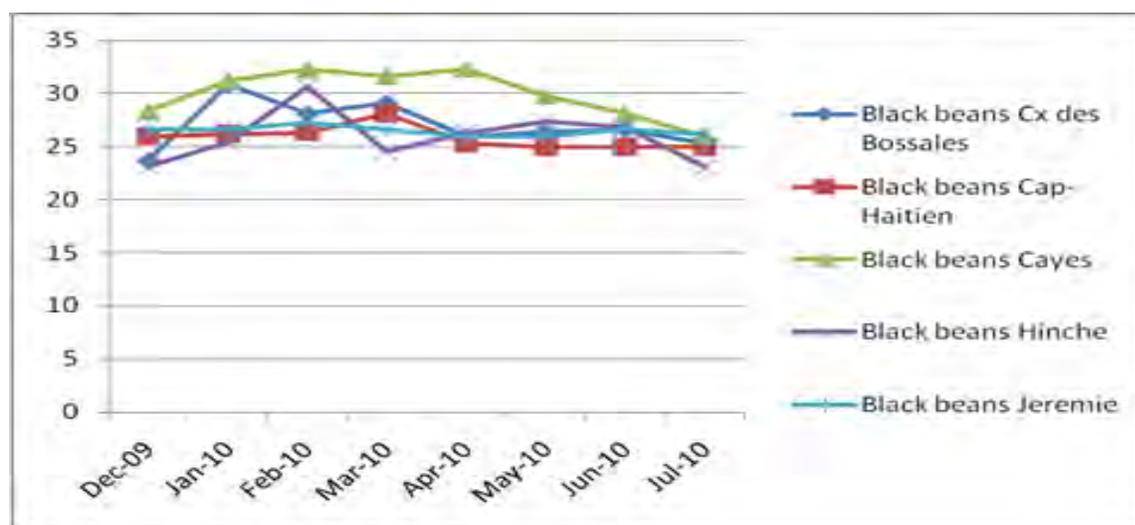
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

As with other commodities, black beans prices increased the most in Croix-des-Bossales in the week after the earthquake. The price level for black beans at the end of July was higher than its level at the beginning of December in Croix-des-Bossales and Cayes.

Table 38. Average Weekly Black Beans Prices, Dec 2009-Jul 2010, Gourdes per 1 Lb

| Black Beans | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 23.00 | 25.00 | 25.00 | 23.00 | 26.00 |
| Max | 33.33 | 30.00 | 33.33 | 35.00 | 29.16 |
| % chg 12Jan10-19Jan10 | 18% | 1% | 11% | 4% | 0% |
| % chg 01Dec09-26Jul10 | 15% | -4% | 16% | -1% | -2% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 44. Average Monthly Black Beans Prices, Dec 2009-Jul 2010, Gourdes per 1lb

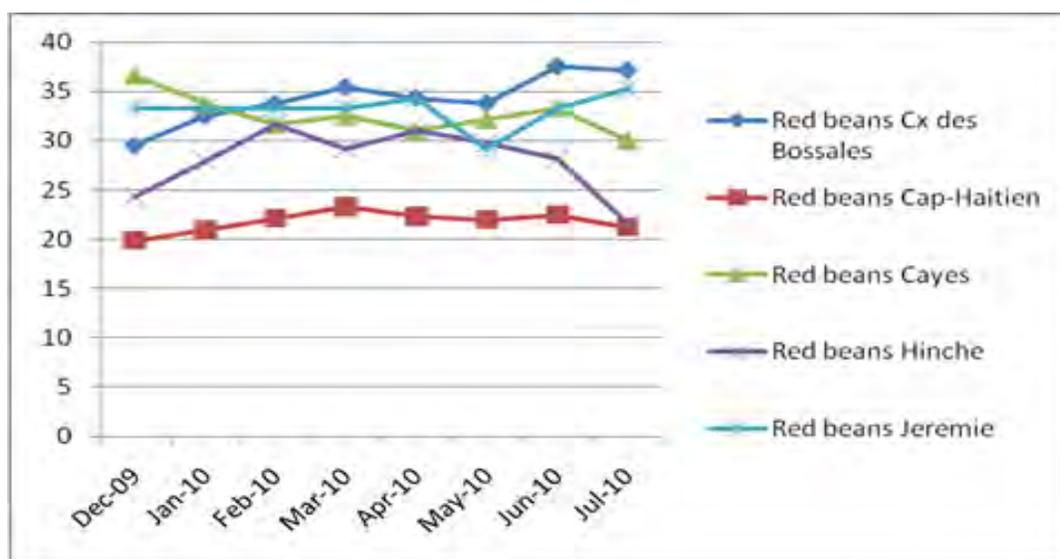
Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Red beans prices increased the most in Hinche one week after the earthquake. The price level for red beans at the end of July was higher than its level at the beginning of December in Croix-des-Bossales and Cap-Haitien.

Table 39. Average Weekly Red Beans Prices, Dec 2009- Jul 2010, Gourdes per 1 Lb

| Red Beans | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 30.00 | 20.00 | 29.00 | 21.00 | 29.00 |
| Max | 41.67 | 23.33 | 36.66 | 35.00 | 40.00 |
| % chg 12Jan10-19Jan10 | 17% | 5% | 0% | 21% | 0% |
| % chg 01Dec09-26Jul10 | 48% | 7% | -10% | -13% | -1% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 45. Average Monthly Red Beans Prices, Dec 2009-Jul 2010, Gourdes per 1lb

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

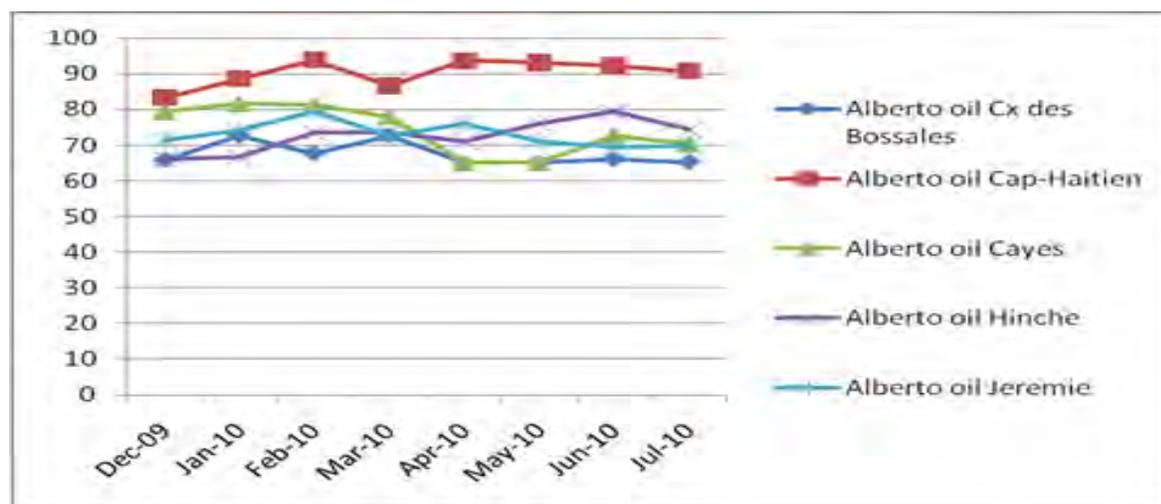
Alberto oil prices increased the most in Croix-des-Bossales the week after the earthquake. The price level for Alberto oil at the end of July was higher than its level at the beginning of December in Cap Haitien and Hinche.

Table 40. Average weekly Alberto oil prices, Dec 2009-Jul 2010, Haitian Gourdes per 1 Liter

| Alberto oil | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 65.00 | 79.36 | 65.00 | 66.13 | 68.00 |
| Max | 79.36 | 94.00 | 85.97 | 79.37 | 84.65 |
| % chg 12Jan10-19Jan10 | 20% | 3% | 3% | 2% | 15% |
| % chg 01Dec09-26Jul10 | 0% | 13% | -9% | 1% | -5% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 46. Average Monthly Alberto Oil Prices, Dec 2009-Jul 2010, in Haitian gourdes per litre



Source: Compiled by author, based on data from USAID Haiti and CNSA

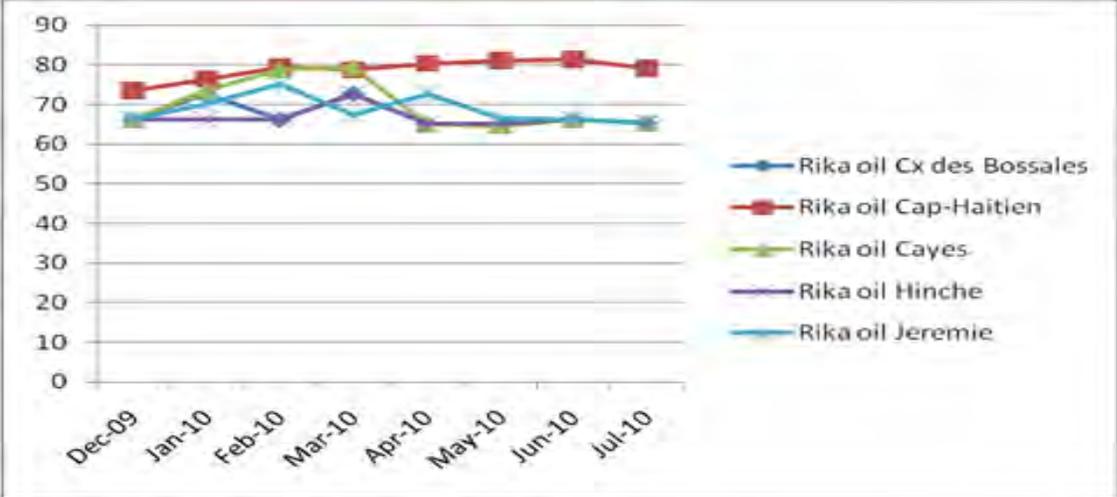
Rika oil prices increased the most in Croix-des-Bossales and Cayes the week after the earthquake. The price level for Rika oil at the end of July was higher than its level at the beginning of December in Cap Haitien.

Table 41. Average Weekly Rika Oil Prices, Dec 2009-Jul 2010, Haitian gourdes per 1 Liter

| Rika oil | Cx des Bossales | Cap-Haitien | Cayes | Hinche | Jeremie |
|-----------------------|-----------------|-------------|-------|--------|---------|
| Min | 65.00 | 74.07 | 63.00 | 65.00 | 65.00 |
| Max | 79.36 | 82.01 | 82.01 | 79.36 | 79.36 |
| % chg 12Jan10-19Jan10 | 20% | 5% | 20% | 0% | 12% |
| % chg 01Dec09-26Jul10 | -2% | 7% | -2% | -2% | -2% |

Source: Compiled by author, based on data from USAID/Haiti price bulletins, and multiple CNSA Fiches hebdomadaires des produits locaux et importés

Figure 47. Average Monthly Rika Oil Prices, Dec 2009-Jul 2010, in Haitian Gourdes per Liter



Source: Compiled by author, based on data from USAID Haiti and CNSA

Annex IV. Detailed IPP Calculations

IV.i. Wheat Grain

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|----------|--------------|---------------|------------------------|-----------|-----------|---------------|-------|------------------|---------------|-----------------|--------------|----------------|----------------|---------|----------------|----------------|
| Item | FOB, US Gulf | Ocean freight | CNF (cost and Freight) | Insurance | CIF Haiti | Custom duties | VAT | Verification Tax | Territory Tax | Cost of Bagging | Port Charges | Inland Freight | Total Handling | PAP IPP | Exchange Rates | Price Achieved |
| Currency | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | HTG/USD | USD |
| Unit | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT |
| Apr-05 | 148.0 | 32 | 179.24 | 9.00 | 188.90 | 6.61 | 20.40 | 9.44 | - | - | - | - | - | 225.35 | 37.81 | |
| May-05 | 151.0 | 31 | 192.84 | 9.09 | 190.89 | 6.68 | 20.62 | 9.54 | - | - | - | - | - | 227.73 | 37.75 | |
| Jun-05 | 146.0 | 25 | 176.65 | 8.53 | 179.06 | 6.27 | 19.34 | 8.95 | - | - | - | - | - | 213.61 | 39.09 | |
| Jul-05 | 148.0 | 17 | 161.36 | 8.27 | 173.59 | 6.08 | 18.75 | 8.68 | - | - | - | - | - | 207.09 | 39.80 | |
| Aug-05 | 157.0 | 15 | 161.71 | 8.59 | 180.33 | 6.31 | 19.48 | 9.02 | - | - | - | - | - | 215.13 | 40.22 | |
| Sep-05 | 167.0 | 17 | 159.43 | 9.18 | 192.68 | 6.74 | 20.81 | 9.63 | - | - | - | - | - | 229.86 | 42.31 | |
| Oct-05 | 175.0 | 19 | 186.62 | 9.69 | 203.39 | 7.12 | 21.97 | 10.17 | - | - | - | - | - | 242.64 | 43.33 | |
| Nov-05 | 167.0 | 19 | 197.86 | 9.30 | 195.22 | 6.83 | 21.08 | 9.76 | - | - | - | - | - | 232.89 | 43.17 | |
| Dec-05 | 170.0 | 18 | 195.62 | 9.41 | 197.56 | 6.91 | 21.34 | 9.88 | - | - | - | - | - | 235.69 | 43.80 | |
| Jan-06 | 169.5 | 15 | 187.36 | 9.25 | 194.15 | 6.80 | 20.97 | 9.71 | - | - | - | - | - | 231.61 | 43.80 | |
| Feb-06 | 180.5 | 13 | 191.04 | 9.69 | 203.39 | 7.12 | 21.97 | 10.17 | - | - | - | - | - | 242.64 | 43.83 | |
| Mar-06 | 180.8 | 13 | 188.83 | 9.70 | 203.70 | 7.13 | 22.00 | 10.19 | - | - | - | - | - | 243.01 | 44.39 | |
| Apr-06 | 187.0 | 13 | 207.57 | 10.01 | 210.21 | 7.36 | 22.70 | 10.51 | - | - | - | - | - | 250.78 | 43.78 | |
| May-06 | 199.3 | 15 | 191.69 | 10.71 | 224.92 | 7.87 | 24.29 | 11.25 | - | - | - | - | - | 268.33 | 43.42 | |
| Jun-06 | 203.8 | 18 | 209.95 | 11.10 | 233.05 | 8.16 | 25.17 | 11.65 | - | - | - | - | - | 278.03 | 42.95 | |
| Jul-06 | 213.0 | 19 | 234.20 | 11.61 | 243.86 | 8.54 | 26.34 | 12.19 | - | - | - | - | - | 290.93 | 40.53 | |
| Aug-06 | 199.3 | 23 | 232.17 | 11.12 | 233.47 | 8.17 | 25.21 | 11.67 | - | - | - | - | - | 278.53 | 39.98 | |
| Sep-06 | 207.4 | 26 | 240.61 | 11.69 | 245.49 | 8.59 | 26.51 | 12.27 | - | - | - | - | - | 292.87 | 40.59 | |
| Oct-06 | 218.3 | 29 | 227.38 | 12.34 | 259.19 | 9.07 | 27.99 | 12.96 | - | - | - | - | - | 309.22 | 40.08 | 222.00 |
| Nov-06 | 218.0 | 28 | 236.64 | 12.30 | 258.24 | 9.04 | 27.89 | 12.91 | - | - | - | - | - | 308.08 | 39.85 | |

