Food and Agriculture Organization of the United Nations

World Food Programme

S P E C I A L R E P O R T

FAO/WFP CROP AND FOOD SECURITY ASSESSMENT MISSION TO HAITI

6 December 2017



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Acronyms and abbreviations

ACF	Action Against Hunger
ALPS	Alert for Price Spikes
CARI	Consolidated Approach to Reporting Indicators of Food Security
CCBS	Country Commodity Balance Sheet
CFSAM	Crop and Food Security Assessment Mission
CIA	Central Intelligence Agency
CNIGS	Centre National de l'Information Géo-Spatiale
CNSA	National Coordination of Food Security of the Ministry of Agriculture, Natural Resources and Rural Development
CUSA	Agricultural Sector Emergency Cell
ECHO	European Civil Protection and Humanitarian Aid Operations
EFSA	Emergency and Food Security Assessment of the WFP
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FEWSNET	Famine Early Warning Systems Network
FPMA	Food Price Monitoring and Analysis
GDP	Gross Domestic Product
GIEWS	Global Information and Early Warning System on Food and Agriculture
HTG	Gourde
IHSI	Institut Haitien de Statistique et d'Informatique
IMF	International Monetary Fund
IPC	Integrated Food Security Phase Classification
JRC	Joint Research Centre
MARNDR	Ministry of Agriculture, Natural Resources and Rural Development
MET	Maize Equivalent Tonnes
OANDA	Canadian-based foreign exchange company
UN	United Nations
UNDP	United Nations Development Programme
USAI	Agricultural Statistics and Informatics Unit
USD	United States Dollar
WFP	World Food Programme

Mission Highlights

- The 2017 spring agricultural season was characterized by unfavourable distribution and quantity of rainfall, making it the fourth consecutive season since 2014 that significantly deviates from the long-term precipitation pattern.
- Domestic food availability in 2017 is estimated at 550 000 tonnes, about 3.5 percent less than in 2016 and almost 6 percent below average. The decline is essentially due to lower outputs for both maize and sorghum.
- Cereal import requirements for the 2017/18 marketing year, mainly wheat and rice, are forecast at 703 000 tonnes, about 20 percent above 2016.
- As official early assessments point to no significant damages from Hurricane Irma, domestic food availability is anticipated to be reduced only by some 23 000 tonnes.
- In August, food prices were at relatively high levels and similar to the critical period of 2014-2016, when the country was affected by the El Niño-induced drought. The cost of a representative food basket was still higher in May-September 2017 than at the same period a year earlier.
- According to the Emergency Food Security Assessment (EFSA) published in May 2017, about 3 million people were considered to be food insecure. This was the food insecurity situation at the peak of the lean season and the 2017 spring season harvest.
- The Mission estimates that the number of food insecure has slightly decreased since January 2017, but targeted assistance needs remain, particularly where livelihoods and housing have not been fully restored after Hurricane Matthew in late 2016.

1. OVERVIEW

An FAO/WFP Crop and Food Security Assessment Mission (CFSAM) visited the country from 2 to 26 August 2017 to evaluate the food production for the 2017 spring season, which extends from March to August, and assess the food security situation. The spring season represents some 60 percent of the annual cereal output and is very important in determining food availability and food security during the upcoming 2017/18 agricultural year. The Mission was comprised of staff from FAO, WFP and the Ministry of Agriculture, Natural Resources and Rural Development of Haiti (MARNDR) which was represented by the National Coordination for Food Security of Haiti (CNSA) and the Agricultural Statistics and Informatics Unit (USAI). Staff from the Famine Early Warning Systems Network (FEWSNET) and the European Union's Joint Research Centre (JRC) collaborated closely with the Mission as observers.

The Mission interviewed farmers about their perceptions regarding the harvest of the spring agricultural season. This was accomplished through focus group interviews across 70 communes, of 140 communes in total, across the ten departments of the country (Table 1). After three consecutive years, from 2014 to 2016, of severely reduced outputs due to drought conditions brought on by the El Niño phenomena and then the damages of Hurricane Matthew in late 2016, it was essential to evaluate production of the 2017 spring crop and how this would affect the country's food security situation.

Erratic precipitation patterns characterized the 2017 spring season which goes from March to August. Rainfall started earlier than the historical trends, peaking in late April instead of the end of May. Then the dry period that usually occurs before the first harvests in June extended itself by more than ten days. The early and intense rains in April affected the yields of the pulse crop, which is succeptible to excess precipitation and humidity. The prolonged dry weather in June affected the maize yields as it coincided with the period of tasseling or filling of the grain. Relative to the same season last year, production for the spring 2017 season is anticipated to be 15 percent lower for maize, 18 percent lower for sorghum and 6 percent lower for pulses. However, if the upcoming autumn and winter seasons, to be harvested from December 2017 and March 2018, respectively, remain unchanged from 2016, production for 2017 agricultural output is anticipated to increase 7 percent from a year ealier. These estimates assume no significant crop losses due to Hurrican Irma, which affected the northern departments between 8 and 9 September 2017, causing excess precipitation and high winds. If real damages are in line with the early estimates done by a rapid assessment carried out by the MARNDR, the estimate of aggregate 2017 production of cereals, starchy roots and pulses may be slightly revised downward and still be anticipated above the El Niño-affected 2014-2016 average level. However, the 2017 output remains significantly below the

pre-El Niño period and food availability in the country continues to be sustained by imported goods and reductions of household stocks.

Despite an easing of the prices due to an appreciation of the Gourde and seasonal patterns in August, prices for locally-produced staples remained above, or close to, their levels of 2014-2016 across the main markets. The stability and appreciation of the Gourde in 2017 has helped improve the access to imported foodstuffs, although the cost of the food basket remained high.

After three years of erratic agricultural production, the high level of household debt and the depletion of assets continue to augment the number of structural issues that prevent the growth of the agricultural sector. In particualr, the Mission found three main issues cited by farmers across the country. The first is seed distribution and its general availability, including timeliness of distribution as well as suitability of genetic material delivered to the zones of its intended use. A second constraint is the state of disrepair of irrigation infrastructure and equipment. For existing irrigation infrastructure, farmers mention the need to refurbish canals as well as repair pumps. Finally, a third and surging structural issue is the decline in availability of agricultural labour in the past few years. The low return to agriculture and the volatile harvests of the last few years has caused people to immigrate out of their communities, either to urban centres or out of the country, in search of other income opportunities.

2. SOCIO-ECONOMIC ENVIRONMENT

2.1 Demographic characteristics and economic situation

Haiti is located between the Caribbean Sea and the North Atlantic Ocean and comprises one-third of the land mass of the Island of Hispaniola, which it shares with the Dominican Republic along with a border that is 376 km long. Administratively, Haiti is divided into ten departments, 41 arrondissements and 133 communes (Figure 1).

Figure 1: Haiti - Administrative divisions

Source: Ministry of Agriculture of Haiti.

Latest available UN population estimates show that in 2015, approximately 10.7 million people inhabited the country, with over 60 percent of it being concentrated in the departments of Ouest, Artibonite and Nord (Table 1). The capital, Port-au-Prince, located in the Ouest Department, is the most populous city in the country. The country's population is young, with almost 55 percent under the age of 24 and is also becoming increasingly urban, with the urban population representing 57 percent of the total 2014 (CIA World Factbook, 2016 and World Bank, 2016). This represents a growth of 47 percent in the share of the urban population from 2000. Regarding the distribution of the land surface, the Ouest and Artibonite departments represent 36 percent of the total area of Haiti and also account for the largest share of agricultural land.

Table 1: Haiti - Distribution of population in 2015 and land mass by Department in 2012

Department	Population ('000)	Area (km^2)
Ouest	3 956	4 827
Artibonite	1 696	4 984
Nord	1 048	2 106
Sud	761	2 794
Centre	733	3 675
Nord-Ouest	715	2 176
Sud-Est	621	2 023
Grande-Anse	460	1 912
Nord-Est	387	1 805
Nippes	336	1 267
Total	**10 711**	**27 569**

Source: FAO, using population data from UNDP and land mass area data from MARNDR.

Poverty has decreased in the 2000s, with the poverty headcount ratio as a percent of the total population declining from 77 percent in 2001 to 58.5 percent in 2012. However, in rural areas, the poverty rate decreased much less, from 88 percent in 2001 to 74.9 percent in 2012. Despite the progress made in reducing poverty, incomes remain low and highly skewed. Close to 71 percent of the population lives on USD 3.10 per day (World Bank, 2016). Moreover, the richest decile of the population captured 48 percent of the total national income in 2012. By contrast, the poorest decile had 0.55 percent of the national income in 2012, a decline of 14 percent from 2001 (World Bank, 2016).

2.2 Economic growth

Economic growth marginally recovered in 2016 from the previous year, increasing by some 0.2 percent. The recovery in the economy was mainly due to the contribution of the agricultural sector. In 2016, agriculture was the only sector to post an above five-year average growth rate. According to the Haitian Institute of Statistics and Informatics, this is mainly due to the high price levels of 2016 as a result of the strong depreciation of the Gourde. This was a reversal of the situation in 2014 and 2015, when the drought induced by the El Niño phenomena devastated the sector. Despite this, the contribution of agriculture to GDP has declined over the last five years as the service sector continues to capture a higher share of income.

Table 2: Haiti - Real GDP growth by sector and by fiscal year, October/September (percent)

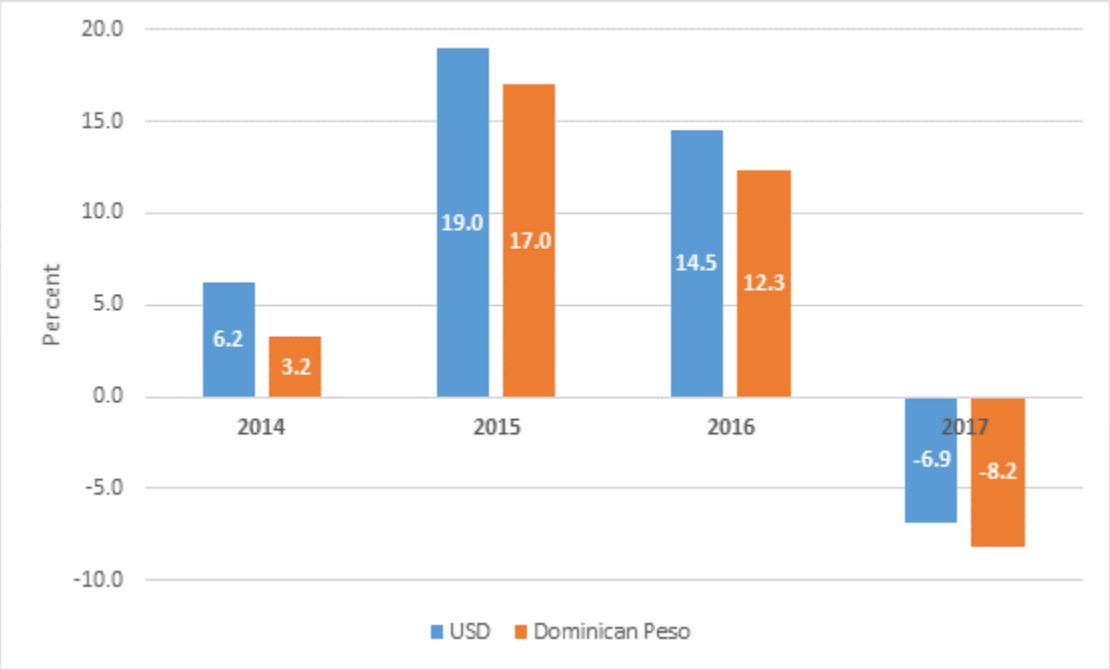
	2014	2015	2016 estimate	Five-year average
Real GDP growth	2.8	1.2	1.4	2.5
Agriculture	-1.5	-5.6	3.0	-0.2
Industry and manufacturing	2.7	4.5	1.4	3.5
Construction	7.6	2.2	0.2	4.9
Services	3.5	2.7	2.1	2.9
Share of agriculture in GDP (Real)	21.4	20.0	20.4	21.9

Source: Ministry of Economy and Finance and IHSI.

2.3 Exchange rate and consumer price levels

From January to September 2017, the national currency, the Gourde, strongly appreciated relative to the US Dollar and the Dominican Peso, reversing the trends observed in 2015 and 2016 (Figure 2). The steady appreciation has had a direct impact on the stability of prices of imported foodstuffs and imported volumes.

Figure 2: Haiti – End-of-period exchange fluctuations: Gourde to US Dollar and Dominican Peso



Source: FAO calculations from weekly inter-bank exchange rates and IMF data.
Note: End of period is defined as the change in the exchange rate between January and December of the corresponding year, except for 2017 which reflects the change in the corresponding exchange rate from January to the first half of September.

On average, Haiti merchandize imports total some USD 2.5 billion per year, with one-third of this value being foodstuffs (Table 3). The most important food commodity imports are rice and wheat, with the former representing the largest share. Imported rice represents over 80 percent of the domestic food use. In 2016, rice imports reached USD 196 million or 24 percent of the value of all food imports, marginally below the five-year average (Table 3). However, regarding imported volumes, rice imports have been growing at an average of 4 percent a year reaching 435 000 tonnes in 2016. Virtually, all rice imported into the country is sourced from the United States of America, amplifying the importance of the US Dollar exchange rate.

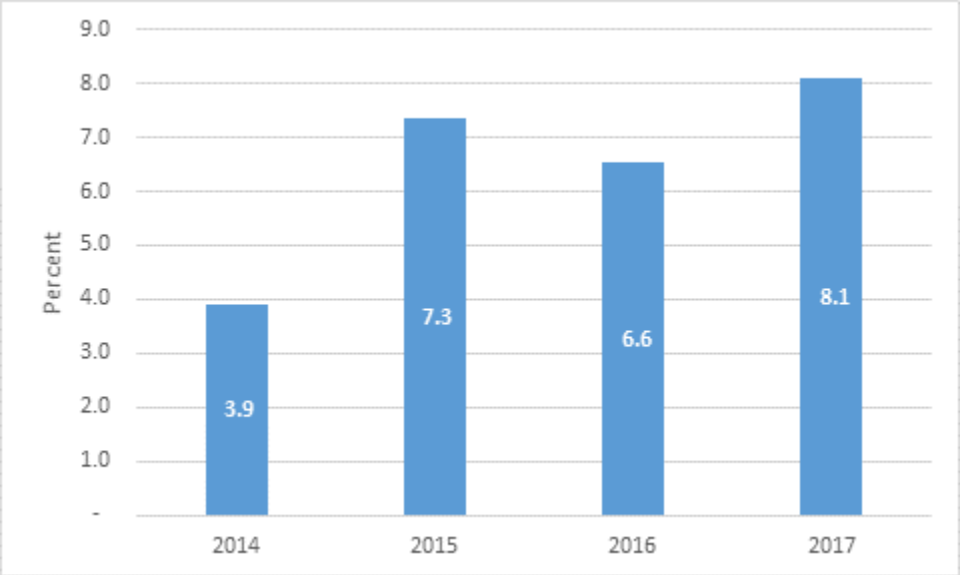
Table 3: Haiti - Value of food and agricultural imports[1/] by source (million)

	2014	2015	2016	Five-year average
United States of America	350	341	340	350
Latin America and the Caribbean	224	181	192	223
European Union	90	56	62	65
China	28	29	35	27
Canada	21	23	32	17
Rest of the World	140	131	148	129
Total Value	**853**	**761**	**808**	**812**
Change in total value from previous year (%)	-	-11	6	-
Rice imports	206	191	196	201
Rice imports (% of total food imports)	24	25	24	25
Rice imports (% of USA imports)	99	99	97	94
Total merchandize imports	**2 669**	**2 486**	**2 489**	**2 474**
Food imports (% of total merchandize imports)	32	31	32	33

Source: FAO calculations using data from Global Trade Atlas and exchange rates from the IMF and OANDA.
1/ Import values represent reflected imports.

Despite the better agricultural output in 2016 and increased food imports, facilitated by a stronger Gourde, the consumer price inflation at the end of August 2017 was higher than for the same period in the previous three years (Figure 3).

Figure 3: Haiti - Consumer price inflation, January to August



Source: FAO calculations using data from the IMF and IHSI.

3. MARKET CONDITIONS AND PRICES

3.1 Price levels of staple foods and market conditions

Prices of the main food staples during the month of August, when the Mission visited the country, followed seasonal patterns and were close to the pre-crisis levels in some cases, but there are significant differences across markets. The Mission observed that food items that are normally produced in the country, such as maize meal and beans, were being sourced from the Dominican Republic, easing the tight supply situation of these staples, which could have translated into food scarcity and high food inflation. Some notable exceptions are the prices for wheat flour and vegetable oil (both imported). Since July, according to the WFP ALPS system, which aims to detect abnormally high prices, wheat flour and vegetable oil prices were high and off trend in some key markets (Table 4).