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---------|-------|----|--------|-------|--------|-------|-------|-------|---|----|----|----|----|--------|-------|--------|
| Dec-06 | 216.6 | 30 | 253.10 | 12.32 | 258.62 | 9.05 | 27.93 | 12.93 | | - | - | - | - | 308.53 | 39.87 | |
| Jan-07 | 208.5 | 25 | 242.97 | 11.68 | 245.26 | 8.58 | 26.49 | 12.26 | | - | - | - | - | 292.59 | 39.95 | 220.00 |
| Feb-07 | 206.8 | 26 | 240.98 | 11.66 | 244.81 | 8.57 | 26.44 | 12.24 | | - | - | - | - | 292.06 | 39.25 | |
| Mar-07 | 209.2 | 31 | 239.45 | 12.03 | 252.72 | 8.85 | 27.29 | 12.64 | | - | - | - | - | 301.50 | 39.21 | |
| Apr-07 | 206.3 | 34 | 246.93 | 12.00 | 252.08 | 8.82 | 27.22 | 12.60 | | - | - | - | - | 300.73 | 39.38 | 225.00 |
| May-07 | 203.0 | 41 | 249.62 | 12.20 | 256.12 | 8.96 | 27.66 | 12.81 | | - | - | - | - | 305.55 | 38.96 | 225.00 |
| Jun-07 | 225.2 | 36 | 256.21 | 13.05 | 274.00 | 9.59 | 29.59 | 13.70 | | - | - | - | - | 326.88 | 37.79 | 259.00 |
| Jul-07 | 246.0 | 42 | 242.01 | 14.41 | 302.54 | 10.59 | 32.67 | 15.13 | | - | - | - | - | 360.93 | 37.40 | 259.00 |
| Aug-07 | 273.0 | 46 | 285.58 | 15.93 | 334.58 | 11.71 | 36.13 | 16.73 | | - | - | - | - | 399.16 | 36.27 | 277.00 |
| Sep-07 | 342.5 | 45 | 286.13 | 19.38 | 406.98 | 14.24 | 43.95 | 20.35 | | - | - | - | - | 485.53 | 35.39 | |
| Oct-07 | 353.5 | 55 | 313.23 | 20.40 | 428.46 | 15.00 | 46.27 | 21.42 | | - | - | - | - | 511.16 | 35.50 | |
| Nov-07 | 334.6 | 51 | 403.33 | 19.26 | 404.46 | 14.16 | 43.68 | 20.22 | | - | - | - | - | 482.52 | 36.10 | |
| Dec-07 | 380.7 | 47 | 410.67 | 21.40 | 449.35 | 15.73 | 48.53 | 22.47 | | - | - | - | - | 536.08 | 36.28 | |
| Jan-08 | 376.8 | 40 | 374.11 | 20.86 | 438.09 | 15.33 | 47.31 | 21.90 | | - | - | - | - | 522.64 | 36.74 | |
| Feb-08 | 438.6 | 42 | 371.20 | 24.05 | 505.00 | 17.67 | 54.54 | 25.25 | | - | - | - | - | 602.46 | 37.33 | |
| Mar-08 | 481.5 | 44 | 462.83 | 26.25 | 551.34 | 19.30 | 59.54 | 27.57 | | - | - | - | - | 657.75 | 37.38 | |
| Apr-08 | 388.8 | 46 | 516.42 | 21.76 | 456.99 | 15.99 | 49.35 | 22.85 | | - | - | - | - | 545.18 | 37.77 | |
| May-08 | 350.2 | 54 | 552.23 | 20.19 | 424.02 | 14.84 | 45.79 | 21.20 | | - | - | - | - | 505.85 | 38.42 | 354.00 |
| Jun-08 | 357.5 | 52 | 446.93 | 20.47 | 429.92 | 15.05 | 46.43 | 21.50 | | - | - | - | - | 512.89 | 38.85 | 333.00 |
| Jul-08 | 342.8 | 49 | 392.15 | 19.60 | 411.69 | 14.41 | 44.46 | 20.58 | | - | - | - | - | 491.15 | 38.76 | 354.00 |
| Aug-08 | 340.8 | 45 | 430.49 | 19.27 | 404.76 | 14.17 | 43.71 | 20.24 | | - | - | - | - | 482.88 | 39.26 | |
| Sep-08 | 312.0 | 39 | 385.40 | 17.55 | 368.46 | 12.90 | 39.79 | 18.42 | | - | - | - | - | 439.57 | 39.45 | |
| Oct-08 | 260.4 | 24 | 393.03 | 14.21 | 298.37 | 10.44 | 32.22 | 14.92 | | - | - | - | - | 355.95 | 39.66 | |
| Nov-08 | 247.3 | 14 | 327.21 | 13.07 | 274.48 | 9.61 | 29.64 | 13.72 | | - | - | - | - | 327.46 | 39.76 | |
| Dec-08 | 235.3 | 11 | 252.40 | 12.31 | 258.56 | 9.05 | 27.92 | 12.93 | | - | - | - | - | 308.47 | 39.96 | |
| Jan-09 | 256.4 | 11 | 274.81 | 13.37 | 280.77 | 9.83 | 30.32 | 14.04 | | - | - | - | - | 334.96 | 40.4 | |
| Feb-09 | 240.8 | 15 | 265.53 | 12.77 | 268.09 | 9.38 | 28.95 | 13.40 | | - | - | - | - | 319.83 | 40.3 | |
| Mar-09 | 245.5 | 18 | 282.79 | 13.17 | 276.54 | 9.68 | 29.87 | 13.83 | | - | - | - | - | 329.92 | 40.4 | 211.00 |
| Apr-09 | 241.5 | 16 | 257.40 | 12.89 | 270.76 | 9.48 | 29.24 | 13.54 | | - | - | - | - | 323.01 | 40.5 | 191.00 |
| May-09 | 260.8 | 20 | 278.10 | 14.03 | 294.63 | 10.31 | 31.82 | 14.73 | | - | - | - | - | 351.49 | 40.5 | 197.50 |

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---------|-------|----|--------|-------|--------|-------|-------|-------|---|----|----|----|----|--------|------|--------|
| Jun-09 | 269.5 | 21 | 265.15 | 14.53 | 305.21 | 10.68 | 32.96 | 15.26 | | - | - | - | - | 364.11 | 40.6 | 219.00 |
| Jul-09 | 233.2 | 24 | 300.41 | 12.88 | 270.56 | 9.47 | 29.22 | 13.53 | | - | - | - | - | 322.78 | 40.5 | |
| Aug-09 | 217.8 | 23 | 279.75 | 12.02 | 252.32 | 8.83 | 27.25 | 12.62 | | - | - | - | - | 301.01 | 40.5 | |
| Sep-09 | 200.8 | 24 | 262.94 | 11.26 | 236.49 | 8.28 | 25.54 | 11.82 | | - | - | - | - | 282.13 | 40.5 | |
| Oct-09 | 208.8 | 25 | 236.20 | 11.71 | 245.81 | 8.60 | 26.55 | 12.29 | | - | - | - | - | 293.25 | 40.5 | |
| Nov-09 | 227.5 | 26 | 228.67 | 12.67 | 266.02 | 9.31 | 28.73 | 13.30 | | - | - | - | - | 317.36 | 40.4 | |
| Dec-09 | 221.8 | 26 | 259.17 | 12.38 | 259.98 | 9.10 | 28.08 | 13.00 | | - | - | - | - | 310.16 | 40.4 | |
| Jan-10 | 214.8 | 27 | 262.47 | 12.09 | 253.84 | 8.88 | 27.41 | 12.69 | | - | - | - | - | 302.83 | 40.5 | |
| Feb-10 | 204.5 | 26 | 253.01 | 11.50 | 241.58 | 8.46 | 26.09 | 12.08 | | - | - | - | - | 288.20 | 40.5 | |
| Mar-10 | 205.5 | 29 | 248.23 | 11.72 | 246.09 | 8.61 | 26.58 | 12.30 | | - | - | - | - | 293.59 | 40.5 | |
| Apr-10 | 200.7 | 29 | 253.10 | 11.46 | 240.73 | 8.43 | 26.00 | 12.04 | | - | - | - | - | 287.20 | 40.5 | |
| May-10 | 215.7 | 30 | 245.66 | 12.28 | 257.94 | 9.03 | 27.86 | 12.90 | | - | - | - | - | 307.72 | 40.5 | |
| Jun-10 | 217.2 | 29 | 246.30 | 12.32 | 258.62 | 9.05 | 27.93 | 12.93 | | - | - | - | - | 308.53 | 40.5 | |

Notes:

Item

Detail

- 1 FOB price of US #2 Hard Winter Wheat Gulf ports has been used (source: FAO Monthly Food Outlook).
- 2 Ocean Freight (US Gulf to Mexico rates). Average rates from US wheat and International Grain Council
- 3 Cost and Freight = Sum of item 1 and 2
- 4 Insurance 5% of CNF – Timothy T Schwartz 's Wheat flour Monetization in Haiti Report
- 5 CIF = Sum of Items 3 and 4
- 6 Custom Duties – 3.5% of CIF From the Haiti Customs.
- 7 VAT – 10.8% of CIF (From the Haiti Customs)
- 8 Verification Tax – 5% of CIF (From the Haiti Customs).
- 9 CFG (Territory Tax) - 0% of CIF
- 10 Cost of Bagging – Not applicable in this case because LMH has their own port and they do their own bagging
- 11 Port Charges – Same as 10 above – LMH has their own port.
- 12 Inland Freight – Same as 9, 10 and 11 above.
- 13 Total Handling costs – sum of item11 and 12.
- 14 IPP - sum of CIF, VAT, Custom duties, Verification Tax, CFG Tax, Cost of bagging and Total Handling costs.
- 15 Exchange rate source = Oanda.com
- 16 Price Achieved – Recent Monetization sale price.

IV.ii. Wheat Flour

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|----------|---------------------------------|---------------|------------------------|-----------|-----------|---------------|--------|------------------|---------------|-----------------|--------------|----------------|----------------|----------|----------------|---------------|
| Item | Bakery flour prices Minneapolis | Ocean freight | CNF (cost and Freight) | Insurance | CIF Haiti | Custom duties | VAT | Verification Tax | Territory Tax | Cost of Bagging | Port Charges | Inland Freight | Total Handling | PAP IPP | Price Achieved | Exchange Rate |
| Currency | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | HTG/USD | USD |
| Unit | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT |
| Apr-05 | 338.1 | 29 | 367.11 | 18.36 | 385.46 | 13.49 | 43.09 | 19.95 | - | 7.50 | | 15.00 | 15.00 | 484.49 | | 37.81 |
| May-05 | 327.1 | 28 | 355.09 | 17.75 | 372.85 | 13.05 | 41.68 | 19.29 | - | 7.50 | | 15.00 | 15.00 | 469.37 | | 37.75 |
| Jun-05 | 359.0 | 22 | 381.33 | 19.07 | 400.40 | 14.01 | 44.76 | 20.72 | - | 7.50 | | 15.00 | 15.00 | 502.39 | | 39.09 |
| Jul-05 | 324.9 | 16 | 340.64 | 17.03 | 357.67 | 12.52 | 39.98 | 18.51 | - | 7.50 | | 15.00 | 15.00 | 451.18 | | 39.80 |
| Aug-05 | 355.7 | 13 | 369.13 | 18.46 | 387.58 | 13.57 | 43.32 | 20.06 | - | 7.50 | | 15.00 | 15.00 | 487.03 | | 40.22 |
| Sep-05 | 309.5 | 15 | 324.47 | 16.22 | 340.69 | 11.92 | 38.08 | 17.63 | - | 7.50 | | 15.00 | 15.00 | 430.83 | | 42.31 |
| Oct-05 | 345.8 | 17 | 362.81 | 18.14 | 380.96 | 13.33 | 42.58 | 19.71 | - | 7.50 | | 15.00 | 15.00 | 479.09 | | 43.33 |
| Nov-05 | 385.5 | 17 | 402.66 | 20.13 | 422.80 | 14.80 | 47.26 | 21.88 | - | 7.50 | | 15.00 | 15.00 | 529.23 | | 43.17 |
| Dec-05 | 397.6 | 17 | 414.08 | 20.70 | 434.78 | 15.22 | 48.60 | 22.50 | - | 7.50 | | 15.00 | 15.00 | 543.60 | | 43.80 |
| Jan-06 | 377.8 | 14 | 391.75 | 19.59 | 411.34 | 14.40 | 45.98 | 21.29 | - | 7.50 | | 15.00 | 15.00 | 515.50 | | 43.80 |
| Feb-06 | 386.6 | 12 | 398.56 | 19.93 | 418.49 | 14.65 | 46.78 | 21.66 | - | 7.50 | | 15.00 | 15.00 | 524.08 | | 43.83 |
| Mar-06 | 382.2 | 12 | 394.16 | 19.71 | 413.87 | 14.49 | 46.26 | 21.42 | - | 7.50 | | 15.00 | 15.00 | 518.53 | | 44.39 |
| Apr-06 | 397.6 | 12 | 409.58 | 20.48 | 430.06 | 15.05 | 48.07 | 22.26 | - | 7.50 | | 15.00 | 15.00 | 537.93 | | 43.78 |
| May-06 | 380.0 | 14 | 393.56 | 19.68 | 413.23 | 14.46 | 46.19 | 21.38 | - | 7.50 | | 15.00 | 15.00 | 517.77 | | 43.42 |
| Jun-06 | 417.4 | 17 | 433.90 | 21.70 | 455.60 | 15.95 | 50.93 | 23.58 | - | 7.50 | | 15.00 | 15.00 | 568.55 | | 42.95 |
| Jul-06 | 362.3 | 18 | 379.83 | 18.99 | 398.83 | 13.96 | 44.58 | 20.64 | - | 7.50 | | 15.00 | 15.00 | 500.51 | | 40.53 |
| Aug-06 | 396.5 | 21 | 417.48 | 20.87 | 438.35 | 15.34 | 49.00 | 22.68 | - | 7.50 | | 15.00 | 15.00 | 547.88 | | 39.98 |
| Sep-06 | 528.6 | 24 | 552.63 | 27.63 | 580.27 | 20.31 | 64.86 | 30.03 | - | 7.50 | | 15.00 | 15.00 | 717.97 | | 40.59 |
| Oct-06 | 485.7 | 26 | 511.68 | 25.58 | 537.27 | 18.80 | 60.06 | 27.80 | - | 7.50 | | 15.00 | 15.00 | 666.43 | | 40.08 |
| Nov-06 | 557.3 | 25 | 582.67 | 29.13 | 611.80 | 21.41 | 68.39 | 31.66 | - | 7.50 | | 15.00 | 15.00 | 755.76 | | 39.85 |
| Dec-06 | 595.8 | 27 | 622.81 | 31.14 | 653.96 | 22.89 | 73.10 | 33.84 | - | 7.50 | | 15.00 | 15.00 | 806.29 | | 39.87 |
| Jan-07 | 667.4 | 23 | 690.20 | 34.51 | 724.71 | 25.36 | 81.01 | 37.50 | - | 7.50 | | 15.00 | 15.00 | 891.09 | | 39.95 |
| Feb-07 | 810.6 | 24 | 834.57 | 41.73 | 876.30 | 30.67 | 97.95 | 45.35 | - | 7.50 | | 15.00 | 15.00 | 1,072.77 | | 39.25 |
| Mar-07 | 959.3 | 29 | 987.88 | 49.39 | 1,037.27 | 36.30 | 115.95 | 53.68 | - | 7.50 | | 15.00 | 15.00 | 1,265.70 | | 39.21 |
| Apr-07 | 637.7 | 31 | 668.42 | 33.42 | 701.84 | 24.56 | 78.45 | 36.32 | - | 7.50 | | 15.00 | 15.00 | 863.67 | | 39.38 |
| May-07 | 571.6 | 37 | 608.79 | 30.44 | 639.23 | 22.37 | 71.45 | 33.08 | - | 7.50 | | 15.00 | 15.00 | 788.63 | | 38.96 |
| Jun-07 | 447.1 | 33 | 479.64 | 23.98 | 503.62 | 17.63 | 56.29 | 26.06 | - | 7.50 | | 15.00 | 15.00 | 626.10 | | 37.79 |
| Jul-07 | 467.0 | 38 | 505.26 | 25.26 | 530.52 | 18.57 | 59.30 | 27.45 | - | 7.50 | | 15.00 | 15.00 | 658.35 | | 37.40 |
| Aug-07 | 405.3 | 42 | 446.79 | 22.34 | 469.13 | 16.42 | 52.44 | 24.28 | - | 7.50 | | 15.00 | 15.00 | 584.76 | | 36.27 |
| Sep-07 | 353.5 | 41 | 394.52 | 19.73 | 414.25 | 14.50 | 46.30 | 21.44 | - | 7.50 | | 15.00 | 15.00 | 518.99 | | 35.39 |
| Oct-07 | 344.7 | 50 | 394.31 | 19.72 | 414.03 | 14.49 | 46.28 | 21.43 | - | 7.50 | | 15.00 | 15.00 | 518.73 | | 35.50 |
| Nov-07 | 332.6 | 46 | 378.60 | 18.93 | 397.53 | 13.91 | 44.44 | 20.57 | - | 7.50 | | 15.00 | 15.00 | 498.95 | | 36.10 |
| Dec-07 | 291.9 | 43 | 334.84 | 16.74 | 351.58 | 12.31 | 39.30 | 18.19 | - | 7.50 | | 15.00 | 15.00 | 443.88 | | 36.28 |
| Jan-08 | 308.4 | 37 | 345.17 | 17.26 | 362.43 | 12.68 | 40.51 | 18.76 | - | 7.50 | | 15.00 | 15.00 | 456.88 | | 36.74 |
| Feb-08 | 286.3 | 39 | 324.84 | 16.24 | 341.09 | 11.94 | 38.13 | 17.65 | - | 7.50 | | 15.00 | 15.00 | 431.30 | | 37.33 |
| Mar-08 | 280.8 | 40 | 320.46 | 16.02 | 336.49 | 11.78 | 37.61 | 17.41 | - | 7.50 | | 15.00 | 15.00 | 425.79 | | 37.38 |
| Apr-08 | 281.9 | 42 | 324.19 | 16.21 | 340.40 | 11.91 | 38.05 | 17.62 | - | 7.50 | | 15.00 | 15.00 | 430.48 | | 37.77 |
| May-08 | 276.4 | 49 | 325.18 | 16.26 | 341.44 | 11.95 | 38.17 | 17.67 | - | 7.50 | | 15.00 | 15.00 | 431.73 | | 38.42 |
| Jun-08 | 289.6 | 47 | 336.87 | 16.84 | 353.72 | 12.38 | 39.54 | 18.30 | - | 7.50 | | 15.00 | 15.00 | 446.44 | | 38.85 |
| Jul-08 | 284.1 | 45 | 328.99 | 16.45 | 345.44 | 12.09 | 38.61 | 17.88 | - | 7.50 | | 15.00 | 15.00 | 436.52 | | 38.76 |
| Aug-08 | 253.3 | 41 | 293.93 | 14.70 | 308.63 | 10.80 | 34.50 | 15.97 | - | 7.50 | | 15.00 | 15.00 | 392.40 | | 39.26 |
| Sep-08 | 269.8 | 35 | 305.20 | 15.26 | 320.46 | 11.22 | 35.82 | 16.58 | - | 7.50 | | 15.00 | 15.00 | 406.58 | | 39.45 |
| Oct-08 | 297.4 | 22 | 318.96 | 15.95 | 334.90 | 11.72 | 37.44 | 17.33 | - | 7.50 | | 15.00 | 15.00 | 423.89 | | 39.66 |
| Nov-08 | 294.1 | 13 | 306.93 | 15.35 | 322.27 | 11.28 | 36.02 | 16.68 | - | 7.50 | | 15.00 | 15.00 | 408.76 | | 39.76 |
| Dec-08 | 297.4 | 10 | 307.36 | 15.37 | 322.72 | 11.30 | 36.07 | 16.70 | - | 7.50 | | 15.00 | 15.00 | 409.30 | | 39.96 |
| Jan-09 | 275.3 | 10 | 285.33 | 14.27 | 299.60 | 10.49 | 33.49 | 15.50 | - | 7.50 | | 15.00 | 15.00 | 381.58 | | 40.4 |
| Feb-09 | 255.5 | 13 | 268.76 | 13.44 | 282.19 | 9.88 | 31.54 | 14.60 | - | 7.50 | | 15.00 | 15.00 | 360.72 | | 40.3 |

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---------|-------|----|--------|-------|--------|-------|-------|-------|---|------|-------|-------|-------|--------|-----|------|
| Mar-09 | 258.8 | 16 | 275.06 | 13.75 | 288.81 | 10.11 | 32.28 | 14.95 | - | 7.50 | | 15.00 | 15.00 | 368.65 | | 40.4 |
| Apr-09 | 274.2 | 15 | 289.10 | 14.46 | 303.56 | 10.62 | 33.93 | 15.71 | - | 7.50 | | 15.00 | 15.00 | 386.32 | | 40.5 |
| May-09 | 273.1 | 18 | 291.13 | 14.56 | 305.68 | 10.70 | 34.17 | 15.82 | - | 7.50 | | 15.00 | 15.00 | 388.87 | | 40.5 |
| Jun-09 | 290.7 | 19 | 310.00 | 15.50 | 325.50 | 11.39 | 36.38 | 16.84 | - | 7.50 | | 15.00 | 15.00 | 412.62 | | 40.6 |
| Jul-09 | 280.8 | 22 | 303.09 | 15.15 | 318.24 | 11.14 | 35.57 | 16.47 | - | 7.50 | | 15.00 | 15.00 | 403.92 | | 40.5 |
| Aug-09 | 267.6 | 21 | 288.12 | 14.41 | 302.53 | 10.59 | 33.82 | 15.66 | - | 7.50 | | 15.00 | 15.00 | 385.09 | | 40.5 |
| Sep-09 | 247.8 | 22 | 270.05 | 13.50 | 283.55 | 9.92 | 31.70 | 14.67 | - | 7.50 | | 15.00 | 15.00 | 362.34 | | 40.5 |
| Oct-09 | 254.4 | 23 | 277.41 | 13.87 | 291.28 | 10.19 | 32.56 | 15.07 | - | 7.50 | | 15.00 | 15.00 | 371.60 | | 40.5 |
| Nov-09 | 263.2 | 24 | 286.72 | 14.34 | 301.05 | 10.54 | 33.65 | 15.58 | - | 7.50 | | 15.00 | 15.00 | 383.32 | | 40.4 |
| Dec-09 | 255.5 | 24 | 279.01 | 13.95 | 292.96 | 10.25 | 32.75 | 15.16 | - | 7.50 | | 15.00 | 15.00 | 373.62 | | 40.4 |
| Jan-10 | 242.3 | 25 | 266.79 | 13.34 | 280.13 | 9.80 | 31.31 | 14.50 | - | 7.50 | 30.70 | 15.00 | 45.70 | 388.94 | | 40.5 |
| Feb-10 | 254.4 | 23 | 277.66 | 13.88 | 291.54 | 10.20 | 32.59 | 15.09 | - | 7.50 | 30.70 | 15.00 | 45.70 | 402.62 | | 40.5 |
| Mar-10 | 284.4 | 26 | 310.61 | 15.53 | 326.14 | 11.41 | 36.46 | 16.88 | - | 7.50 | 30.70 | 15.00 | 45.70 | 444.09 | | 40.5 |
| Apr-10 | 284.4 | 26 | 310.36 | 15.52 | 325.88 | 11.41 | 36.43 | 16.86 | - | 7.50 | 30.70 | 15.00 | 45.70 | 443.78 | | 40.5 |
| May-10 | 284.4 | 27 | 311.61 | 15.58 | 327.19 | 11.45 | 36.57 | 16.93 | - | 7.50 | 30.70 | 15.00 | 45.70 | 445.35 | | 40.5 |
| Jun-10 | 292.7 | 27 | 319.23 | 15.96 | 335.19 | 11.73 | 37.47 | 17.35 | - | 7.50 | 30.70 | 15.00 | 45.70 | 454.94 | 555 | 40.5 |

Notes:

| Item | Detail |
|------|--|
| 1 | Minneapolis Bakers std. patent flour \$/MT from ERS. |
| 2 | Ocean Freight (US Gulf to Mexico rates). Average rates from US wheat and International Grain Council |
| 3 | Cost and Freight = Sum of item 1 and 2 |
| 4 | Insurance 5% of CNF – Timothy T Schwartz 's Wheat flour Monetization in Haiti Report |
| 5 | CIF = Sum of Items 3 and 4 |
| 6 | Custom Duties – 3.5% of CIF From the Haiti Customs. |
| 7 | VAT – 10.8% of CIF (From the Haiti Customs) |
| 8 | Verification Tax – 5% of CIF (From the Haiti Customs). |
| 9 | CFG (Territory Tax) - 0% of CIF |
| 10 | Cost of Bagging – Timothy T Schwartz 's Wheat flour Monetization in Haiti Report |
| 11 | Port Charges – Timothy T Schwartz 's Wheat flour Monetization in Haiti Report – USD 700 per 20ft container |
| 12 | Inland Freight – Timothy T Schwartz 's Wheat flour Monetization in Haiti Report |
| 13 | Total Handling costs – sum of item 11 and 12. |
| 14 | IPP - sum of CIF, VAT, Custom duties, Verification Tax, CFG Tax, Cost of bagging and Total Handling costs. |
| 15 | Exchange rate source = Oanda.com |
| 16 | Price Achieved – Recent Monetization sale price – First batch shipped. |

IV.iii. Vegetable Oil

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|----------|---------------------------|---------------|------------------------|-----------|-----------|---------------|-------|------------------|---------------|-----------------|--------------|----------------|----------------|---------|---------------|----------------------|
| Item | FOB Soybean Oil (Decatur) | Ocean freight | CNF (cost and Freight) | Insurance | CIF Haiti | Custom duties | VAT | Verification Tax | Territory Tax | Cost of Bagging | Port Charges | Inland Freight | Total Handling | PAP IPP | Exchange Rate | PAP Wholesale Prices |
| Currency | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | USD | HTG/USD | USD |
| Unit | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT | MT |
| Apr-05 | 460.0 | 29 | 489.00 | 24.45 | 513.45 | - | 53.91 | 25.67 | - | 13.50 | 12.00 | 11.60 | 23.60 | 630.13 | 37.81 | |
| May-05 | 460.0 | 28 | 488.00 | 24.40 | 512.40 | - | 53.80 | 25.62 | - | 13.50 | 12.00 | 11.60 | 23.60 | 628.92 | 37.75 | |
| Jun-05 | 500.0 | 22 | 522.30 | 26.12 | 548.42 | - | 57.58 | 27.42 | - | 13.50 | 12.00 | 11.60 | 23.60 | 670.52 | 39.09 | |
| Jul-05 | 500.0 | 16 | 515.75 | 25.79 | 541.54 | - | 56.86 | 27.08 | - | 13.50 | 12.00 | 11.60 | 23.60 | 662.58 | 39.80 | |
| Aug-05 | 480.0 | 13 | 493.40 | 24.67 | 518.07 | - | 54.40 | 25.90 | - | 13.50 | 12.00 | 11.60 | 23.60 | 635.47 | 40.22 | |
| Sep-05 | 460.0 | 15 | 475.00 | 23.75 | 498.75 | - | 52.37 | 24.94 | - | 13.50 | 12.00 | 11.60 | 23.60 | 613.16 | 42.31 | |
| Oct-05 | 480.0 | 17 | 497.00 | 24.85 | 521.85 | - | 54.79 | 26.09 | - | 13.50 | 12.00 | 11.60 | 23.60 | 639.84 | 43.33 | |
| Nov-05 | 460.0 | 17 | 477.20 | 23.86 | 501.06 | - | 52.61 | 25.05 | - | 13.50 | 12.00 | 11.60 | 23.60 | 615.82 | 43.17 | |
| Dec-05 | 420.0 | 17 | 436.50 | 21.83 | 458.33 | - | 48.12 | 22.92 | - | 13.50 | 12.00 | 11.60 | 23.60 | 566.47 | 43.80 | |
| Jan-06 | 440.0 | 14 | 454.00 | 22.70 | 476.70 | - | 50.05 | 23.84 | - | 13.50 | 12.00 | 11.60 | 23.60 | 587.69 | 43.80 | |
| Feb-06 | 440.0 | 12 | 452.00 | 22.60 | 474.60 | - | 49.83 | 23.73 | - | 13.50 | 12.00 | 11.60 | 23.60 | 585.26 | 43.83 | |
| Mar-06 | 460.0 | 12 | 472.00 | 23.60 | 495.60 | - | 52.04 | 24.78 | - | 13.50 | 12.00 | 11.60 | 23.60 | 609.52 | 44.39 | |
| Apr-06 | 460.0 | 12 | 472.00 | 23.60 | 495.60 | - | 52.04 | 24.78 | - | 13.50 | 12.00 | 11.60 | 23.60 | 609.52 | 43.78 | |
| May-06 | 500.0 | 14 | 513.60 | 25.68 | 539.28 | - | 56.62 | 26.96 | - | 13.50 | 12.00 | 11.60 | 23.60 | 659.97 | 43.42 | |
| Jun-06 | 480.0 | 17 | 496.50 | 24.83 | 521.33 | - | 54.74 | 26.07 | - | 13.50 | 12.00 | 11.60 | 23.60 | 639.23 | 42.95 | |
| Jul-06 | 520.0 | 18 | 537.50 | 26.88 | 564.38 | - | 59.26 | 28.22 | - | 13.50 | 12.00 | 11.60 | 23.60 | 688.95 | 40.53 | |
| Aug-06 | 500.0 | 21 | 521.00 | 26.05 | 547.05 | - | 57.44 | 27.35 | - | 13.50 | 12.00 | 11.60 | 23.60 | 668.94 | 39.98 | |
| Sep-06 | 480.0 | 24 | 504.00 | 25.20 | 529.20 | - | 55.57 | 26.46 | - | 13.50 | 12.00 | 11.60 | 23.60 | 648.33 | 40.59 | |
| Oct-06 | 500.0 | 26 | 526.00 | 26.30 | 552.30 | - | 57.99 | 27.62 | - | 13.50 | 12.00 | 11.60 | 23.60 | 675.01 | 40.08 | |
| Nov-06 | 560.0 | 25 | 585.40 | 29.27 | 614.67 | - | 64.54 | 30.73 | - | 13.50 | 12.00 | 11.60 | 23.60 | 747.04 | 39.85 | |
| Dec-06 | 560.0 | 27 | 587.00 | 29.35 | 616.35 | - | 64.72 | 30.82 | - | 13.50 | 12.00 | 11.60 | 23.60 | 748.98 | 39.87 | |
| Jan-07 | 560.0 | 23 | 582.80 | 29.14 | 611.94 | - | 64.25 | 30.60 | - | 13.50 | 12.00 | 11.60 | 23.60 | 743.89 | 39.95 | 1,262.06 |
| Feb-07 | 580.0 | 24 | 604.00 | 30.20 | 634.20 | - | 66.59 | 31.71 | - | 13.50 | 12.00 | 11.60 | 23.60 | 769.60 | 39.25 | 1,250.16 |
| Mar-07 | 600.0 | 29 | 628.63 | 31.43 | 660.06 | - | 69.31 | 33.00 | - | 13.50 | 12.00 | 11.60 | 23.60 | 799.46 | 39.21 | 1,250.16 |