Table 4: Haiti - Prices of commodity prices in July 2017 considered high according to WFP ALPS system

Market	Product	Price, July 2017 (HTG)	Inter-month change (%)	ALPS phase
Gonaives	Vegetable oil	400/gallon	-2	Stress
Hinche	Wheat flour	110/marmite	2	Stress
Jeremie	Wheat flour	160/marmite	-13.3	Crisis
Cap-Haitien	Wheat flour	150/marmite	7	Stress
Ouanaminthe	Vegetable oil	400/gallon	-0.6	Alert
Port-au-Prince	Rice (Tchako)	150/marmite	0	Stress
Jacmel	Wheat flour	210/marmite	-1.1	Alert

Source: WFP ALPS system http://foodprices.vam.wfp.org/ALPS-at-a-glance.aspx

From the few markets visited, the following general conclusions can be drawn:

- Markets were generally well supplied, particularly with imported commodities. However, there was a considerable variability regarding the availability of local products. Starchy roots, such as cassava, yams and plantains were in higher availability than locally-produced cereals and pulses. A significant quantity of imported cereals (rice and maize) was evident.
- The Mission verified the presence of products from the Dominican Republic and Central America, including bananas, beans, processed foods, sugar and others. The packaging and labelling of processed foods targeted the Haitian markets. Labelling was in French and product names were in creole. Imports of subsistence products such as maize meal were evident. These products could potentially crowd out local sources, as consumers are developing a preference for these goods which they consider of higher quality.

- The lack of local product was due in part to seasonal factors, as farmers had only recently concluded their harvest and product did not yet reached the markets. However, particularly in the north of the country, some traders reported having difficulties in finding local maize and beans owing to farmers' reduced outputs.
- Locally-sourced commodities did not have a uniform distribution across markets and their availability was highly correlated with the outcome of the harvest. These products included beans, maize cobs (widely consumed as part of spring 2017 harvest), roots, legumes, plantains and bananas.
- Traders reported an easing of prices during the period January to August 2017 for imported goods due to the appreciation and stability of the Gourde. However, prices remained relatively higher in August than a year earlier. Some traders also reported cash flow problems to stock.
- Demand for subsistence credit varied. In the northern regions there was not enough evidence to suggest that consumers increased their demand for credit. By contrast, in the south, traders reported an increased demand for purchases on credit.

In August, market prices of main staples maize meal (local), black beans and imported rice generally declined or remained relatively unchanged across the main markets (Figures 4, 5, 6). The decline in prices mainly reflected seasonal trends as product of the spring harvest began to supply the markets. However, maize prices remained above last year's level or close to the same level as in August for the years 2014-2016, impacted by severe drought in Port-Au-Prince, Ounaminthe and Jeremie (Figure 4). In the remaining three markets, prices were at the similar high levels to those observed during 2014-2016. For black beans, only in Cap-Haitien, prices were well above their level in 2014-2016 for the same month (Figure 5). In the other main markets, prices of black beans were still high and coincided with the levels of at least one year during August for 2014-2016. In August, prices for imported rice, which account for some 80 percent of domestic utilization, were as high as in 2014-2016 (Figure 6). In Port-au-Prince, the capital, despite the seasonal decline in August, prices of rice were at their highest level in 2014-2016.

Figure 4: Haiti - Retail prices for local maize meal in six markets from January to August

Source: FAO FPMA Tool using data from CNSA.

Figure 5: Haiti - Retail prices for black beans in six markets from January to August

Source: FAO FPMA Tool using data from CNSA.

Figure 6: Haiti - Retail prices for imported rice in three markets from January to August

Source: FAO FPMA Tool using data from CNSA.

3.2 Cost of a representative food basket

The cost of a representative food basket[1] generally declined during May-September 2017 (Table 5). Month-to-month changes did not exceed 2 percent and the cost of the food basket followed a declining trend during the period. Considering that the analysed timeframe covers the pre and post spring harvest period, it can be said that the variation in the cost of food may have not impacted the economic access to the food basket during the period. On a year-on-year basis, however, the cost of the food basket remained higher in May-September 2017 relative to the same period a year earlier. From 2015 to early 2016, the country experienced prolonged periods of drought and in 2016 the last shock was Hurricane Matthew at the end of the year. Ultimately, the impact on the economic access to the food basket will be highly dependent on changes in household income during 2017.

Table 5: Haiti - Evolution of the cost of a representative food basket, May-September 2017

	May	June	July	August	September
Nominal price	1 226.2	1 216.0	1 206.9	1 187.5	1 209.1
- Change from 2016 (%)	14	13	12	9	11
- Change from the previous month (%)		-1	-1	-2	2
Real price	487.7	483.62	480.03	472.28	480.9
- Change from 2016 (%)	3	4	4	2	5
- Change from the previous month (%)		-1	-1	-2	2

Source: WFP estimate using CNSA data.

[1] CNSA food basket represents 1 979 kg calories per person per day and consists of six products: Rice, wheat flour, maize, beans, sugar and vegetable oil.

4. PRODUCTION

Haiti's agricultural systems are characterized by the production of several crops. However, four groups have the highest weight regarding overall output, caloric consumption and protein intake. These are cereals, pulses (including different types of beans), starchy roots and tubers. On average, Haitians consume about 2 091 calories per day and almost 48 grams of protein per day (FAO, 2017). The main cereals, rice and maize, represent about one-third of the caloric and protein intake (Table 6), with pulses and starchy roots accounting for another 15 percent of caloric and protein consumption. In this section, we discuss farmers' expectations of the 2017 spring season harvest for these food groups and provide an estimate of 2017 production. The section then concludes with an estimate of food availability.

Table 6: Haiti - Caloric and protein intake of selected food commodities

	Rice	Maize	Beans	Sweet potatoes	Yams	Total
Calories (kcal/capita/day)	426	217	83	118	81	925
Total calories consumed (%)	20.4	10.4	4.0	5.6	3.9	44.2
Proteins(g/capita/day)	8.4	5.66	5.43	0.9	1.62	22.01
Total protein intake (%)	17.6	11.9	11.4	1.9	3.4	46.1

Source: FAOSTAT, 2017.

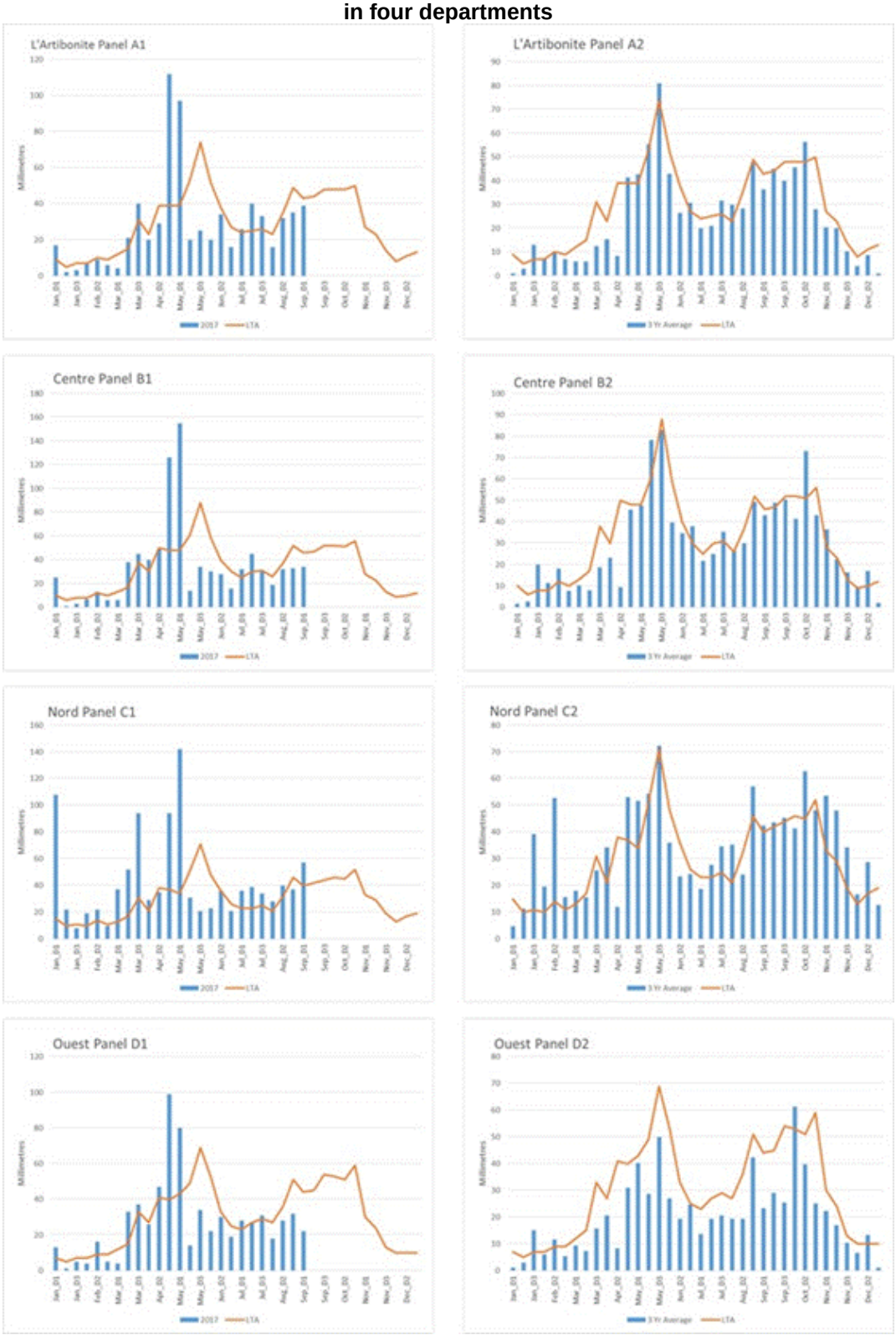
4.1 Factors affecting yields

4.1.1 Rainfall patterns during the 2017 spring season

The rains for the spring season in Haiti begin from March, marking the beginning of land preparation and plantings of mostly maize and beans. The spring harvest then occurs in late August, coinciding with the start of the rains for the secondary autumn crop, which begins in mid-August and goes through the end of November. Then with the rains in December, the winter crop, which is harvested in March of the following year, is planted.

Precipitation during the 2017 spring season fell earlier than the historical patterns and was concentrated in a relatively short period. According to remote sensing data, rain during this season began in the second dekad of March and peaked in the first dekad of May, about 20 days earlier than average. This rainfall pattern is highlighted in the departments of Artibonite, Centre, Nord and Ouest, which together account for two-thirds of the agricultural output, but it is also present across the remaining six departments in the country (Figure 7).

Figure 7: Haiti - Observed, Long-Term Average (LTA) and three-year average precipitation in four departments



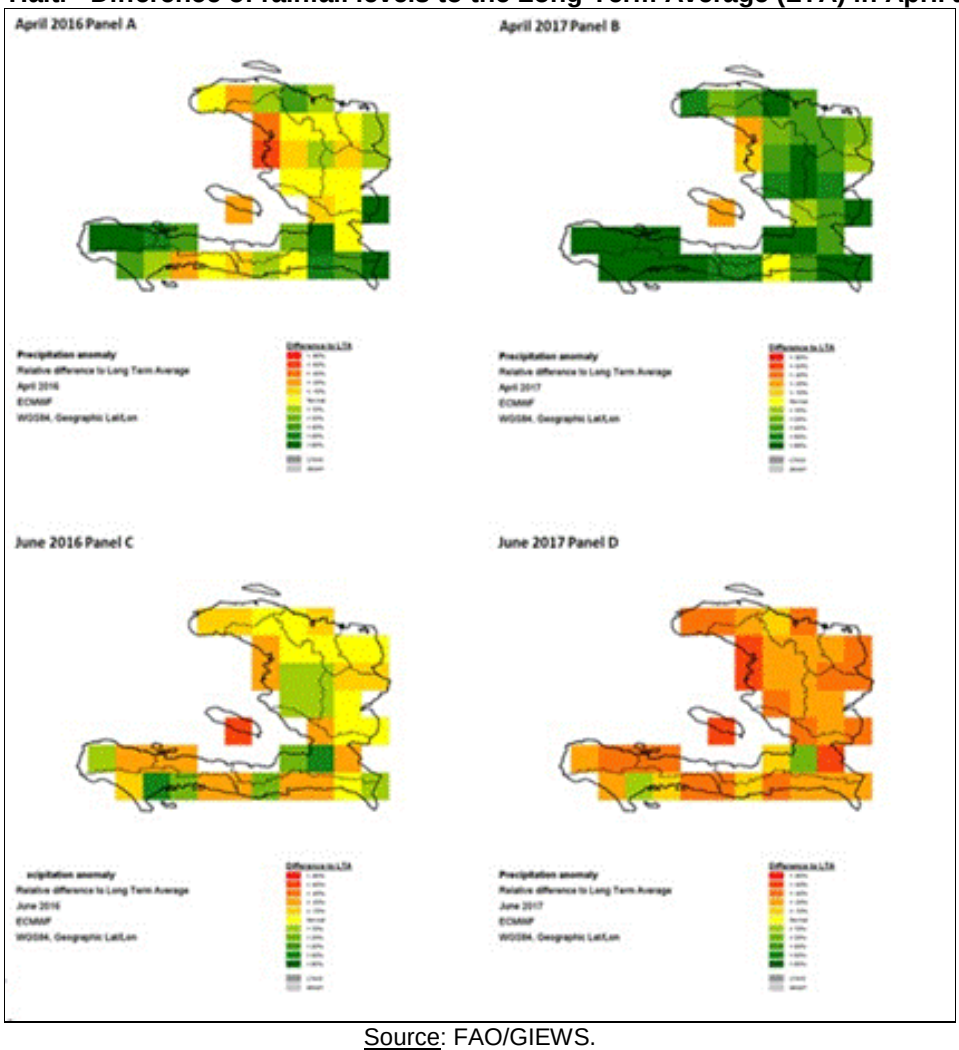
Source: FAO/GIEWS.

This shift in rainfall patterns had a direct effect on yields of both maize and pulses. The increased precipitation early in the season impacted the spring bean crop, which farmers prioritize for seed production for the summer and winter crops. The bean crop is planted with the first rains in late March so the excess rainfall in April 2017

destroyed part of the crop or reduced its yields, as pulses are very sensitive to excess water. With a few exceptions, rainfall amounts exceeded the long-term average by 40 to 80 percent in most departments of the country during April (Figure 8, Panel B). In 2016, by contrast, precipitation levels for the same period were about normal, with excess rainfall only recorded in a few departments in the south of the country.

A shortfall in rains in June then followed the excess precipitation in April, when the maize crop is either at the tasselling/silking stage or the grain is already being formed (Figure 8, Panel D). June is normally characterized by dry weather conditions as the first season rains begin to recede during this period. However, rainfall levels in June 2017 were unusually lower than the long-term average for the month. According to remote sensing data, most departments in June 2017 experienced precipitation levels that were at least 20 percent below average for June, impacting yields of the maize crop. The only two departments where farmers reported minimal to no effects on their crops, due to the shifting rains, either in April or June, were Ouest and Centre. By contrast, farmers in Nord-Ouest Department and the Haute Artibonite, in the north of the Department of Artibonite, reported significant reductions in yields, with cases of total loss of maize and sorghum crops. Elsewhere in the country, farmers did not report significant crop losses.

Figure 8: Haiti - Difference of rainfall levels to the Long-Term Average (LTA) in April and June



Source: FAO/GIEWS.

4.1.2 Access to seeds and other inputs

In addition to weather anomalies, agricultural output in Haiti continues to be affected by several structural issues. One issue reported by farmers is the lack of certified seed. Most farmers rely on food grain as seed and very few have access to certified seed. Several units from MARNDR and FAO have been involved in targeted seed distributions. However, the Mission found that often the seed distributed was not adapted to local conditions. For

example, some seed varieties had a five-month period until harvest, when the spring season only lasts three months. Another issue was the tardiness in the distribution, with seed arriving after the sowing window had concluded. A second factor is the cost and scarcity of agricultural labour. According to farmers, this is a result of an increase in out-migration from rural areas to urban centres as other activities, such as informal commerce and moto taxi, provide higher incomes. There is also a reported increase in immigration to Brazil, the Dominican Republic and Chile. A third factor is the state of irrigation infrastructure and lack of small agricultural machinery. Irrigation infrastructure, such as canals, still require upkeep and refurbishment. Access to small agricultural machinery, like small tractors, is becoming important particularly because of the difficulties in accessing labour. Finally, lack of adaption and resilience to climate change is starting to continually affect the output. Four of the last five agricultural seasons have been impacted by erratic weather, not only affecting farmers' output but more importantly their income. Making it harder for them to rebuild their assets and increasing their debt levels.