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---------|---------|----|----------|-------|----------|---|--------|-------|---|-------|-------|-------|-------|----------|-------|----------|
| Apr-07 | 620.0 | 31 | 650.75 | 32.54 | 683.29 | - | 71.75 | 34.16 | - | 13.50 | 12.00 | 11.60 | 23.60 | 826.30 | 39.38 | 1,250.16 |
| May-07 | 660.0 | 37 | 697.20 | 34.86 | 732.06 | - | 76.87 | 36.60 | - | 13.50 | 12.00 | 11.60 | 23.60 | 882.63 | 38.96 | 1,257.60 |
| Jun-07 | 680.0 | 33 | 712.50 | 35.63 | 748.13 | - | 78.55 | 37.41 | - | 13.50 | 12.00 | 11.60 | 23.60 | 901.18 | 37.79 | 1,265.04 |
| Jul-07 | 720.0 | 38 | 758.30 | 37.92 | 796.22 | - | 83.60 | 39.81 | - | 13.50 | 12.00 | 11.60 | 23.60 | 956.73 | 37.40 | 1,262.06 |
| Aug-07 | 700.0 | 42 | 741.50 | 37.08 | 778.58 | - | 81.75 | 38.93 | - | 13.50 | 12.00 | 11.60 | 23.60 | 936.35 | 36.27 | 1,205.51 |
| Sep-07 | 740.0 | 41 | 781.00 | 39.05 | 820.05 | - | 86.11 | 41.00 | - | 13.50 | 12.00 | 11.60 | 23.60 | 984.26 | 35.39 | 1,317.13 |
| Oct-07 | 760.0 | 50 | 809.60 | 40.48 | 850.08 | - | 89.26 | 42.50 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,018.94 | 35.50 | 1,303.73 |
| Nov-07 | 860.0 | 46 | 906.00 | 45.30 | 951.30 | - | 99.89 | 47.57 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,135.85 | 36.10 | 1,369.22 |
| Dec-07 | 900.0 | 43 | 942.99 | 47.15 | 990.13 | - | 103.96 | 49.51 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,180.71 | 36.28 | 1,488.28 |
| Jan-08 | 1,000.0 | 37 | 1,036.80 | 51.84 | 1,088.64 | - | 114.31 | 54.43 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,294.48 | 36.74 | 1,488.28 |
| Feb-08 | 1,140.0 | 39 | 1,178.50 | 58.93 | 1,237.43 | - | 129.93 | 61.87 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,466.33 | 37.33 | 1,503.16 |
| Mar-08 | 1,140.0 | 40 | 1,179.63 | 58.98 | 1,238.61 | - | 130.05 | 61.93 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,467.69 | 37.38 | 1,726.40 |
| Apr-08 | 1,140.0 | 42 | 1,182.25 | 59.11 | 1,241.36 | - | 130.34 | 62.07 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,470.87 | 37.77 | 1,934.76 |
| May-08 | 1,160.0 | 49 | 1,208.75 | 60.44 | 1,269.19 | - | 133.26 | 63.46 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,503.01 | 38.42 | 1,823.14 |
| Jun-08 | 1,240.0 | 47 | 1,287.23 | 64.36 | 1,351.59 | - | 141.92 | 67.58 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,598.18 | 38.85 | 1,869.28 |
| Jul-08 | 1,220.0 | 45 | 1,264.85 | 63.24 | 1,328.09 | - | 139.45 | 66.40 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,571.05 | 38.76 | 2,068.71 |
| Aug-08 | 1,020.0 | 41 | 1,060.63 | 53.03 | 1,113.66 | - | 116.93 | 55.68 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,323.37 | 39.26 | 2,083.59 |
| Sep-08 | 920.0 | 35 | 955.38 | 47.77 | 1,003.14 | - | 105.33 | 50.16 | - | 13.50 | 12.00 | 11.60 | 23.60 | 1,195.73 | 39.45 | 2,101.45 |
| Oct-08 | 700.0 | 22 | 721.60 | 36.08 | 757.68 | - | 79.56 | 37.88 | - | 13.50 | 12.00 | 11.60 | 23.60 | 912.22 | 39.66 | 2,113.36 |
| Nov-08 | 640.0 | 13 | 652.88 | 32.64 | 685.52 | - | 71.98 | 34.28 | - | 13.50 | 12.00 | 11.60 | 23.60 | 828.87 | 39.76 | 2,009.18 |
| Dec-08 | 580.0 | 10 | 590.00 | 29.50 | 619.50 | - | 65.05 | 30.98 | - | 13.50 | 12.00 | 11.60 | 23.60 | 752.62 | 39.96 | 1,756.17 |
| Jan-09 | 640.0 | 10 | 650.00 | 32.50 | 682.50 | - | 71.66 | 34.13 | - | 13.50 | 12.00 | 11.60 | 23.60 | 825.39 | 40.4 | 1,672.83 |
| Feb-09 | 580.0 | 13 | 593.25 | 29.66 | 622.91 | - | 65.41 | 31.15 | - | 13.50 | 12.00 | 11.60 | 23.60 | 756.56 | 40.3 | 1,714.50 |
| Mar-09 | 560.0 | 16 | 576.25 | 28.81 | 605.06 | - | 63.53 | 30.25 | - | 13.50 | 12.00 | 11.60 | 23.60 | 735.95 | 40.4 | 1,785.94 |
| Apr-09 | 660.0 | 15 | 674.88 | 33.74 | 708.62 | - | 74.40 | 35.43 | - | 13.50 | 12.00 | 11.60 | 23.60 | 855.55 | 40.5 | 1,750.22 |
| May-09 | 720.0 | 18 | 738.00 | 36.90 | 774.90 | - | 81.36 | 38.75 | - | 13.50 | 12.00 | 11.60 | 23.60 | 932.11 | 40.5 | 1,562.69 |
| Jun-09 | 720.0 | 19 | 739.25 | 36.96 | 776.21 | - | 81.50 | 38.81 | - | 13.50 | 12.00 | 11.60 | 23.60 | 933.63 | 40.6 | 1,488.28 |
| Jul-09 | 620.0 | 22 | 642.25 | 32.11 | 674.36 | - | 70.81 | 33.72 | - | 13.50 | 12.00 | 11.60 | 23.60 | 815.99 | 40.5 | 1,488.28 |
| Aug-09 | 680.0 | 21 | 700.50 | 35.03 | 735.53 | - | 77.23 | 36.78 | - | 13.50 | 12.00 | 11.60 | 23.60 | 886.63 | 40.5 | 1,440.66 |
| Sep-09 | 620.0 | 22 | 642.25 | 32.11 | 674.36 | - | 70.81 | 33.72 | - | 13.50 | 12.00 | 11.60 | 23.60 | 815.99 | 40.5 | 1,488.28 |

| Item No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---------|-------|----|--------|-------|--------|---|-------|-------|---|-------|-------|-------|-------|--------|------|----------|
| Oct-09 | 660.0 | 23 | 683.00 | 34.15 | 717.15 | - | 75.30 | 35.86 | - | 13.50 | 12.00 | 11.60 | 23.60 | 865.41 | 40.5 | 1,476.37 |
| Nov-09 | 740.0 | 24 | 763.50 | 38.18 | 801.68 | - | 84.18 | 40.08 | - | 13.50 | 12.00 | 11.60 | 23.60 | 963.03 | 40.4 | 1,488.28 |
| Dec-09 | 740.0 | 24 | 763.50 | 38.18 | 801.68 | - | 84.18 | 40.08 | - | 13.50 | 12.00 | 11.60 | 23.60 | 963.03 | 40.4 | 1,488.28 |
| Jan-10 | 700.0 | 25 | 724.50 | 36.23 | 760.73 | - | 79.88 | 38.04 | - | 13.50 | 12.00 | 11.60 | 23.60 | 915.74 | 40.5 | 1,637.11 |
| Feb-10 | 700.0 | 23 | 723.25 | 36.16 | 759.41 | - | 79.74 | 37.97 | - | 13.50 | 12.00 | 11.60 | 23.60 | 914.22 | 40.5 | 1,541.86 |
| Mar-10 | 720.0 | 26 | 746.25 | 37.31 | 783.56 | - | 82.27 | 39.18 | - | 13.50 | 12.00 | 11.60 | 23.60 | 942.11 | 40.5 | 1,488.28 |
| Apr-10 | 740.0 | 26 | 766.00 | 38.30 | 804.30 | - | 84.45 | 40.22 | - | 13.50 | 12.00 | 11.60 | 23.60 | 966.07 | 40.5 | 1,488.28 |
| May-10 | 700.0 | 27 | 727.25 | 36.36 | 763.61 | - | 80.18 | 38.18 | - | 13.50 | 12.00 | 11.60 | 23.60 | 919.07 | 40.5 | 1,488.28 |
| Jun-10 | 680.0 | 27 | 706.50 | 35.33 | 741.83 | - | 77.89 | 37.09 | - | 13.50 | 12.00 | 11.60 | 23.60 | 893.91 | 40.5 | 1,488.28 |

Notes:

Item

Detail

- 1 FOB Decatur Soybean oil prices from ERS
2 Ocean Freight (US Gulf to Mexico rates). Average rates from US wheat and International Grain Council
3 Cost and Freight = Sum of item 1 and 2
4 Insurance 5% of CNF – Timothy T Schwartz 's oil Monetization in Haiti Report
5 CIF = Sum of Items 3 and 4
6 Custom Duties – 0% of CIF From the Haiti Customs.
7 VAT – 10.5% of CIF (From the Haiti Customs)
8 Verification Tax – 5% of CIF (From the Haiti Customs).
9 CFG (Territory Tax) - 0% of CIF
10 Cost of Bagging – Timothy T Schwartz 's oil Monetization in Haiti Report
11 Port Charges – Timothy T Schwartz 's oil Monetization in Haiti Report
12 Inland Freight – Timothy T Schwartz 's oil Monetization in Haiti Report
13 Total Handling costs – sum of item11 and 12.
14 IPP - sum of CIF, VAT, Custom duties, Verification Tax, CFG Tax, Cost of bagging and Total Handling costs.
15 Exchange rate source = Oanda.com
16 Wholesale prices Port-au-Prince - Wholesale and time series oil prices were not available in Haiti at the time of the report. Retail prices were available on a time-series basis. As a proxy for wholesale prices, the authors subtracted 20 percent from the retail price to come up with a consistent wholesale price. This is in line with the margins found elsewhere in the industry.

Annex V. Methodology for Determining Impact of Monetized Food Aid⁷⁹

V.i. Introduction

The Bellmon Amendment requires assurance that a proposed food aid program would not result in a substantial disincentive to or interference with domestic production or marketing. The extent to which monetized food aid has the potential to introduce a production disincentive or market disruption rests primarily on whether the monetized commodity is sold at a fair market price, and in a volume that would not be expected to cause disruption of normal trade patterns.

The objective of the BEST pre-MYAP report is to provide sufficient information to relevant USAID policy decision makers and program managers to allow them to make a determination of whether a proposed food aid program would have a substantial impact on local market and production incentives. If it is determined in the negative, then the proposed Title II food aid program would be compliant with the Bellmon Amendment. The BEST report accomplishes this objective by providing specific guidance as to:

- The appropriateness of monetization in a Title II recipient country
- If appropriate, which commodities might be appropriate to monetize
- The approximate maximum tonnage feasible for monetization
- Any special considerations (such as sales platform) that should be taken into account when undertaking monetization in the study country

V.ii. Analytical Process

V.ii.i. Step 1: Initial Commodity Selection

A desk review will identify an initial set of commodities for study. This review will be based on the best available trade statistics and any previous Bellmon studies, and informed by country situational reports and policy reviews. Ideally, each commodity will be selected based on a complete set of objective criteria involving eligibility, freedom from trade and policy restrictions, and, most importantly, the market's ability to absorb a volume of monetized commodity without substantial disruption. In practice, this ideal is constrained by information gaps and varying standards of what may be considered "substantial" in different country and regional contexts. Official trade data is often incomplete, out-of-date, or contradictory.

⁷⁹ This methodology was developed to provide guidance prior to the initiation of a new MYAP/SYAP cycle; however, in the case of monetization, the methodology for the market analysis is exactly the same whether the analysis is conducted mid-MYAP or prior to the beginning of a new MYAP/SYAP cycle.

The field visit will involve triangulating trade figures, filling in data gaps, and discussing with traders and potential buyers to assess (1) interest and ability to purchase commodities in various quantities; and (2) factors affecting demand and supply of commodities with which a monetized commodity would likely compete.

The following set of “tests” is used, in whole or in part, to make an initial assessment of the feasibility of monetization without introducing Bellmon concerns:

Test 1: Purchase and export restrictions. There are various layers of U.S. government policies, regulations, and practices that may restrict the purchase of commodities intended for monetization. In consideration of these restrictions, Food For Peace (FFP) maintains a list of approved Title II commodities that can be used for emergency or development programs (see Annex V.I). There may also be special policies, such as the FFP Policy on Use of Milk Powder for Monetization (see Annex V.II), which must also be reflected in sales transactions.

Test: If a commodity is on the FFP list, it is eligible for consideration as a monetization candidate. If it is not on the list, it is ineligible.

Upon special request by FFP, commodities not currently on the FFP list may be selected for review.

Test 2: Recipient country policy, regulation, and practice. Recipient country policies, regulations, and practices may restrict importation of commodities intended for monetization. These may include, but not be limited to, one or more of the following:

- Restrictions on genetically-modified foods
- Political sensitivities to staple crop industries
- National industry promotion or protection favoring local purchase of certain commodities
- Food aid-specific regulation of monetization sales volumes and prices

Test: If potential monetization of a commodity is affected by such barriers, analysis and recommendations will consider each barrier in light of its restrictiveness in practical terms. Extreme barriers to monetization (such as a complete restriction on GMOs, for example) will render a commodity ineligible for monetization. However, government institutions that regulate monetization may set guidelines that have little to no effect on an overall recommendation, but may impact a detail such as minimum sales prices. In this case, a commodity would still be considered eligible for monetization.

Test 3: Significant demand and commercial import activity. To warrant importation and sale of monetized food aid, both local dietary preferences and available market information must strongly suggest that a proposed commodity is consumed in significant amounts (i.e., there is significant demand), and that national production is insufficient to meet demand (i.e., there is insufficient national supply to meet demand). National demand is estimated based on the latest

5-year overall supply trend, equivalent to the sum of domestic production, net trade, and food aid.⁸⁰

Assessment of the 5-year supply trend considers products of the same specification, or those which are the most likely substitutes. Commodity specifications (class and grading) are particularly important for some of the most frequently-monetized commodities, such as wheat, rice, and vegetable oil. In order to compare commodities accurately, the analyst must take into account the exact specifications of normal commercial imports. Processors' requirements and consumer preferences will determine the required and/or desirable specifications. Field visits must include meetings with commercial importers, processors, millers, and large traders because these are the market players who can provide the most accurate information in regards to specific commodities' commercial demand.

Annex V.III is a survey questionnaire tailored to potential buyers of Title II monetized commodities. This set of questions should form the basic foundation for meetings with millers, traders, and other potential buyers of monetized commodities.

Annex V.IV is a survey questionnaire form tailored to current NGO Monetization Units, for those countries where these units are operational. This set of questions should form the basic foundation for meetings with Monetization Units to assess their experience monetizing commodities in-country.

In countries with substantial informal trade, the analyst will gather all available market intelligence on the volume and pattern of informal trade where available. This will involve reliance on FEWS NET cross-border trade estimates and discussions with key stakeholders (such as Ministries) in the field. Informal trade may be substantial, because informal trade is generally between two low-income food-deficit countries; disruption of such trade would be considered particularly undesirable. The volume of commodity recommended for monetization will exclude informal trade volumes and rely instead on commercial import and food aid import volumes as a basis for estimating unmet demand.

Test: Generally, the value of the commercial import market must be large enough so that monetization sales would generate at least US\$1 million. This amount is a guideline based on analysis of perceived Awardee funding need, but which is subject to review, especially as funds become available from other sources (e.g., 202(e) funding). Commodities that would generate less than US\$1 million in funds will be considered, particularly where there are only one or two commodities eligible/feasible for monetization and a diversified basket of commodities would be preferable. If sales are expected to displace normal commercial imports, the displaced volume should not exceed 10 percent of commercial import volumes (averaged over five years) per BEST's current guideline. If sales are expected to compete with domestic production, the

⁸⁰ Where supply in the previous years is especially stable, a single-year projected increase in supply is possible using annual population growth figures. In the most recent round of BEST studies, many Title II countries had experienced substantial inter-annual fluctuations in supply during the five-year period under review (on the order of 100 percent change year-on-year), partially due to the food price crisis of 2007. This made projections much more difficult and unreliable. However, as prices and therefore supply stabilize, such projections would be a reasonable basis on which to estimate a recommended volume for monetization.

displaced volume should not exceed five percent of domestic production (averaged over five years) per BEST's current guideline.

V.ii.ii. Step 2: Market Analysis

Additional market research and analysis are conducted to assess the likelihood of achieving a fair and competitive market price. The analyst will review all available evidence of market structure, level of competition, and available sales platforms, including findings from interviews with traders, producers, potential buyers, and any current monetizing agents. To support a recommendation of commodity monetization, the analyst must conclude that there is a high likelihood of achieving a fair market price in the near-term. Achievement of a fair market price may be expected in the near-term based on the following criteria:

Criterion 1: Structure and composition of the buyer market supports competition. There must be enough potential buyers with sufficient purchasing power and market positioning to absorb the likely volumes of monetized commodities without exerting a negative influence on fair and efficient market function. In some cases, monetizing agents may have long-term relationships with a single buyer. This may or may not indicate a problem. As discussed in the following section, whether Awardees are able to monetize commodities at or near import parity price (IPP) provides strong suggestive evidence of the level of competition.

Test: If there is a single buyer, evidence of a collusive group of buyers, or other indications of a buyer's market that regularly restricts free trade and competition, dominates the market, or exercises anti-competitive practices while purchasing monetized and/or commercial food commodity imports, then it may be expected that a fair market price may not be achieved and monetization may be supporting an uncompetitive industry. If there are many buyers, or there is no substantial evidence to indicate that a single or few buyers are exhibiting this negative behavior, a fair market price may be achieved.

Criterion 2: Likelihood of achieving a fair market price is high. An import parity price (IPP) is the best estimate of a fair market price for commercially-imported commodities. An estimated IPP is based on the sum of a simulated commercial entity's cost to import and sell the same (or very similar) food commodity. If import parity price has been consistently achieved in the past, and can be expected to be achieved in the near future given current market conditions, a commodity may be recommended for monetization.