4.2 Farmers' production expectations for the 2017 spring season

Farmers' expectations for the 2017 spring season harvest were obtained through focus group interviews at the commune level in the country's ten departments. A total of 70 of the country's 140 communes were visited. However, responses were only recorded if a particular crop was relevant in the particular department and commune. When no clear consensus was apparent about the state of production in a department/commune pair, the question regarding output was left unanswered. Figure 9 summarizes the communes and livelihood zones visited during the Mission.

Figure 9: Haiti - Communes visited during the CFSA Mission

Source: WFP, CNIGS and CNSA using CFSAM survey data.

During the focus groups, discussions concentrated on farmers' expectations for the 2017 spring harvests across the four crops or crop groups: maize, rice, pulses, igname and sweet potatoes. Together, these four groups represented over 40 percent of the agricultural output of the 12 crops tracked by the MARNDR in 2016. The expectations for the 2017 spring cereal production of rice and maize are mixed. In the communes in the centre of

the country, which cover the Centre and Ouest departments, farmers expected that the spring maize crop would be at least as good as 2016 (Table 7). By contrast, in the south, affected in late 2016 by Hurricane Matthew, and north of the country, a lower spring maize output is expected. The expectations for the 2017 spring rice harvest were generally good, with farmers anticipating a significant increase in output in the North, which includes the main producing department of Artibonite, and in the south. Only in most communes in the centre of the country, which account for only 2 percent of the overall rice output, farmers anticipate a decrease in production. Regarding pulses, igname and sweet potatoes, a clear pattern emerges with the communes in the North and Centre of the country anticipating an increase in 2017 spring season output, while the communes in the south anticipate a reduction. This result is consistent with the interviews in the North and Centre of the country where farmers reported an increased activity of traders buying these commodities to be sold in the south. Historically, the south has been relatively self-sufficient in these commodities, with poor local road conditions shielding them from competition, particularly in the case of roots and tubers which carry a high cost of transportation compared to their final retail price. However, the increase in prices for roots and tubers have been large enough to compensate for the transportation costs. According to wholesale price data from MARNDR, prices of roots and tubers increased some HTG 500 to HTG 600 year-on-year in August 2017, or 50 percent above year-earlier levels.

Table 7: Haiti - Number of communes by region, crop and farmers expectations for the spring 2017 harvest compared to 2016

	Decrease	Increase	Unchanged
Maize			
North	11	10	0
Centre	5	6	2
South	14	11	0
Total maize	**30**	**27**	**2**
Rice			
North	3	6	0
Centre	2	1	0
South	2	3	0
Total rice	**7**	**10**	**0**
Pulses			
North	11	9	1
Centre	3	10	0
South	19	8	0
Total pulses	**33**	**27**	**1**
Igname and sweet potatoes			
North	7	18	1
Centre	7	5	0
South	16	7	1
Total igname and sweet potatoes	**30**	**30**	**2**

Source: FAO and WFP Mission survey.
Note: Haiti's departments are grouped as follows: North (Nord, Nord-Ouest, Nord-Est, Artibonite); Centre (Centre, Ouest); and South (Grande-Anse, Nippes, Sud, Sud-Est).

Figure 10 summarizes and disaggregates the results discussed above. In the south of the country, farmers generally anticipate lower output for the 2017 spring season, with a few livelihood zones anticipating an increase. In the centre of the country, farmers anticipate agricultural output to remain relatively unchanged from 2016. In the north, there was a greater number of communes anticipating an increase of output.

Figure 10: Haiti - Summary of farmers' expectations for the 2017 spring harvest compared to 2016, department and livelihood zone

Source: CFSAM and CNIGS.

4.3 Production estimates

To estimate the 2017 output for cereals, pulses and starchy roots, the weather patterns and farmers' expectations for the spring crop, which accounts for 60 percent of the annual output, were taken into consideration. The estimate assumes a slight reduction in output of the 2017 spring season relative to the same season in 2016. The assumption relies on the fact that, across the four considered main crops, 100 communes expected lower output, with 51 of these communes located in the South. The four departments in the southern region of the country only represent 19 percent of the annual cereal agricultural output and 25 percent of the cereal output during the spring season. Almost an identical number of communes, 94 in total, report an increase in output for the 2017 spring season. Averaging farmers' expectations across communes, the output for the spring 2017 season, relative to the same season last year, is forecast to decline some 15 percent for maize, 18 percent for sorghum and 6 percent for pulses. The anticipated decline in sorghum output mainly reflects a structural trend. Over the last several years, farmers have continued to reduce the area planted to sorghum mainly due to the diffusion of a fungal disease and the lack of seeds resistant to it. The decline for maize and pulses mainly reflects the erratic precipitation during the season. Access to seeds, especially for replanting, was also a secondary factor. By contrast, output for rice and starchy roots is expected to increase from 2016.

Table 8: Haiti - Production forecast for 2017 spring crops ('000 tonnes)

	2016	2017 (forecast)	2017/16 % change
Maize	154	134	-15
Rice	42	44	4
Sorghum	5	4	-18
Pulses	54	51	-6
Starchy roots	117	166	35

Source: FAO calculations.

To obtain a forecast for the overall 2017 output, we assume that production for the autumn and winter crops will remain unchanged from 2016. This assumption is later altered to take into account the potential impacts from Hurricane Irma. Under the assumption of the output remaining unchanged from 2016 for the remaining seasons during the agricultural year, the 2017 cereal production is expected to reach 359 000 tonnes, about 8 percent below last year's level (Figure 11), but over 20 percent above the annual average for 2014-2016, when crops were impacted by the El Niño meteorological phenomena. However, 2017 cereal output would remain significantly below the annual average of 542 000 tonnes obtained during the period 2009-2013, the five-year period immediately before the El Niño event. Regarding pulses, the main harvest does not occur until the autumn and winter seasons, with the harvests starting in December and continuing through March of the following year. Therefore, it is anticipated that pulse production could reach 140 000 tonnes, some 8 000 tonnes lower than in 2016 reflecting the decline in spring production. Similar to cereals, production of starchy roots is anticipated at well above the annual average of 2014-2016, but significantly below the annual average of 1 million tonnes obtained in the five-year period of 2009-2013, which preceded the El Niño phenomena.

Figure 11: Haiti - Production trends for cereals, starchy roots and pulses

Source: FAO using data from MARNDR.

5. FOOD SUPPLY/DEMAND SITUATION

5.1 Food supply and demand balance for 2017/18

To provide an estimate of the food supply and demand, the Mission relied on figures derived from a Country Commodity Balance Sheet (CCBS). The CCBS for Haiti was estimated for cereals, pulses and starchy roots for the 2017/18 marketing year (July/June). These three commodity groups represent some 44 percent of the caloric consumption and over 20 percent of the protein intake. In order to combine cereals with the other commodity groups, all products were converted to Maize Equivalent Tonnes (MET), using the conversion rates provided by the CNSA (see Annex). The population figure used for the 2017/18 marketing year was 10.9 million as reported by UNDP. The estimated per capita consumption levels (un-transformed) are as follows:

i) Cereals: 92 kg/year.
ii) Pulses: 20 kg/year.
iii) Starchy roots: 34 kg/year.

For cereals and pulses, the per capita consumption levels represent the historical average amounts as estimated in FAOSTAT. For starchy roots and tubers, per capita consumption was set at the lower-than historical levels as the country's import capacity of starchy roots and tubers is limited, so shortfall in local production is transferred to reduction in consumption.

Domestic cereal availability for the 2017/18 marketing year (July/June) is forecast at 550 000 tonnes (maize equivalent) or -3.5 percent below last year's level and almost 6 percent below the average during 2014-2016, when the El Niño phenomena significantly reduced outputs (Table 9). The gap between domestic availability and utilization is anticipated to be covered by a 19 percent increase in commercial imports from 2016 and well above the average of 2014-2016. While rice and wheat imports are anticipated to constitute the bulk of purchases, maize imports during 2017/18 would need to increase from 18 000 tonnes in 2016 to 52 000 tonnes to cover the gap in domestic utilization due to the anticipated drop in 2017 production. This forecast, however, assumes no significant impact from Hurricane Irma which affected Haiti in early September. Potential impacts from the storm are provided in the addendum in the following section.