The estimated import parity price is calculated by adding the following costs:

- Freight-on-board (FOB) from exporting location/market (for the same or similar commodity)
- Insurance
- Ocean freight to point of import⁸¹

⁸¹ BEST will use CIF at port prices whenever they are available.

- Port charges at port of entry (taxes, handling, packaging, storage, agents' fees, etc.)
- Import duties and subsidies
- Taxes (including VAT if applicable)
- Inland transportation
- Any other costs that bring the per unit cost into a parity estimate with the reference price, such as a price adjustment for a difference in commodity quality

Given that each of these components of IPP is estimated, and that certain components, such as freight charges, are likely estimated with some error, BEST analysis allows for a margin of error of + / - 10 percent . Monetized sales transacted at prices above or below the margin of error can be reasonably attributed to profit or loss, respectively.

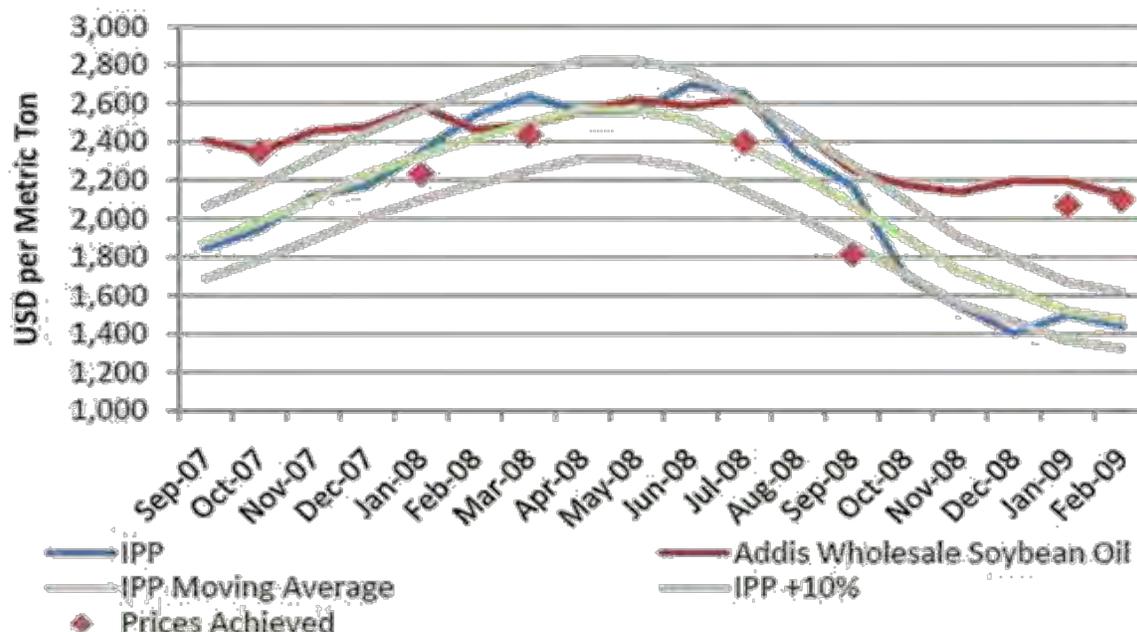
Test: If IPP analysis reveals a consistent pattern of pricing below IPP, and there are no substantial prospects for improvements in the negotiating capacity of the Awardee(s) (e.g., no significant increase in the number of potential buyers), future monetizations of that commodity would not be recommended since such sales would be unlikely to obtain a fair market price.

If there is little or no history of monetization sales transactions to compare with IPP, then market structure and conduct must be assessed as indicators of the potential for achieving a fair market price.

Example of IPP calculation and use in monetization analysis: The following is an example of an IPP calculation and a comparison of achieved sales prices relative to IPP. The table below shows an individual import parity price calculation for soybean oil for possible sale in Addis Ababa. The figure below shows historical IPP charted against actual monetization sales price achievements for soybean oil monetized in Addis Ababa.

Table 42. Soybean Oil Import Parity Price Calculation Template

| No. | Item | Source | US\$/MT |
|-----|-------------------------------------|------------------------|---------|
| 1 | Refined Soybean Oil Ex Rotterdam | USDA FAS Data | 748 |
| 2 | Ocean Freight | Marill Freight | 50 |
| 3 | Insurance | 1% of #1 | 7.5 |
| 4 | CIF Djibouti | #1+#2+#3 | 805.5 |
| 5 | Customs Duty | 30% of #4 | 241.6 |
| 6 | VAT | 15% of (#4+#5) | 157.1 |
| 7 | Withholding Tax | 3% of #4 | 24.2 |
| 8 | Port Charges, handling etc. | Axis Transit Services | 39.5 |
| 9 | Inland Freight | Axis Transit Services | 41.1 |
| 10 | Storage | ECEX | 7.5 |
| 11 | Packaging | Whey Consulting Ltd. | 119.5 |
| 12 | Administration | World Bank Salary Data | 4.0 |
| 13 | Total Import Parity Price | Sum(#4:#12) | 1440.1 |

Figure 48. Comparison of Addis Wholesale Soybean Oil Prices and Calculated IPP

Criterion 3: Other Key Considerations for Monetization Transactions

There are a number of other important factors that should be considered when assessing the feasibility of monetizing commodities. These factors include, but are not limited to:

Price responsiveness of local production. General characteristics of the agricultural sector, such as average farm size, access to agricultural inputs (labor, seeds, fertilizer, etc), and average crop yields, provide an indication of how responsive local producers may be to changes in output prices (i.e., how elastic supply is). For example, if farm sizes are relatively small and farmers lack access to inputs, domestic production is likely to be relatively less responsive to changes in output prices (i.e., relatively inelastic) simply because producers lack the capacity to make large changes in their production plans in response to price incentives. If production is inelastic, the disincentive effects from additional Title II food aid will therefore be minimized. Domestic supply is often price inelastic in developing countries.

Conversely, if local production is extremely price responsive (or elastic), a small price change on the local market will result in a large percentage change in local production. While a drop in output prices may benefit consumers, such a drop could create disincentives to produce as well as cause a drop in traders' incomes.

Monetization may affect the marketing or production of substitute commodities. If commodities considered for monetization are highly substitutable with other commodities in the local diet, the analyst must assess market conditions to reveal the likely cross-price effects on those substitute commodities. As an example, suppose consumers typically consume black beans, but view pinto beans as a very close substitute. If pinto beans are monetized, resulting

in an increase in the supply of pinto beans and therefore a drop in the price of pinto beans relative to black beans, consumers may substitute away from black beans and increase pinto beans in their diets. Depending on how easily consumers substitute the two goods (as reflected in the cross-price elasticity between black beans and pinto beans), monetization of pinto beans could result in a decrease in demand for black beans, which could affect production incentives and markets for black beans.

Estimates of elasticities are generally not available. Qualitative assessments of factors which determine demand and supply, however, are fairly easy to undertake during field visits, particularly with the insights of local agricultural marketing specialists.

The willingness to substitute commodities in the local diet often follows a socioeconomic gradient and differs in urban versus rural areas. Understanding these dynamics is important to strengthening market intelligence and providing appropriate guidance regarding the likely effects of food aid (both monetized and distributed) on local markets. As an example, there may be very strong preferences for rice in an urban area which makes consumers relatively nonresponsive to price changes (i.e., the own price elasticity of demand for rice is inelastic), whereas rural consumers may have a preference for sorghum but are willing to substitute sorghum with millet as the price of sorghum increases relative to millet.

Monetization sales platform may support competition. The monetization sales platform may provide insight into the level of competitiveness and the monetization agents' ability to achieve a fair price. In most cases, the most common platforms available are direct negotiation and auction. Though it is entirely possible to realize a competitive or non-competitive process under each sales platform, some platforms are more likely to result in a competitive bid. For example, while it is possible to obtain a fair market price through large lot sales, small lot sales will promote greater competition (which increases the probability of achieving IPP) and may help promote the trading sector. Details to consider regarding sales platforms are discussed in Annex V.V.

Timing of sales is critical. When supplies are relatively low (e.g., during lean season), prices are relatively higher. A monetization sale timed to coincide with normal seasonal supply shortfalls has the potential to yield a higher price for the monetized commodity. Although it is not the intent of the monetization program, well-timed sales can help also help stabilize market supply and dampen seasonal price spikes which harm consumers in recipient countries.

Tests: A monetization program would generally be considered positively if a sale takes place:

- During the lean or hunger season(s), and up to the seasonal or annual harvest(s)
- In avoidance of another substantial monetization sale

- In avoidance of a major food aid distribution⁸²

Awardees should demonstrate awareness of any other monetizations planned (e.g., through USDA) during the same season as their proposed monetization, and should seek to avoid overlap of transactions. Likewise, Awardees should seek to avoid major monetizations during large food aid distributions.

However, as emphasized in the 1998 Food For Peace Monetization Field Manual, timing sales during lean seasons can, over the longer-term, create a disincentive for traders to engage in normal intra-annual price arbitrage. Based on discussions with traders in-country, the analyst will only recommend a practice of timing monetizations during in the lean season if the analyst can demonstrate that such timing will have little impact on incentives for traders to engage in intra-annual storage.

Monetization should avoid disrupting trade between two Low-Income Food-Deficit Countries (LIFDCs). Typically, commercial import markets in LIFDCs are dominated by large non-food deficit exporting countries. Occasionally, however, LIFDCs may dominate a particular commodity markets (e.g., the maize market in Zambia may be dominated by Malawi, though this market dominance will vary from year-to-year since South Africa is a strong regional supplier). Monetization of a commodity typically imported from another LIFDC would be considered highly undesirable.

Regional monetization can offer a legally-compliant alternative for Awardees operating in a country with less than fully competitive domestic commodity markets or insufficient commercial demand to meet Awardee funding requirements. Regional monetization provides Awardees with the option of selling into a market where there is sufficient competition among buyers in order to increase the likelihood that bids will be at or near import parity. Competition increases assurance that monetization will not distort the market and will generate higher revenues than if the monetization is conducted in a domestic market with limited or no competition. Regional monetization can generate greater revenue for food security activities and thereby increase the efficiencies of the FFP program. It also provides the Awardees with a fallback position if a commodity that was initially recommended for monetization becomes unviable at a later date due to changing market or policy conditions. In countries with highly limited competition and/or limited import volumes of available Title II commodities, the BEST team will analyze the feasibility of regional monetization of specific Title II commodities.

V.ii.iii. Step 3: Conclusions and Recommendations

The BEST team does or does not recommend a commodity for monetization. If recommended, a maximum volume is recommended based on either a threshold of 10 percent of the

⁸² Depending on demand and supply dynamics for the specific commodity recommended for monetization, it may be more important that the monetized commodity is sold in an urban area while the distributed commodity is targeted in rural areas.

commercial import market, or five percent of domestic production, averaged over five years, per BEST's current guideline.⁸³ Anticipated proceeds from such a sale are presented.

Hypothetical Example. The figure below summarizes the basic steps in a decision-tree for a hypothetical monetization analysis in Country X in which five initial commodities are reviewed for potential monetization: CDSO, HRWW, NFDM, rice, and pinto beans.

Figure 49. Decision Tree

5 initial commodities considered for Monetization in Country X:

- CDSO
- HRWW
- NFDM
- Rice
- Pinto Beans

No policy restrictions prevent the importation of HRWW, NFDM, Rice, or Pinto Beans, but there are restrictions for CDSO.

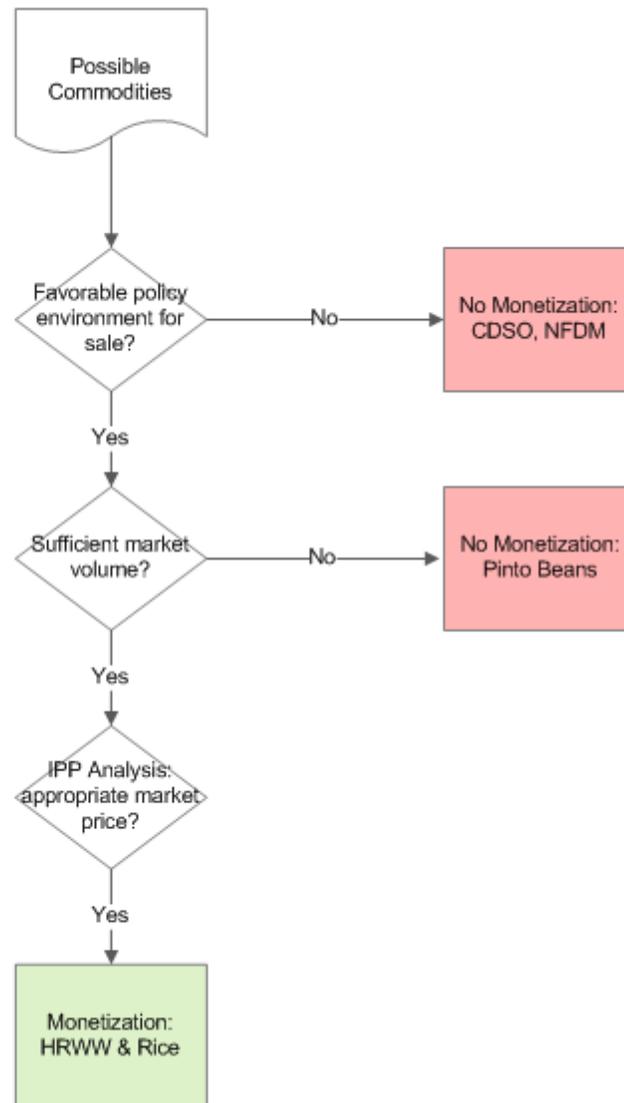
BEST research also indicates that the buyer for NFDM would probably use it to manufacture breast milk substitute, which preclude its monetization.

Based on trade data, HRWW, Rice and NFDM have an import market value of approximately \$60 million each.

The market for Pinto Beans is estimated to be only \$2 million however – this market is thus too small to be cost effective to generate monetization proceeds.

Import Parity Price calculations estimate that HRWW and Rice would be sold at appropriate local market prices.

Based upon market volume trade data, BEST analysis would recommend selling HRWW and Rice at 10% of their respective market volumes in Country X. This would generate an expected \$6 million in proceeds for each commodity.



⁸³ A threshold of 10 percent of commercial imports (5 percent of domestic production) has been used, but is subject to review on a case-by-case basis, and may be adjusted downwards or upwards based on the findings of the market analysis.