Table 9: Haiti - Food supply and demand balance sheet, 2017/18 marketing year (July/June), maize equivalent tonnes ('000)

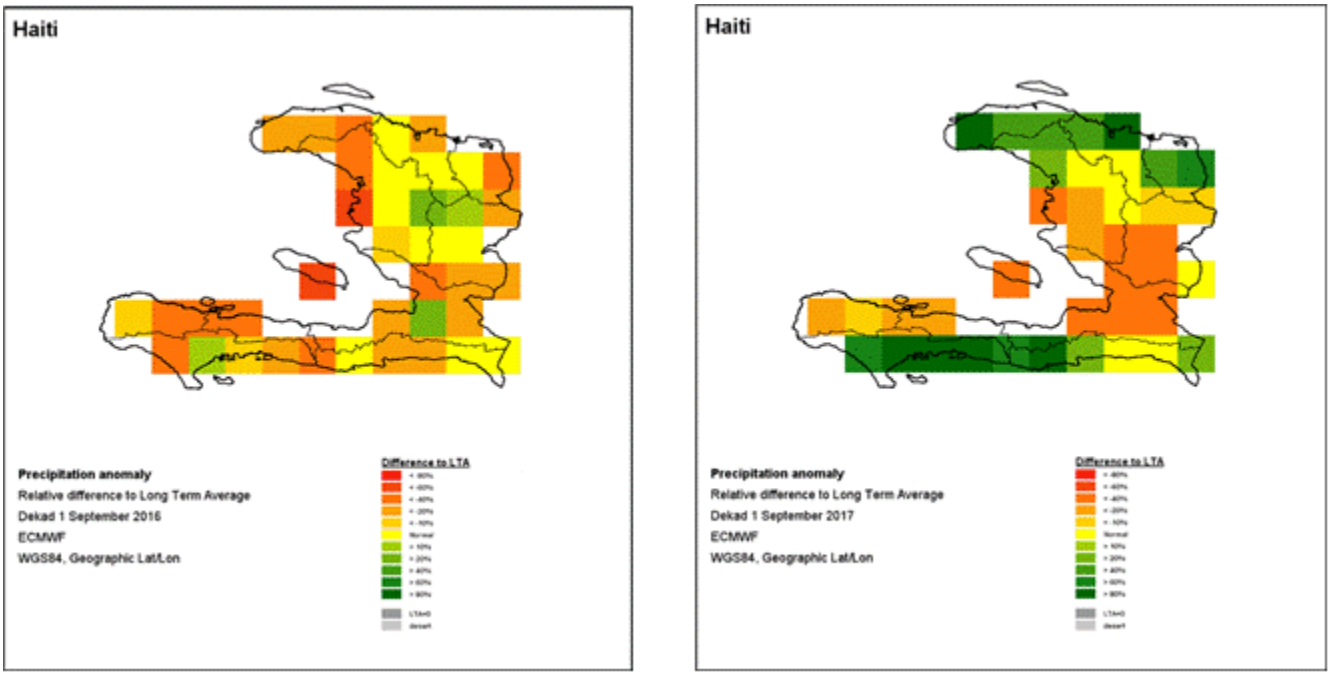
	Wheat	Sorghum	Rice (milled)	Maize	Total cereals	Pulses	Starchy roots	Total 2017	3-year average
Domestic availability	**5**	**20**	**119**	**220**	**364**	**64**	**121**	**550**	**584**
- Change from 2016 (%)								-3.5	
Stock draw-down	5	-	-	-	5	-	1	6	138
Production	-	20	119	220	359	64	120	544	447
- Change from 2016 (%)		-18	4	-14	-8	3	3	-4.5	
Total utilization	**185**	**20**	**549**	**272**	**1 026**	**106**	**121**	**1 253**	**1 275**
Food use	183	10	509	240	942	101	117	1 160	1 096
Feed use	-	2	-	20	18	-	2	20	31
Other uses (seed, losses, other)	2	12	25	12	51	5	3	59	116
Exports	-	-	-	-	-	-	-	-	
Stock build-up	-	-	15	-	15	-	-	15	32
Import requirements	**180**	**-**	**430**	**52**	**662**	**41**	**-**	**703**	**624**
- Change from 2016 (%)								19	

5.2 Addendum: Anticipated impacts on 2017 cereal production of Hurricane Irma

The Mission was not present during the period of Hurricane Irma, a category five event, which did not make landfall but passed close to the North of the country during 8 and 9 September 2017. At the time of the passing of the hurricane most of the spring crops had already been harvested and planting of the summer and autumn crops, to be harvested from late October and December, respectively, was well advanced or concluded.

Official assessments point to winds and flood damages to crops and the destruction of banana trees due to excess winds. The departments of Nord, Nord-Est and Nord-Ouest were the most affected, with the crop area impacted ranging from 30 to 40 percent. Precipitation levels averaged 100 mm in Nord-Est, 78 mm in Centre and 44 mm in Nord-Ouest departments, causing rainfall levels to be at least 60 percent above the average during the first dekad of September (Figure 12). However, parts of Artibonite and Nippes, also reported significant impacts due to the storm, with the rice crop usually harvested from late August to late November, particularly affected.

Figure 12: Haiti - Rainfall anomalies first dekad of September 2016 and 2017



Source: FAO/GIEWS.

According to the rapid assessment carried out shortly after the hurricane by the Agricultural Sector Emergency Cell (CUSA) of the MARNDR, about one-third of the planted area of cereals and pulses in Nord, Nord-Est and Nord-Ouest departments was impacted (Table 10). Although the CUSA found that the area sown with starchy roots was also affected, the assessment was unable to clearly determine the production losses for these crops.

Table 10: Haiti - Crop area affected by Hurricane Irma, department and commodity (percent)

	Pulses	Maize	Rice
Ouest	23	23	23
Sud-Est	10	10	10
Nord	36	36	36
Nord-Est	40	40	40
Artibonite	15	31	31
Centre	19	19	19
Sud	10	10	10
Grande-Anse	10	10	10
Nord-Ouest	27	27	27
Nippes	30	30	30

Source: FAO using data from CUSA of MARNDR.

To evaluate the potential impact of Hurricane Irma on production, the historical share of the autumn crop on the annual output was taken into account. The autumn crop represents some 16 percent of the annual cereal output, 25 percent of pulses and 22 percent of starchy roots. The output during the autumn season of the northern departments affected by Hurricane Irma account for 20 percent of the cereal output, 15 percent of the pulse output and 22 percent of the output of starchy roots. Since a detailed assessment of the crop losses will not be available until the end of 2018, the Mission assumed a reduction of output at the department level equivalent to the area affected by the hurricane as reported by CUSA. Then by commodity group, this figure was adjusted to its corresponding share in annual production. Due to lack of information, production figures for sorghum and starchy roots have not been revised. According to these estimates, the most affected crops, both in absolute and relative terms, are pulses (Table 11), while rice has the highest relative loss and maize the greater loss in quantity.

Table 11: Haiti - Potential impacts of Hurricane Irma on selected agricultural crops in 2017

	Original forecast ('000 tonnes)	Hurricane Irma ('000 tonnes)	Change in forecast (%)
Maize	220	210	-4.7
Rice	119	112	-6.1
Sorghum	20	20	-
Roots and tubers	350	350	-
Pulses	140	127	-9.7

Source: FAO/GIEWS.

The expected impact from Hurricane Irma is to further reduce the domestic food availability by 23 000 tonnes, maize equivalent (Table 12). Such a decline would require an additional 22 000 tonnes of cereal imports to meet domestic utilization. Imports for the 2017/18 marketing year (July/June) would reach 725 000 tonnes, significantly higher than in the three-year period of 2014-2016. In terms of production shocks, the trend for rice output is reversed from the previous estimate. The forecast for rice production in 2017 would go from an expected increase in output of 4 percent to a decline in output of 2 percent, relative to 2016 levels (Table 12).