Annex V.I Bureau for Democracy, Conflict, and Humanitarian Assistance Office of Food for Peace Fiscal Year 2010: Title II Proposal Guidance and Program Policies

Grains and Fortified/Blended Food Products

Barley, Steel Cut, Bagged*
Barley, Bulk
Buckwheat, Wheat Blend*
Buckwheat, Frinetta*
Buckwheat, Grits*
Buckwheat, Groats*
Buckwheat, Supreme Flour*
Corn, Bagged*
Corn, Bulk
Corn, Bulk, Bagged*
Cornmeal*
Cornmeal, Soy-Fortified *
Corn Soy Blend*
Corn Soy Masa Flour, Instant *
Corn Soy Milk*
Corn Soy Milk, Instant*
Rice, Bulk, Bagged*
Rice, Bagged*
Sorghum, Bagged*
Sorghum, Bulk
Sorghum, Bulk, Bagged*
Sorghum Grits, Soy-Fortified*

Pulses

Beans, Black*
Beans, Great Northern*
Beans, Kidney (Dark & Light)*
Beans, Navy*
Beans, Pink*
Beans, Pinto *
Beans, Small Red*
Beans, Garbanzo (Chickpeas)*
Lentils*
Peas, Green *

Peas, Split Green *
Peas, Yellow *
Peas, Split Yellow*
Soybeans, Bagged
Soybeans, Bulk
Soybeans, Bulk, Bagged
Soybean Meal, Bulk*

Wheat/Wheat Products

Bulgur*
Bulgur, Soy-Fortified*
Wheat, Hard Red Winter, Bagged*
Wheat, Hard Red Winter, Bulk
Wheat, Hard Red Winter, Bulk Bagged*
Wheat, Hard White, Bagged*
Wheat, Hard White, Bulk
Wheat, Hard White, Bulk, Bagged*
Wheat, Hard Red Spring, Bagged*
Wheat, Hard Red Spring, Bulk
Wheat, Hard Red Spring, Bulk, Bagged*
Wheat, Northern Spring, Bagged*
Wheat, Northern Spring, Bulk
Wheat, Northern Spring, Bulk, Bagged*
Wheat, Northern Spring, Dark, Bagged*
Wheat, Northern Spring, Dark, Bulk
Wheat, Northern Spring Dark, Bulk Bagged*
Wheat, Soft Red Winter, Bagged*
Wheat, Soft Red Winter, Bulk
Wheat, Soft Red Winter, Bulk, Bagged*
Wheat, Soft White, Bagged*
Wheat, Soft White, Bulk
Wheat, Soft White, Bulk, Bagged*
Wheat Flour, All Purpose*
Wheat Flour, Bread*
Wheat Soy Blend
Wheat Soy Milk*

Oil

Vegetable Oil, Crude De-gummed, Bulk
Vegetable Oil, Vitamin A Fortified, Refined, Bulk *
Vegetable Oil, Vitamin A Fortified, Refined, 4 L (Cylindrical Tins/Plastic Pails)*
Vegetable Oil, Vitamin A Fortified, Refined, 20 L (Cylindrical Pails)*
Vegetable Oil, Vitamin A Fortified, Refined, 208 L (Cylindrical Drums)*

Other- Specialty Products

Mainstay 3600*

Mainstay Complete*

Non-Fat Dry Milk

Nutrition Bars*

Peanut Butter Paste*

Potato Flakes, Dehydrated *

Potato Granules*

Potatoes, Canned Sweet *

Raisins, California *

RiceX*

Salmon, Canned *

Soy Flour, Defatted*

Soy Protein, Concentrate*

Soy Protein, Isolate*

Soy Protein, Textured*

Vitameal*

Whole Milk Replacer*

*Value-added food aid commodities processed, fortified, or bagged in the United States

Annex V.II FFP Policy on Use of Milk Powder for Monetization

USAID's Office of Food for Peace (FFP) will consider proposals for monetization of Non-Fat Dry Milk (NFDM) under the following conditions:

The Awardee will provide FFP a written policy for the monetization of NFDM. This policy must comply with the International Code of Marketing of Breast-Milk Substitutes and all subsequent relevant World Health Assembly (WHA) resolutions pertinent to the sale or distribution of breast milk substitutes. CS will include a statement under "special provisions" which states, "It is the intention of the U.S. Government that the NFDM commodities provided herein are not to be used as breast milk substitutes, nor in their production or manufacture."

Preference will be given to countries that have current laws or policies implementing the International Code of Marketing Breast-Milk Substitutes.

NFDM may be sold for industrial use as an ingredient in processed foods, baked goods, yogurt, etc. NFDM must not substitute for breast milk or be used for products represented or locally perceived as breast milk substitutes. It must not be sold for direct market distribution, for example, in small tender sales, and should not be sold directly to the consumer.

Awardee will not sell NFDM to known manufacturers or marketers of breast-milk substitutes or replacement foods with breast milk substitute production facilities in the program country. The sales contract will have a written commitment from the buyer that the product will not be sold or freely distributed as a breast milk substitute, nor used to manufacture breast milk substitutes and that the sellers name or the name or logo of USAID will not be used in marketing, advertising, product promotion, or any implied relationship to any of the manufacture's products. Furthermore, the Awardee shall make it clear to the buyer that failure to comply with this clause will constitute a material breach of the contract.

The Awardee will submit to FFP, as part of the proposal, a plan to monitor the end-use of the product for a reasonable period of time. The plan should include sensitivity to problems in countries with high lactose intolerance, proper storage and handling information, and information on possible leakage from the buyer to the general market. This monitoring plan must be in place prior to the arrival of the commodity in the country.

The buyer agrees in writing that the uses of NFDM will be accessible for monitoring by USAID personnel to ensure that the use of NFDM adheres to the above policy and does not violate the International Code of Marketing of Breast-Milk Substitutes.

NFDM commodities for monetization must be labeled, "Not for feeding children under one year of age." If repackaged for any reason, any such package should also be so labeled.

To ensure market parity, all Title II and FFP policies and regulations, including cost-recovery, Bellman and Usual Marketing Requirement (UMR) considerations, shall apply.

The Director of the Office of Food for Peace must approve in writing any exceptions to the above policy.

Annex V.III Survey Questionnaire for Potential Buyers of Title II Monetized Commodities

The purpose of this questionnaire is to provide BEST team members with a practical approach to assessing the market's prospects for monetization of Food for Peace commodities. These questions are designed to act as an informal but standardized survey questionnaire, as most traders are unlikely to provide a detailed and structured dataset to suit our analysis.

Potential buyers are typically private industry representatives, many of whom may hold the public interest and food security in high esteem, but by nature of their business should be expected to be motivated by profit. Levels of interest, honesty, and forthrightness will vary from person to person. On the one hand, a potential buyer may be motivated, honest, and open, expecting that monetization will facilitate a transaction favorable to his or her business. On the other hand, potential buyers may attempt to manipulate or misguide the analyst in an unfair or dishonest fashion.

Key questions that should be addressed to potential buyers include:

1. What commodities do you typically trade in? In what volumes?
2. What is the current fair market price for these commodities?
3. Do you prefer local or imported product? What drives these preferences? Milling or processing requirements? Consumer preferences? Is local or imported product cheaper than the other in general?
4. If offered on or around <date 1>, would you buy X, Y, and/or Z volumes/values of Food For Peace commodities A, B, and C?
5. What is the fair market price for the volumes suggested?
6. If no to question #4, is there a variation of, or substitute for, one or more of these FFP commodities that you would buy?
7. If yes to #6, what degree of substitution might be normal?
8. Would you participate in a direct negotiation, auction, or—if one were available—purchase through a commodity exchange?
9. Are you aware of any policy and/or trade barriers that might impact importation of FFP commodities?

Annex V.IV Survey Questionnaire for Current NGO(s) Monetization Unit

1. How many years have you been monetizing in-country?
2. Do you monetize for a single NGO or as a consortium?
3. What is the professional background of the negotiators? (i.e., do they have prior commodities trading experience?)
4. Who calculates IPP? What is their source of data? How often is IPP updated (e.g., monthly, only immediately prior to a call-forward or anticipated monetization transaction)?
5. Has the unit changed its approach (e.g., choice of commodity or preferred sales platform) as a result of past experience?
6. What are the greatest constraints to successful monetization in this country? Put another way, if you could change one just thing about the way monetization occurs in country, what would that one change be?
7. We understand rice, wheat, wheat flour, and vegetable oil (or commodity X) have been monetized in the last X years. Can you confirm?
8. Could you provide the following data for each transaction?
 - Date of transaction
 - Commodity (and specs if available)
 - Buyer
 - Price paid per MT or for whole lot (in local currency and \$US)
 - Volume
 - Sales platform (auction, direct negotiation, exchange)
 - Which companies import the largest volumes of [cereals], [oil], [commodities on top ten list of commercial imports for country under study]?
9. Which imported and local commodities do FFP commodities compete against?
10. Could you describe the effect in terms of consumer preferences?
11. Are there any policy constraints or political sensitivities?

Annex V.V Monetization Sales Platforms

Careful selection of a monetization sales platform may enhance the monetization agents' ability to achieve a fair price. In most cases, the most common platforms available are direct negotiation and auction, although commodity exchanges, while generally limited in overall availability to monetization agents, are also an option and have particular advantages.

Direct negotiation is the only option if auction or commodity exchange is not available or otherwise feasible. It is most appropriate when there are few buyers (less than 10) and/or where there is high likelihood of collusion. Direct negotiators must have a deep knowledge and understanding of international costs, current and historical volumes and prices—domestic and import—and have a keen sense of what the market will bear in terms of supply, demand, and price. Historical local price and volume information may indicate what the market will bear, and international costs will show the price traders and other buyers may have to pay if they were to purchase/import from another source. The advantages generally present themselves in smaller markets and where monetization agents are highly skilled, experienced, and plugged into local and international information sources over a long period of time. Options include:

- Monetization at the border, or in the main urban centers (or wherever the mills are located)
- Small lots/many sales, or large lots/fewer sales
- Monetizing as single agents or within a consortium

Auctions are an option if there are many buyers present and have the advantage of playing the market against bidders who will compete with open knowledge of what their rivals will pay. Monetization agents who manage sales through auctions need not necessarily have the same set of skills direct negotiators need, but they must identify and manage the auction process. In general, it is advantageous to maximize the number of participants at each auction to stimulate competition and increase price pressure. To ensure maximization of participants, monetization agents should identify the lot size that will attract the largest number of buyers, and therefore agents must have a knowledge of the potential buyers' capacities and financial capabilities (i.e., access to credit). A disadvantage is that collusion and speculation are still possible, as in direct negotiation, although the more buyers are involved, the less likely this is to occur. Another disadvantage may be that if small lots and traders are chosen, then many buyers may not have credit, transport, or VAT registration. Large and/or monopolistic corporations or para-statal may be challenging to work with as they may wield unfavorable influence on the terms. Options include:

- Monetization at the border or in main urban centers
- Smaller lots will involve more auctions and higher administrative costs; larger lots suggest less on both accounts

Sale on a commodity exchange is an option where available, and brings the advantage of eliminating risks of collusion, involves very low costs (brokers fees only), and reduces risk of failing to achieve a market price (assuming the exchange represents the market). If trading is done on the basis of warehouse receipts, then the exchange should absorb storage costs, perhaps for as long as six months. Furthermore, futures may also be an option. A disadvantage is that lot sizes and conditions may be pre-determined and fixed.

Recommended Reading

USAID Monetization Field Manual. 1998

FEWS NET Markets Guidance No 1. May 2008. "Import/Export Parity Price Analysis"

Barrett, Christopher and Erin Lentz. Dec 2009. "U.S. Monetization Policy: Recommendations For Improvement"

Tschirley, David and Julie Howard. 2003. "Title II Food Aid and Agricultural Development in Sub-Saharan Africa: Towards a Principled Argument for When, and When Not, to Monetize"

Simmons, Emmy. June 2009. "Monetization Of Food Aid: Reconsidering U.S. Policy and Practice"

Oxfam. 2005. "Food aid or hidden dumping?"

Staatz, John, Pat Diskin, and Nancy Estes. Dec 1999. "Food Aid Monetization In West Africa: How To Make It More Effective."

Annex VI. Methodology for Determining Impact of Distributed Food Aid⁸⁴

VI.i. Introduction

The Bellmon Amendment requires assurance that a proposed food aid distribution program would not result in a substantial disincentive to or interference with domestic production or marketing. The extent to which distributed⁸⁵ food aid has the potential to introduce a disincentive to production or disruption of markets rests fundamentally on whether proposed food aid will represent "additional consumption" for beneficiary households, i.e., food consumption which would not have occurred in the absence of the food aid distribution program.

The objective of a BEST report is to provide sufficient information to relevant USAID policy decision makers and program managers to allow a determination of whether a proposed distributed food aid program would have a substantial impact on local market and production incentives. If it is determined in the negative, then the proposed Title II food aid program would be compliant with the Bellmon Amendment.

Why might distributed food aid introduce a substantial disincentive to local production and markets?

Beneficiaries of food aid receive an exogenous positive income shock: they are given free food (a good with non-negative monetary value).⁸⁶ The provision of in-kind food aid effectively increases the beneficiary's purchasing power. The changes in demand for food and non-food goods resulting from that increase in purchasing power will determine the ultimate impact of the food aid on prices and therefore supply.

Although food aid beneficiaries are expected to consume the food provided, households may respond to the receipt of food aid in a number of ways depending on prices, local diet preferences, perceived needs for non-food goods, and access to local markets. A beneficiary household may:

- Consume the food aid without reducing its regular market purchases or small-scale production to compensate for a food deficit in the normal diet caused by insufficient purchasing power, in which case the food aid represents additional consumption;

⁸⁴ This methodology was developed to provide guidance prior to the initiation of a new MYAP cycle; however, the methodology is essentially the same where the BEST team undertakes special studies mid-MYAP, for example, to inform future programming.

⁸⁵ Please note that this methodology covers only the potential impact of distributed food aid. While some of the data and analysis of market dynamics, such as substitutability of staples and level of market integration, is relevant for both analyses, a separate methodology has been developed to assess the potential impact of monetized food aid. The monetization analysis focuses primarily on commercial markets rather than the behavior of beneficiary households.

⁸⁶ Occasionally, food aid rations are provided to beneficiaries in exchange for their labor or time, in which case the ration is not provided entirely free. For example, some Maternal Child Health/Nutrition interventions require attendance at a clinic; Food for Work beneficiaries are provided food in exchange for work, in which case the food acts as an in-kind wage.

- Use a portion or all of the food aid to displace market purchases that otherwise would have been made;
- Use a portion or all of the food aid to substitute for the home consumption of a household's own production and sell the released production in the market; or
- Consume some portion (or none of) the food aid and sell the other portion (or all) on the market, and use the income generated from that sale to purchase other food and/or non-food goods.

Distributed food aid also has the potential to change household labor supply decisions, particularly when food is distributed under a Food for Work program.

If enough beneficiaries (intended and/or unintended beneficiaries) within a given geographic area react to food aid by altering their decisions about market purchases, small-scale production, or own labor supply, distributed food aid has the potential to cause a number of negative impacts. The most frequently alleged problems include:

- Depressed producer prices (production disincentive)
- Dependency
- Labor supply disincentives
- Disruption of markets (especially traders)

Targeting. The BEST methodology begins with the assumption that a well-designed and executed food aid program, whose transfers correspond to the needs of the household, will have minimal to no impact on the market or local production incentives.⁸⁷ Effective application of criteria which accurately identifies those households in need of food assistance is the first, and arguably the most important, condition to ensure Title II resources are used effectively and efficiently and yield the maximum food security impact. Once households are well-identified, maximum food security impact and minimum leakages are ensured when the size, frequency, and commodity composition of rations correspond most closely to household food needs. Similarly, distribution modalities and any associated conditionality of participation (such as Food For Education, Food For Work/Assets, or Maternal Child Health activities), play an important role in maximizing food security impact through effective targeting.

Two concepts are fundamental to targeting. Exclusion errors occur when food aid fails to reach the needy. Errors of exclusion are a humanitarian concern. Inclusion errors occur when food aid is provided to the non-needy. Errors of inclusion ("leakage") are a Bellmon concern. Errors of inclusion are also a humanitarian concern because, by definition, leakage involves the inefficient use of scarce resources. Improvements in targeting (reductions in inclusion errors) achieves three simultaneous objectives: (1) increases efficiency of food of food aid in

⁸⁷ For a review of the economic rationale, see Christopher Barrett, 2002, "Food Aid Effectiveness: It's the Targeting, Stupid!"

accomplishing humanitarian and development goals; (2) maximizes efficiency of Title II resources; (3) ensures compliance with the Bellmon Amendment.

While the BEST approach to assessing the potential impact of food aid starts with this assumption, it also recognizes that effective targeting is both expensive in terms of human and financial capital and extremely difficult to implement and sustain. Even the most effectively-targeted programs can never prevent all leakage.⁸⁸ Even where targeting reaches the most food insecure households, precisely because poor people are both food-poor and cash-poor, beneficiary households will always face an incentive to sell some of the food aid to meet cash needs. In the absence of food aid, many food insecure households may suffer by not getting enough food (quantity and quality) or may use coping strategies that adversely affect their health, productive capacities, etc. Therefore, decision-makers inevitably have to strike a balance between exclusion and inclusion errors. Inclusion errors are particularly important for Bellmon considerations because they impact markets.

How can we determine whether a specific proposed food aid distribution program would introduce a substantial disincentive?

The goal of the BEST study is to present USAID decision-makers with sufficient information to allow determination of whether or not inclusion errors will substantially impact markets.⁸⁹ As noted above, the extent to which distributed food aid has the potential to disrupt private markets or introduce production disincentives rests fundamentally on whether food aid will represent "additional consumption" for beneficiary households, i.e., food consumption which would not have occurred in the absence of the food aid distribution program. Unfortunately, the only certain method to determine whether food aid represents (or would represent) additional consumption is to conduct household surveys to determine whether a household would consume the food aid rations without changing its household production and market purchasing behavior. However, because household surveys are expensive and time-consuming, proxy indicators of 'additionality' must be used to assess the potential for leakage. Further details about each of these possible proxy indicators are discussed in Annex VI.II.⁹⁰ This makes assessing the impact of food aid on markets and producer incentives an inherently problematic undertaking, even in relatively stable economies.

With that caveat in mind, combined with basic information about the current state of a country's agricultural markets – how strong consumer preferences are for various foodstuffs, how responsive producers are to price changes, how well-integrated local markets are with one another, and how sensitive traders are to changes in market conditions, among other indicators – well-selected indicators of additionality typically provide sufficient information to allow some

⁸⁸ For more background on targeting, see Hoddinott (1999), Barrett (2002), and EU/FAO (2008).