Table 12: Haiti - Commodity balance sheet accounting for possible effects of Hurricane Irma, marketing year 2017/18 (July/June), tonnes in maize equivalent ('000)

	Wheat	Sorghum	Rice (milled)	Maize	Total cereals	Pulses	Starchy roots	Total 2017	3-yr average
Domestic availability	**5**	**20**	**112**	**210**	**347**	**58**	**121**	**527**	584
Change from 2016 (%)								-8	
Stock draw-down	5	-	-	-	5	-	1	6	138
Production	-	20	112	210	342	58	120	521	447
Change from 2016 (%)		-18	-2	-18	-13	-6	3	-9	
Total utilization	**185**	**20**	**547**	**272**	**1,024**	**107**	**121**	**1 252**	**1 275**
Food use	183	10	508	240	941	102	117	1 160	1 096
Feed use	-	2	-	20	18	-	2	20	31
Other uses (seed, losses, other)	2	12	25	12	51	5	3	59	116
Exports	-	-	-	-	-	-	-	-	
Stock build-up	-	-	14	-	14	-	-	14	32
Import requirements	**180**	**-**	**435**	**62**	**677**	**48**	**-**	**725**	**624**
Change from 2016 (%)								22	

6. FOOD SECURITY SITUATION

6.1 Methodology

A section in the already mentioned CFSAM questionnaire focused on exploring the food security situation of the communes represented by the farmers interviewed. This was complemented with a review of documents produced by CNSA and partners, particularly on the 2015 drought and assessments after Hurricane Matthew. This comprised: Post-drought 2015 EFSA (December 2015); Post-Hurricane Matthew EFSA – Phase I (January 2017); Evaluation of Emergency Food Security Post-Hurricane Matthew (May 2017); Comprehensive assessment of the impact of Hurricane Matthew on the food security (May 2017) and the Integrated Phase Classification (IPC) for food security produced by FEWSNET, prepared in February 2017 and forecasting June-September 2017.

For the CFSAM analysis, it was essential to consider the seasonality of agriculture, as the most food insecure population depend on its own production to source most of their food. Due to the qualitative methodology, the Mission is not in a position to give figures on food insecure people. Instead, it did an analysis based on the available evidence.

6.2 Impact of Hurricane Matthew on food security

Before Hurricane Matthew, the country had experienced a prolonged drought due to the El Niño phenomena, which began in the summer of 2014 up to early 2016 that brought an increase in the number of food insecure people. The EFSA evaluated the impact of the drought and concluded that at the national level, 3.6 million people were food insecure and 1.5 million were severely food insecure. The recovery was depended on a sustained and

good food production in the 2016 spring and winter seasons. While the 2016 spring season was acceptable and even considered very good, particularly in Sud and Grande-Anse departments, overall it was not good enough, as the season's evaluation revealed. This made the performance of the winter season more critical for recovery, but in October, the hurricane impacted the country and, in particular, its southern departments.

The rapid EFSA, conducted and published just after the hurricane, reported that 38 percent of the population in the three more affected departments (Sud, Grande-Anse and Nord-Ouest) were food insecure. One-third of this population was at risk of becoming severely food insecure if they did not receive humanitarian assistance before the next harvest (July 2017).

The EFSA of Hurricane Matthew published in May 2017, found that, at the national level, almost 40 percent of the households were food insecure (35 percent moderate and 5.3 percent severe), representing some 3 million people (400 000 in severe and 2.6 million in moderate food insecurity). This was the food insecurity balance previous to the 2017 lean season and the spring season.

The assessment also found that, despite the storm making landfall in the southern departments, at the national level, 55 percent of the population was affected by the hurricane and 66 percent in the most affected areas (Grande-Anse, Sud, Nippes, Sud-Est, Gonave, Nord-Ouest and Haute Artibonite).

By April, the country was entering the lean season, which ends in July, when the harvest of the main spring season began to alleviate the access to food of the affected population. The hurricane affected the production of the summer agriculture season, therefore, a high prevalence of food insecurity was expected. This was paired with the slow recovery of banana and plantain trees, destroyed by Hurricane Matthew and growing again to start producing around October.

A CNSA/MARNDR report from April 2017 (Bulletin # 16) found that the area planted for the winter 2016/17 was less than normal due to different constraints. It also reports that the harvest in the northwest region of the country was not good. By contrast, in the humid slopes of the southwest and west, the harvest of produced maize, beans and vegetable crops did not have any problems.

The report makes estimations based on the IPC classification and concludes that more than 30 percent of the population would be in IPC Phases "Crisis" or "Emergency" before the next harvest (July). The report also estimated that most of the population in the areas directly affected by Hurricane Matthew would be in Phase 4: "Emergency" if there was a lack of proper intervention.

The report based on livelihood zones at the national level, published in May 2017, was prepared by CNSA, Oxfam, ACF, Concern and the European Union (ECHO). It found that in all livelihood zones, households experienced a reduction in access to education, agriculture inputs, livestock, land, etc. due to reduced incomes. This affected 47 percent of the households in the most affected areas and 21 percent in the rest of the country. Instead of the WFP CARI methodology (which produces the Food Security Indicator), this analysis was based on the Household Economy Approach to make its estimations.

The analysis concludes that the main factors affecting food insecurity after Hurricane Matthew were:

- An abnormal increase of food prices during the lean season.
- A decrease in the income received by the poorest households, dependent on agricultural production and labour.
- A possible reduction of production during the 2017 spring season, due to lack of resources for the necessary agriculture inputs and a reduction in labour demand.
- Use of negative coping strategies because of reduced incomes.

The figures of the post-Hurricane Matthew assessments were extrapolated by the IPC forecast for June-September 2017 (the CFSAM was in August). The projection considered that the most affected areas by Hurricane Matthew, could continue with inadequate food consumption and the use of negative coping strategies, where two-thirds of the households could continue in the emergency phase. Improvements to the situation were dependent on a good 2017 spring harvest (July). From the estimations done in January, an improvement was expected, but dependent on good rainfall (the climate projection was not that good). The report pointed out that

due to the loss and lack of financial resources needed for production, the access to food would continue to be a limiting factor.

In geographic terms, the areas under HT01 livelihood zone (most of Nord-Ouest, La Gonave, Haute and part of Bas Artibonite and all Grande-Anse) were projected in IPC Phase “Crisis” up to September 2017. With the exception of Ouest Department, the rest of the country was projected in IPC Phase “Stress”.

Therefore, it seems that the figures of around 38 to 40 percent of the population (around 3 million people) in some degree of food insecurity were consistent among different reports from post-Hurricane Matthew EFSA up to the pre-spring 2017 harvest, or improvements would be expected based on the outcome of the 2017 spring harvest.

With this background data, the teams of the CFSAM talked to more than 800 farmers, who volunteered their perception of the food security situation. This CFSAM report is the latest reading of the situation, although the conclusions are based on perceptions coming from the communities themselves and not from a statistically representative exercise.

Planting for the spring season starts in February and goes through early April. As rainfall does not begin uniformly across the country and because farmers distribut their planting risk. This was of particular importance this year reflecting the lack of seeds and income for agricultural inputs, which resulted in a reduction of the planted area. In the field, it was common to see crops at different stages and early plantings had been already harvested or already lost, in the case of the areas affected by a dry spell in June (mainly in Haute Artibonite, parts of Nord-Ouest, parts of Ouest and Centre). Those areas saw a deterioration of the food insecurity because of the cumulated shocks and the loss of the previous harvest, which would have alleviated food availability during the lean season.

In terms of food reserves, farmers in the focus group interviews reported that, on average, the output from the 2017 spring harvest (which began in July) would only cover three months of households’ consumption, before having to rely on the market. But one-fifth of the farmers interviewed reported that their food reserves would only cover one month of consumption, leaving them dependent on the market until the next harvest period in late October.

It was clear that the farmers had problems during this year’s sowing period, February-March, as 76 percent of the groups reported that they contracted more debt in 2017 than in 2016 to finance their planting operations. For 43 percent, the indebtedness was due to an attempt to recover from the production losses during last year. Failing to produce and repay their credits would mean more difficulties in terms of food availability from their own production and economic access to food. According to the groups, only half of the indebted households will be able to manage their debts and cover their food needs.

The sources of food are the markets and own production in similar proportions although the high prices and the lack of income, combined with problems of access, particularly in Hurricane Matthew’s affected areas. The rest said to have food assistance as their main source of food.

It is considered that livestock production and availability was severely affected after Hurricane Matthew. For poultry, 90 percent of the communities reported diseases (chiefly Newcastle) as a serious problem and caprine and porcine activities also reported problems for more than 80 percent of the communities. Bovine availability was reported below the levels of the previous year (i.e., August 2016) by 72 percent of the groups and almost half reported a decrease in numbers and an increase in the sanitary problems of ovine.

For the southern provinces where bread tree fruit is an important component of the diet, this year has been bad due to the damages caused by Hurricane Matthew. The Mission confirmed this by asking prices in the market. One community reported that normally fruit costs HTG 50 per dozen, while at the time of the assessment the market price was between HTG 25 and HTG 100 per piece in all southern areas. This particular situation is expected to improve once the main harvest starts in October.