⁸⁹ Importantly, whether the effect is substantial is quite subjective and will likely vary quite widely across contexts. While the BEST study will strive to provide adequate information about the type and proportion of market players that may be affected by distributed food aid, ultimately the determination of whether the impact might be "substantial" will be up rest with the informed judgment of the relevant USG decision-maker (typically the USAID Mission Director).

⁹⁰ Additional qualitative indicators provide critical context to a discussion of potential household responses to the receipt of food aid. These include descriptive analyses of the ways in which households secure their livelihoods (main sources of food and income), particularly among the most food insecure households, and varying degrees of vulnerability to external shocks.

generalizations to be made about the type, form, timing, and geographic targeting of food assistance that would unlikely harm markets and production incentives.

The BEST analysis will, therefore, combine the highest quality of quantitative and qualitative information available about demand and supply characteristics which are likely to influence the production and market responses to food aid. The analysis focuses on three inter-related subject matters needs assessments, effectiveness of targeting, and analysis of markets which are critical for food security. An overview of a standard analytical process follows.

VI.ii. Analytical Process

The sub-national distribution analysis will be based primarily on secondary data from all available food security and vulnerability assessments, livelihoods baselines or profiles, relevant country situation reports, and any direct FFP guidance regarding geographic or beneficiary-characteristic targeting (including FANTA's Food Security Programming Framework). The amount of reliable, available data will vary somewhat from country to country; under these conditions, BEST will analyze the highest quality and most relevant data available. BEST field visits and discussions with stakeholders will provide key information as well as validate findings from secondary data analysis.

An initial desktop study will focus on review and analysis of secondary data and reports, and discussions with Food For Peace and FANTA in Washington, DC. This portion of the study will involve the following steps:

Step 1: Review Relevant Background Materials

Research and review all background materials relevant for a potential distributed food aid program including food security assessments (e.g., CFSAM, CSFVA, VAC reports, and FANTA's Food Security Country Framework, if available), previous Bellmon Analyses or Updates, reports of Awardees' previous and ongoing food aid programs, livelihoods reports, and reports of production, trade, and food aid flow.

Step 2: Determine Most Likely Modalities for Distributed Food Aid for Upcoming MYAP Cycle

Review the country Food Security Country Framework along with any other official USAID/FFP guidance relevant for future Title II programming. Based on this review, as well as discussions with stakeholders in Washington and the field, determine most likely distribution modalities (Food For Work/Assets, Food For Education, Maternal Child Health Nutrition, etc).

Step 3: For Each Modality, Provide Bellmon-Relevant Guidance

For each of the most likely distribution modalities, provide Bellmon-relevant guidance and scenarios of possible coverage, where appropriate, that will help ensure potential impact on production and markets of such food aid distributions are minimized, and therefore Bellmon-compliant. Given that potential Awardees' MYAP proposals will not yet be final (and are

therefore unavailable to inform the analysis), this Bellmon-relevant guidance will be necessarily general but should discuss each of the following:

- Ration size
- Ration composition
- Timing of delivery with an emphasis on the months of lowest food availability (lean season)
- Any special targeting considerations
- Balance between cash and food resources to ensure effective program implementation and thereby avoid potential leakages

Regarding ration composition, BEST will provide general guidance as to which Food For Peace commodities might be appropriate for distribution to potentially targeted beneficiary groups. This requires both secondary and primary research of local diets, including preferences and substitutes, among different socioeconomic groups and in rural versus urban areas.⁹¹ The main staples consumed by poorest households in each potential target area will be outlined, with any seasonal differences noted.

Where current Awardee Mid-term or Final Evaluations are available, BEST will review evaluations to summarize any 'lessons learned' for each modality.

Step 4: Review All Food Security Assessments to Identify an Appropriate Proxy Indicator of Additionality

USAID/Food For Peace development programs focus on chronically food insecure regions within Title II recipient countries. By definition (or default), program activities will be geographically targeted within a subset of sub-national units (e.g., districts/countries/provinces). Because of the localized nature of the impact of distributed food aid, the vulnerability of small markets to disruptions, and the sensitivity of small farmers to production disincentives, quantities which may appear insignificant compared to a country's total food staple consumption can nonetheless have a major impact on markets and production at the local level. Therefore, while previous Bellmon analysis have often used an estimated national food deficit to determine

⁹¹ If commodities considered for distribution are highly substitutable with other commodities in the local diet, the analyst must assess market conditions to reveal the distributed commodity's likely cross-price effects on those substitute commodities. As an example, suppose consumers typically consume black beans, but view pinto beans as a very close substitute. If pinto beans are monetized, resulting in an increase in the supply of pinto beans and therefore a drop in the price of pinto beans relative to black beans, consumers may substitute pinto beans for black beans. Depending on how easily consumers substitute the two goods (as reflected in the cross-price elasticity between black beans and pinto beans), monetization of pinto beans could result in a decrease in demand for black beans, which could affect production incentives and markets for black beans. The willingness to substitute commodities in the local diet often follows a socioeconomic gradient and differs in urban versus rural areas. Understanding these dynamics is important to strengthen the market intelligence, and provide appropriate guidance regarding the likely effects of food aid (both monetized and distributed) on local markets. As an example, there may be very strong preferences for rice in an urban area which makes consumers relatively nonresponsive to price changes (i.e., the own price elasticity of demand for rice is inelastic), whereas rural consumers may have a preference for sorghum but remain willing to substitute sorghum with millet as the price of sorghum increases relative to millet.

the appropriate level of distributed commodities, the BEST analysis explicitly recognizes that distributed food aid will be concentrated in only select areas within a country, and therefore must assess the volume of commodities suitable for distribution at a more localized level in order to provide Bellmon guidance.

Through review and application of appropriate indicators of additionality, an assessment of the relatively absorptive capacity of sub-national administrative units (typically at the first administrative unit such as province or district), based on proxy indicators of additionality, can further refine geographic targeting guidance and provide estimates of the populations that may be targeted for future food aid programs. While geographic targeting may not always be the most preferred or appropriate targeting criteria, in most cases it will be the easiest and least costly to administer and, of course, can be followed by application of other administrative or self-targeting criteria.⁹²

In the case of a distribution modality such as PM2A, which targets households with pregnant and lactating women and children under two years old for preventive nutritional supplementation, regardless of household wealth or food deficit, initial geographic targeting is critical as it represents the key program parameter to avoid potential Bellmon concerns. Effective targeting of a PM2A program, from a Bellmon perspective, therefore involves further refinement of initial geographic targeting based on estimated household food deficits on a relative basis, followed by targeting households based on PM2A program eligibility (i.e. all children 6-23 months and all pregnant/lactating women).

See Annex VI.II for a description of possible proxy indicators of additionality.

Step 5: If Possible, Assess Potential Beneficiary Coverage Using Country Budgetary Guidance

If applicable, when likely program dimensions are available (such as program budget and proposed ration), the analysis will assess the absorptive capacity of potential target districts. This assessment will be based on comparing the number of potentially-eligible food insecure households with the estimated number of rations available for distribution under the given program.

For modalities with fairly standard rations in terms of both size and composition (e.g., Food For Work/Assets or Food For Education), BEST will provide basic cost comparisons of ration by modality, which will provide some guidance as to total beneficiary coverage possible, and therefore total volume of distributed commodities possible given budget constraints.

For modalities with (at present) less-standard rations in terms of both size and composition (e.g., PM2A), BEST will base ration scenarios on guidance from FFP/FANTA and review of current Awardee MCHN experience, if applicable. Likely parameters of a PM2A program

⁹² Hoddinott, John. 1999. "Targeting: Principles and Practice," IFPRI Technical Guidance No 9, Washington, DC: International Food Policy Research Institute, accessible via <http://www.ifpri.org/sites/default/files/publications/tg09.pdf>

(including ration size and composition) will be used to estimate the number of household rations available under various levels of funding.

For PM2A, BEST will use the most current and reliable demographic data to estimate the number of households with either a pregnant or lactating mother or a child under two. Based on these figures, BEST will estimate the number of households who are both PM2A-eligible and for whom PM2A rations would most represent additional consumption (using the proxy indicator(s) of additionality), to estimate the number of households that could be targeted for year-round individual and household rations within each district without introducing Bellmon concerns.

BEST will then rank sub-national administrative units according to those in which PM2A rations would:

1. Most likely represent additional consumption, and therefore be unlikely to pose any negative Bellmon impact;
2. Address the highest rates of malnutrition at the district level; and
3. Target the largest total number of PM2A-eligible households, an important efficiency consideration when implementing an integrated development program.

Step 6: Review Food Security Assessments and Livelihoods Reports to Inform Sub-National Analysis

Descriptive analyses of the ways in which households secure their livelihoods, and their varying degrees of vulnerability to external shocks, provide critical context to a discussion of potential household responses to the receipt of food aid.

Assessed food insecurity. Whenever possible, BEST will list the relative ranking of administrative units' levels of food insecurity (e.g., high, medium, low) for each target area. The ranking may be based on measures of poverty (for example, from available Demographic Health Survey (DHS), poverty mapping, and/or census data) and the prevalence of stunting in children under five. Such a ranking would provide a measure of both food access and utilization. This assessment will be derived from the Food Security Country Framework whenever available.

The data available to assess food insecurity levels will vary from country to country, depending on the types of surveys and assessments conducted within a relevant time period. The BEST team, including all consultants, will undertake careful review of all alternative sources of food security assessments to determine the best available data for the distribution analysis.

Livelihoods. Based on a review of all available livelihood assessments and consultation with relevant experts in the field, BEST will provide an overview of livelihoods including key characteristics of food insecure households within each target area such as sources of food, sources of income, and possible impediments to utilization (for example, a high prevalence of diarrheal disease within the district which prevents proper absorption of nutrients).

Key vulnerable populations. Whenever possible, key vulnerable populations will be identified and latest available population figures will be provided.

Step 7: Report On-Going Food Aid and Cash Transfer Programs

To properly assess the expected level of ‘additionality’ with the introduction of a new food aid program, BEST must first account for all pre-existing programs which affect households’ cash and food receipts including in-kind and/or cash transfers households receive through a variety of government and non-governmental sources, which contribute to households’ current level of food insecurity. Both the amount of in-kind aid and the timing of distribution must be considered to properly account for the volume of food deficits throughout the year. Whenever possible, BEST will report:

- NGO or government agency
- Location
- Modality
- Expected duration of activity
- Ration (size, composition, kcals)
- Planned and actual beneficiary coverage

Combined with food insecurity measures and estimated district-specific nutrition gap (or other proxy indicators of additionality), this overview of existing food aid and cash transfer programs will provide relevant USAID decision makers a more accurate measure of the ‘food gap’ a proposed food aid distribution program should fill. This overview will allow both a spatial and temporal assessment of a potential food aid disincentive effect.

Step 8: Review All Available Baseline Market Analyses

Whether a donor provides food aid rations to food insecure households across the breadth of a country or only in a localized area, the donor must have an understanding of the current functioning of agricultural markets critical for food security, as those are the markets most likely to be impacted by the introduction of food aid.

When attempting to assess the potential impact of food aid in a localized area (whether distributed in kind, in cash, or through subsidized food sales), it is especially important to understand (1) the functioning of local markets and (2) how well-integrated local markets are with markets outside of the food aid intervention area, and therefore how any changes in food prices might be transmitted to other markets.

A unique challenge in attempting to assess the impact of food aid on markets and incentives in many LIFDC countries arises due to the lack of available high-quality and disaggregated baseline market information. Markets and market players have often been impacted by a series of complex changes; these changes reduce the utility of any but the most recent thorough

market assessments. Production and market data is often scarce and of very poor quality, and/or is tainted by concerns about politicization of the data. That said, while market analysis is often thought of as a highly quantitative exercise, much can be gained from a descriptive analysis of the structure, conduct, and performance of markets. Analysis using a SCP framework can be well-suited to low-cost rapid appraisal techniques, such as those used in BEST market analyses.

Step 9: Determine Key Commodities Markets and Set of Physical Markets for Field Visit

Without an understanding of how markets are currently functioning, it is not possible to provide guidance on the type, form, timing, or geographic targeting of food aid that is not likely to negatively impact markets or producer incentives. To address this initial gap in knowledge, the study team may be required to undertake a baseline Market Analysis, using a Rapid Assessment Tool, (see Annex VI.I) to assess the current state of agricultural markets as of the study date. The baseline will be accomplished through a combination of desk study, key informant interviews, and intensive field work.

The choice of commodity markets for assessment will be determined by the food aid commodities typically distributed in-country, commodity markets likely impacted by such distribution, and any commodities critical for food security whose prices may be impacted by a sudden increase in the supply of food in food insecure areas. These commodity markets will generally involve the major cereal markets (e.g., wheat, maize, small grains), major pulses, edible oils, and livestock markets.

The choice of physical markets to include in the field visit will likely include those major markets currently monitored by, for example, FEWS NET, WFP, and/or recipient country Ministries or Central Statistics Office, along with a host of other markets throughout the country which are critical for food security. The BEST team will consult with the USAID and FFP missions to develop the field visit itinerary, and incorporate any specific Mission objectives. For example, the Mission and/or the BEST team may deem local markets in remote food insecure areas not covered by regular monitoring appropriate to cover during the field visit.

To maximize coverage of the broadest cross-section of markets possible, the study team will typically split into separate teams. Teams will employ a Rapid Assessment Tool (see Annex VI.I) and use a Structure-Conduct-Performance (S-C-P) Framework as a lens through which to investigate the state of markets across the country. Team members will conduct interviews with subsistence farmers, small-scale and large-scale producers, traders, small and large processors and millers, wholesalers, and retailers. In geographic areas where food aid interventions are currently taking place, team members will also interview a sample of beneficiaries and non-beneficiaries of food aid.

Commodity markets and physical markets will be assessed using Structure-Conduct-Performance (S-C-P) model, as adapted by FEWS NET from Industrial Organization Theory⁹³ to the realities of markets in developing countries.⁹⁴

⁹³ See Bain (1959).

According to traditional neo-classical economic theory, a market is “performing” if an increase in demand or a decrease in supply results in a new equilibrium characterized by a higher price which clears the market by equating quantity supplied and quantity demanded. This definition of market performance is insufficient from a food security perspective because a price increase which substantially diminishes the purchasing power of households, though an equilibrium, has undesirable social outcomes which threaten food security. For this reason, we turn to the S-C-P concept of market performance.

Within the S-C-P framework, markets are said to perform well if they achieve socially-desirable goals such as availability of a sufficient quantity, diversity, and quality of goods to satisfy demand at prices which are “fair” to traders, producers, and consumers. Fair prices ensure reasonable margins to traders, enabling them to continue engagement in that market. Fair prices to consumers assure that a cross-section of the population is able to access goods via the market. Short and long-term price stability, as well as market efficiency, are indicators of market performance. **Market performance is derived from basic conditions, market structure, and market conduct.**

Basic conditions broadly describe basic traits of the country and economy, including seasons and seasonality, infrastructure, consumption characteristics such as elasticities⁹⁵ and income distribution, stability, government policies, and incentives for producers and traders.

Basic conditions set the parameters for **market structure**, which comprises the relatively stable features that influence the behavior of market participants. Features of market structure include the number and concentration of buyers and sellers, barriers to entry and exit, vertical and horizontal coordination, and licensing requirements.

In conjunction, basic conditions and market structure influence **market conduct**, or the behavior of market actors. Price setting behavior, buying and selling practices, informal norms of trade, and information use are all aspects of market conduct.

As part of the market analysis, BEST will perform an assessment of the level of market integration. Where markets are well-integrated, price changes due to supply and demand shocks in one market are more easily transmitted to other markets. By dissipating the price effects, such shocks will have less of an impact on any one local market. Any effect of temporarily increasing the local food supply through localized food aid distribution will therefore be dampened wherever markets are well-integrated. Conversely, where markets are poorly integrated, prices are likely to decrease more significantly when food supply is increased with

⁹⁴ Readers interested in more details about a Structure-Conduct-Performance framework for analysis in the context of food security in developing countries, please see FEWS NET (2008b).