Farmers are optimistic about the future in those areas where the summer harvest was not already lost. An example of this is the answer to the question on the current and future food insecurity. While for 46 percent of the communities their food security situation has worsened in comparison with August 2016, close to 70 percent considered that it will improve for the next six months.

6.3 Subsistence means and sources of income

A Comprehensive Food Security and Vulnerability Assessment conducted in 2007 established that 75 percent of the rural households depend on agriculture and that it accounts for 47 percent of the income sources for that population, but the participation is not uniform across the agro-ecological zones.

The CFSAM, through the community focus group discussions, found that the main source of income at the time of the meetings was the sale of agricultural products of the season as well as the selling of animals (around 30 percent each). Next, was small commerce (around 25 percent). There was no substantial change on the sources of income when comparing with the same month of the previous year. Fishing in coastal areas had the same level than last year, although during the conversations fishermen reported that they had stopped or reduced their catches because fishery tools and equipment were lost or damaged by Hurricane Matthew and some people reported not having money to buy enough fuel to try fishing in more distant but better areas.

The percentage of groups that reported selling animal products this year did not change significantly in comparison with last year. But participants reported that Newcastle disease consistently affected poultry across the country, while goats were affected by intestinal infections and diarrhea. The above probably means that the problems are endemic and there is potential to improve the economic participation of animal production.

The communities reported high levels of indebtedness. The informants compared the level of debt to that of one year ago and more than three-quarters of them said it had increased. Half of the interviewed farmers groups think that farmers will be able to repay their debts if the summer harvest is good and the other half is not optimistic.

Looking at the Grande-Sud (the departments in the south) affected by Hurricane Matthew, they reported that selling animal products and selling agriculture products are the main sources of income.

The current situation is perceived by almost half of the groups (46 percent) as a lack of diversified opportunities to generate income and 56 percent of the group participants considered that their sources of income have decreased in comparison with August 2016.

When asked about their problems to get the necessary food for their families, one-third of them identified the lack of income as the main one, with 44 percent of them dependent on the market as the main source of food.

For youngsters, having a moto-taxi was included in the sources of income list, but this does not seem to be consistent or economically important as an income source capable of providing access to adequate food for the majority of the food insecure population.

Something that is not easily discussed in the communities is the role of remittances as a source of income. However, it can be assumed that it contributes to food access, because of the persistent reference made by the interviewed people to emigration. Many people mentioned that youngsters and even full families were selling everything and emigrating to Chile, Brazil and for seasonal work in the Dominican Republic. Comparing reported remittances from 2007 (USD 1 billion) with 2017, it should be doubled and must account for at least one-fifth of the GDP, according to a World Bank report released in 2015.

Despite the above, the Mission could not see in the remote, rural areas some of the common signs of remittances in the communities: solid constructions, recent model cars, trendy shops (for the local standards), etc. Moreover, as the Mission kept moving westwards and in the South, the destruction of houses and the lack of reconstruction (including basic things such as rustic roofs), the situation was more and more hopeless.

6.4 Livelihood coping strategies

The damages from Hurricane Matthew came on top of those provoked by prolonged drought conditions since the autumn of 2014 through the beginning of 2016. While food prices began to decrease after the 2016 spring harvest, the hurricane reversed this trend. The high price levels, coupled with the lack of income sources, threaten the economic access to food not just in the hurricane-affected areas but also across the country.

On average, around one-third of all interviewed groups reported negative food-related coping strategies for subsistence (reducing the number of meals, the amount of food, the quality of food, etc.). More than half of the

groups said that borrowing money to buy food as well as getting credit were the main livelihood strategy, while emigration (especially to Chile) was reported as a coping mechanism in a large number of communities. They report that people are selling their assets and immigrating to that country as a way to secure employment and income.

Among the livelihood coping strategies, the more important among the groups were: Indebtedness (60 percent); buying food on credit (48 percent); selling household or livelihood assets (42 percent); migrating (40 percent); early consumption of crops (e.g., eating cob corn instead of letting it become grain for stock) 30 percent. A shocking 30 percent reported begging as a main livelihood coping strategy.

Farmers describe selling charcoal as a coping strategy and not as a source of income maybe because such activity is forbidden, while charcoal is seen in all markets. The population knows that charcoal production leads to deforestation and environmental degradation, but when faced with the need to find a source of income, they feel forced to chop trees and burn them to produce charcoal.

7. CONCLUSIONS AND RECOMMENDATIONS

Before Hurricane Matthew in October 2016, the country had experienced a prolonged drought due to the El Niño phenomena, which began in the summer of 2014, lasted to early 2016 and resulted in an increase in the number of food insecure people. The EFSA that evaluated the impact of the drought concluded that at the national level, 3.6 million people were food insecure and 1.5 million were severely food insecure. Overall, the 2016 spring season was acceptable, but not good enough to prompt a full recovery.

The 2017 spring agricultural season was characterized by an abnormal distribution and quantity of rainfall, making it the fourth consecutive season since 2013 that significantly deviates from the long-term average weather pattern. Rainfall started about 20 days earlier than normal for the 2017 spring season, with rainfall levels in April being significantly above the long-term average. The early and abundant rain affected pulse output as these crops are less tolerant to excess humidity. Then in June, a prolonged dry period and below average precipitations affected the maize crop, which was in the tasselling to grain filling phase. The continued problems of accessing inputs also affected the 2017 spring season.

Assuming normal autumn and winter crops, to be harvested from December to March 2018, respectively, cereal production in 2017 is anticipated to by decline some 8 percent from 2016, but well above the average of 2014-2016, impacted by the El Niño phenomena. Domestic food availability is anticipated to decline some 3.5 percent from 2016 to 550 000 tonnes. As a result, cereal import requirements are forecast to increase some 19 percent from 2016 to 703 000 tonnes in order to meet local demand. This forecast does not assume the significant effects from Hurricane Irma. But if the effects from Hurricane Irma were to remain close to the early official assessments, domestic food availability would decline a further 23 000 tonnes, requiring an increase in the import requirements.

While the appreciation in 2017 of the local currency has contributed to the price stability and greater availability of imported goods, prices remained generally high, despite seasonal declines. However, this varies significantly across the markets and goods. For example, for some key-imported staple products, such as wheat flour and vegetable oil, prices in some markets remained high and above the historical trends. In other markets, prices in August had declined well below their 2014 and 2015 levels. As a result of the price stability, the cost of a representative food basket generally declined during the critical period of May-September 2017, but remained higher than in the same period in 2016, reflecting the tight supplies of domestic products.

The Mission took place ahead of the passing of Hurricane Irma at the beginning of September. Using the information from the Government's rapid assessment of the impacted agricultural area, the analysis finds that production would still remain above the three-year average, or the period affected by the El Niño phenomena of 2014-2016. But the country's dependency on imports to meet its needs would significantly increase above the levels of 2014-2016. This is based on the assumption that production losses would remain in line with the Government's early assessment and excludes any potential recovery during the upcoming production seasons.

Investments to deal with the structural issues of the Haitian agricultural sector are needed. This includes developing the seed input chain, including the development of local varieties and providing greater access to seeds. In the short term, access to credit to purchase, or direct distribution of, seeds or other inputs are needed. This will be important particularly for the winter season in November and December. As out-migration from rural

areas continues to grow, Haiti's agricultural labour shortages are becoming more acute. To mitigate labour shortages, the introduction of labour-saving technologies will be needed, including small mechanization. The promotion of alternative crops and marketing channels will also be important, as the recent weather shocks has changed the flow and type of goods in the market. For example, the Southern regions of the country are now relying on the North for the supply of fruit bread.

In light of the situation assessed by the Mission regarding production, market stability, progress of the winter season and assistance to the vulnerable population, it can be considered that the number of food insecure has decreased since January 2017, but not in high proportions. Furthermore, it is concluded that the need for targeted assistance remains, particularly in the zones where livelihoods have not yet been restored and there are important uncovered areas of expenditure like housing.

Annex

Haiti - CNSA Maize Equivalent Tonnes (MET) Conversion Factors

	MET Conversion Factor
Cereals	
Rice (paddy)	1.09
Maize	1
Sorghum	0.94
Wheat	0.93
Pulses	
Dry beans	1.02
Peanuts	1.54
Congo peas	1.02
Starchy roots	
Potatoes	0.21
Sweet potatoes	0.32
Cassava	0.39
Yams	0.28

Source: CNSA.

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