⁹⁵ Elasticities are a common way to describe the responsiveness of demand or supply to changes in prices or income. For example, the price elasticity of demand describes the percentage change in quantity demanded resulting from a percentage change in the price of a good, while the price elasticity of supply describes the percentage change in quantity supplied resulting from a percentage change in the price of a good. The income elasticity of demand describes the percentage change in quantity demanded in response to a percentage change in income. Importantly, price and income elasticities are very rarely available, and extremely difficult to collect. Elasticities are mentioned here solely for the purpose of tying these important concepts of supply and demand price responsiveness from economic theory to the qualitative indicators often relied upon in practice. For more details, please see Annex I and FEWS NET (2008b).

the addition of distributed food aid. Where time-series of market prices for key commodities relevant for food security are available or obtainable, BEST will assess the level of market integration through analysis of covariance of prices over time and across markets. These data are generally, though not always, available by request to WFP and/or FEWS NET within the study country.

Step 10: Field Visit

The BEST field visit will involve filling in data gaps, triangulation of secondary data, and discussions with all key stakeholders to ensure an accurate and thorough analysis. Upon arrival, the BEST team shall first meet with USAID/FFP Mission personnel to come to a common understanding of the purpose of the assignment and outline the activity timetable.

Following the meeting with the mission, the BEST team will seek insights, data, studies, and reports through meetings with key government ministries, aid and development project offices, assessment committees and networks such as FEWS NET, United Nations offices (WFP/VAM and FAO), universities, and others. Insights into future initiatives that may impact food security in potential Title II intervention areas (e.g., a World Bank, Millennium Challenge Corporation, or other donor's planned program affecting agriculture) are more likely to be gained through these meetings than through desk review prior to the field visit.

In-depth meetings with the private sector—producer/farmer groups and associations, traders and other middlemen, processors, importers and exporters, and shippers—will be critical. Formal and informal intelligence gathered through these meetings will be key to understanding the latest market dynamics and future trends. Discussion with producers, processors, and traders⁹⁶ will provide an understanding of the factors affecting demand and supply of commodities with which a distributed commodity would likely compete. The overarching goal of such meetings in regards to the BEST analysis is to gain an understanding of the price responsiveness of supply and demand of select commodities, constraints to expansion, and inter-temporal arbitrage practices of traders that may be impacted by a supply increase via distributed food aid.

Travel to current and/or potential sites for Title II program implementation is an integral part of assessing potential impact of distributed food aid. Assessing conditions 'on the ground' allows a detailed contextual knowledge of demand and supply dynamics affecting local markets. It is generally not possible to gain such knowledge through desk review and, therefore, travel to the specific sites in the study country will be an essential component of every BEST study. In addition to meeting with current and potential Title II Awardees, informal discussions with current or potential beneficiaries can offer insights into the appropriateness of specific Title II commodities for distribution, including palatability, ease of preparation, and price and quality factors relevant to demand responsiveness.

The BEST study is not intended to evaluate current food aid programming, but may nonetheless make observations during field visits which can be instructive for future food aid programming.

⁹⁶ When combined with a monetization analysis, discussions with traders and potential buyers will also involve assessing their interest and ability to purchase commodities in various quantities.

BEST will report general observations about current food aid distributions and any challenges to improving targeting effectiveness reported by current Awardees.

Inspection of a sample of storage facilities in current use is required to assess the adequacy and cleanliness of storage facilities for distributed food aid. During inspections, the average storage time and frequency of fumigation will be noted.

In all cases, the visit should be completed with a private and candid briefing to relevant Mission personnel.

Step 11: Report Production

BEST will report results according to the agreed-upon report outline as detailed in the country study SOW. BEST team members should anticipate submission of an initial draft within approximately four to six weeks after conclusion of the field visit. FFP/W and the Mission will generally reply with comments, questions, and requests for clarification within two to three weeks of receipt of the initial draft. A final 508-compliant report must be submitted to FFP/W generally within two to three weeks of receipt of all FFP/W and Mission comments.

Annex VI.I BEST Rapid Assessment Tool

Producers

(If possible, speak with both small-scale and larger-scale producers.)

Agricultural

When did you settle?

How many acres (ha) do you have access to?

How many acres (ha) do you cultivate?

How many acres of maize? Wheat? Other grains (if appropriate)?

What other crops do you grow?

Which crops are you increasing? Which are you decreasing? Why?

How do you decide how many acres (ha) to devote to maize/wheat/small grains?

Are seeds and fertilizers available? Are they accessible? How much did you use/plan to use this year and how much did/will it cost?

What does your household need cash for?

How do you raise this cash?

How much maize/wheat/other grains did you produce for selling from the last harvest? How this did compare to other years?

How many months of household stocks do you currently have?

Who do you sell your maize/wheat/other grains/other crops to? Where do you go to sell? How do you get there, and how much does it cost?

What price do you receive when a trader comes to your farm to buy? When you travel to the market?

Are prices based on grades and standards? What are the prices for different grades?

Do you contract with any companies? IF YES:

What company and for what commodity?

What do you receive and what do you give?

Are there problems with contract enforcement?

Are you a member of a farmer's cooperative? If so, what are the terms of membership and benefits?

Do you ever sell on credit? If yes, to whom do you provide credit and on what terms?

Do you ever buy inputs on credit? If yes, where do you receive this credit from?

Livestock

What is the size of your herd?

Have you utilized dipping services this year?

What are the current range conditions? Water conditions?

How many heads (large/small) did you sell last year? This year?

Food aid

Do you receive food aid? If so, how much? Do you know why you were chosen?

What is your household eating? How many meals a day are you taking?

If you don't have maize/wheat/other grains, what do you eat? How do you obtain this substitute food?

Does the community believe that the distribution reaches the people who need it most? Do you?

Do you ever sell/exchange food aid on the market for something you need more than food aid?

If there was no food aid, how would your farm change? More land cultivated? More staple crops?

Traders

(If possible, speak with small, medium, and large-scale traders.)

Background

What are the main agricultural commodities traded on this market?

What are the main cereals traded in this market?

When are grains/pulses plenty? What are the [standard unit, e.g., 1kg or 20kg] prices after harvest?

When are grains/pulses in short supply? What are the [standard unit] prices in the lean season?

What commodity do you trade, and how long have you been trading?

Structure

How many other traders are selling similar goods in this location?

Who are the big traders in grains/pulses/oils/livestock, and how what volumes do they transact?

Who are the market authorities, and what role do they play in the market?

Where do you get your grains/pulses/oils/livestock from? How far away is the source?

How many bags/liters/heads do you buy at a time? How often do you buy? Who do you buy from? How much does it cost to transport?

What is the condition of the roads between your source and destination markets? What are your transportation options?

Where do you store your goods? Where do big traders store their goods? What are the costs of storage?

Conduct

How do you know where to go to get low cost stock?

If the cost in your source market increases, what do you do?

What prevents more traders from entering into this market?

Does anything prevent traders from dropping out of this market?

How do you determine the price?

Do you ever buy on credit? If yes, from whom and on what terms?

Do you ever extend credit to buyers? If yes, to whom and on what terms?

Do your buyers want high quality or low prices? Why?

Performance

Costs: transport, loading/offloading, market fees, license fees, taxes, electricity, rent,...

How much profit can you find in [standard unit]?

What risks do traders have in grain/pulse/oil/livestock trade?

What prevents you from doubling the volume of your business?

Food Aid

If households had more purchasing power, could you increase your stocks? How long would it take to organize?

Do households ever sell or trade food aid? If so, which commodities do they sell/trade and for how much?

How does food aid affect your business?

Wholesalers/Retailers

If possible, speak with several wholesalers and retailers in each urban area.

What percentage of this market (local or regional) does your company supply?

How many other wholesalers / retailers of are there in this market? (if known, name them)

Where is the major source of commodity X (local, regional, import)?

Do you prefer to stock local or imported product? Why? Higher marketing margins? Less competition? Niche market?

What are current barriers to expansion of business? Access to credit? Lack of effective demand? Transportation costs that restrict possible geographic coverage?

In your opinion, has your business been affected by the food aid distribution program conducted in this area? If so, has it increased or decreased?

Local market spot checks

Observe whether there are any food aid commodities for sale. Title II? WFP?

If you suspect the food aid is Title II, copy down lot number from the back of can, or bottom of milled bag between the bottom seam and USAID label.⁹⁷

Ask for basic information from traders and wholesales in the local markets, including:

Normal prices

Consumers' preferences for different commodities, and grades of commodities

Do they notice any impact on their business from food aid distributions?

NGOs distributing food aid

What is targeting criteria (geographic targeting, household targeting, food delivery mechanisms)?

Do you have the capacity to implement and enforce the selection criteria?

Do you think households understand the targeting criteria?

⁹⁷ The lot number will tell you (1) something about market integration because you can trace back to origin and; (2) something about modality (if came from a MCJH, VGF, FFW etc) beneficiary, which can signal that you should investigate possible causes of inclusion errors associated with that specific intervention to see if it sheds light on necessary adjustments in targeting.

Do you have any 'lessons learned' from your own past programs or other NGOs' programs?

What are the greatest constraints to improving targeting?

If there is one thing you could change about the targeting process, what would it be?

How appropriate is the food aid program in terms of commodity type, ration size, delivery schedule, and venue?

Is the distributed food likely to be an "inferior good," one consumed in disproportionately greater quantities by the poor?

Annex VI.II Description of Proxy Indicators of Additionality

Among the possible proxy indicators of additionality are food consumption scores (or some other measure of actual consumption), a composite indicator of food security (such as through food security and vulnerability assessments), sources and levels of income (particularly extreme poverty), malnutrition rates, an estimated nutrition gap, or some combination of these indicators. Proxy indicators are typically available at the first administrative unit (e.g., province or district) and provide a gross measure of the relative additionality across sub-national administrative units. Thus, the proxy indicators can provide guidance on initial geographic targeting and volume of commodities that might be appropriate for distribution.

Nutrition or Food Gap

A nutrition or food gap estimate provides a measure of the difference between available food (proxied by domestic food production) and the amount of food needed to support a specific per capita daily nutritional standard (generally 2100 kcal per person per day, although FAO estimates have been revised and are now country-specific). If estimated on a more localized level (i.e., at the level closer to the communities in which a cooperating sponsor would implement a distributed food aid program), a nutrition or food gap can provide a very useful measure of that volume of food which is not currently supplied by local production and/or markets, and which would represent an appropriate volume under a proposed Title II non-emergency food aid distribution program to assure minimal to no disincentive effect. In order to estimate a sub-national food or nutrition gap, it is necessary to collect data on population, production and trade flows within relevant catchment areas. Collection of trade flow data at a sub-national level is an extremely time-consuming and expensive undertaking and outside the present BEST scope of work. For the purposes of the distribution analysis, one or more proxy indicators of 'additionality' are used to characterize the relative food or nutrition gap at the sub-national level.

One source of estimated food deficits is FAO's new "depth of hunger" estimates, which provide national averages for the estimated food deficit of undernourished populations in countries across the globe. These figures provide a useful national benchmark which can be used prior to conducting formative research in proposed target communities to determine in more precise detail the average household deficits of beneficiary households. While the BEST report may make use of these figures to develop an illustrative household ration under PM2A, for example, the analysis will nevertheless maintain the use of proxy indicators of 'additionality' to characterize the relative food or nutrition gap at the sub-national level in order to provide initial geographic targeting guidance.

Food Consumption Scores / Composite Indicators of Food Security

A Food Consumption Score⁹⁸ (FCS) is collected via household surveys, and is generally based on a 7-day recall of food consumption. The weighted score reflects both dietary diversity and

⁹⁸ For details on the calculation, use and validity of food consumption scores and other measures of dietary diversity in food security analysis, please see (1) WFP's "Technical Guidance Sheet - Food Consumption Analysis: Calculation and Use of the Food

frequency of consumption of food items. Depending on whether the survey is implemented during a typical harvest or typical lean season will affect the validity of the FCS as a measure of average household food consumption. If, for example, the survey which derives the FCS is conducted during a favorable harvest period, households identified as food insecure using “poor FCS” as an indicator may reasonably be considered as chronically food insecure, since these households consumed very poor diets in favorable harvest periods.”

FCS is not a quantitative measure of a nutrition gap, and cannot be compared with the ration under the proposed food aid program to determine the extent to which the program fills (or potentially overfills) the ‘nutrition gap.’ However, a FCS does provide a snapshot of both the frequency and diversity of household staple consumption and is therefore a reasonable proxy indicator of the availability and access dimensions of food security and, to a lesser extent, the utilization dimension.⁹⁹

Composite indicators of food security, which encompass measures of both food consumption and food access, may be available instead of or in addition to a food consumption score. The food access measure provides an indicator of a household’s ability to produce or purchase food.¹⁰⁰

Extreme Poverty

Extreme poverty is an indicator of a household’s inability to meet its basic nutritional requirements. Households living under conditions of “food poverty” lack enough income to purchase foods necessary to meet the energy and nutrient needs of all of their members, which is an indicator of poor access to food. Depending on intra-household distribution of food, it is typically assumed that at least one member of a food-poor household is always hungry, and potentially all members are hungry.¹⁰¹

Extreme poverty is not a quantitative measure of a nutrition gap, and cannot be compared with the ration under the proposed food aid program to determine the extent to which the program fills (or potentially overfills) the ‘nutrition gap.’ is not a quantitative measure of any nutrition gap, which could then be compared with the ration under the proposed food aid program to determine by how much the ‘nutrition gap’ might be filled (or potentially overfilled) under the program. However, poverty is the best indicator of the access dimension of food security.

Consumption Score in Food Security Analysis”, accessible via http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp197216.pdf; (2) Wiesmann, Doris. June 2009. “Validation of the World Food Programme’s Food Consumption Score and Alternative Indicators of Household Food Security,” IFPRI Discussion Paper 870, Washington DC; and (3) Hoddinott, John and Yisehac Yohannes. 2002. “Dietary Diversity as a Food Security Indicator,” IFPRI Discussion Paper 136, Washington DC: IFPRI.

⁹⁹ The recent BEST analysis for Burundi’s FY2009-2014 PM2A initiative relied on Food Consumption scores as reported in the 2008 CFSVA. As reported in Wiesmann (2009) (see footnote 2 above), the FCS in Burundi was found to be well correlated with food security status.

¹⁰⁰ The recent BEST analysis for Liberia relied upon the “food insecure” and “highly vulnerable” categories of food insecurity as defined in Liberia’s 2006 Comprehensive Food Security and Nutrition Survey. This composite indicator of food consumption and food access was the best available indicator of the relative absorptive capacity of food aid on a county-level basis for Liberia.

¹⁰¹ DeRose, Laurie, Ellen Messer and Sara Millman. 1998. Who’s hungry? And how do we know? Food shortage, poverty, and deprivation. United Nations University Press.

Though extreme poverty is not a quantitative measure of any nutrition gap, which could then be compared with the ration under the proposed food aid program to determine by how much the 'nutrition gap' might be filled (or potentially overfilled) under the program, extreme poverty is an indicator of a household's inability to meet its basic nutritional requirements; therefore, households living in extreme poverty can reasonably be considered households for whom food aid would likely represent additional consumption.

Prevalence of Malnutrition in Children

Chronic malnutrition (stunting, or low height-for-age) in children under five is an additional potential indicator of chronic food deficits. Malnutrition rates may reflect either inadequate intake, malabsorption due to infectious disease, or some combination of both. To the extent malnutrition rates reflect disease prevalence more than inadequate intake; any conclusions about food deficits drawn from malnutrition rates will be an inaccurate reflection of household food deficits. To the extent the prevalence of stunting reflects poor availability and/or poor access, such prevalence rates can appropriately inform geographic targeting from a Bellmon perspective.

Where a high percentage of households report both poor food consumption and poor food access, and surveys show high rates of chronic malnutrition in children under five, poor nutritional outcomes will likely be more responsive to food aid intended as supplemental nutrition. By geographically targeting areas where these indicators coincide, a PM2A program will help ensure that any given PM2A beneficiary household will more than likely increase overall household food consumption, and therefore represent additional consumption, relative to households in other geographic areas with lower rates of poverty and chronic malnutrition.

The most recent and reliable source of reliable district-level malnutrition rates is often available from Demographic and Health Surveys.

Recommended reading

Barrett, Christopher. 2002. "Food Aid Effectiveness: It's the Targeting, Stupid!" Cornell University Working Paper No. 2002-43.

FEWS NET. May 2008. "Structure-Conduct-Performance and Food Security." FEWS NET Market Guidance No. 2.

Hoddinott, John. 1999. "Targeting: Principles and Practice," IFPRI Technical Guidance No. 9.

Annex VII. Contact List

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