

Central America

**ABOUT THIS REPORT**

This report provides an overview of typical production and market behavior in Central America staple grains market. The regional markets covered include those in Guatemala, El Salvador, Honduras, Nicaragua (countries monitored by FEWS NET in Central America) as well as Costa Rica and Mexico.

**STAPLE FOOD MARKETS IN CENTRAL AMERICA**

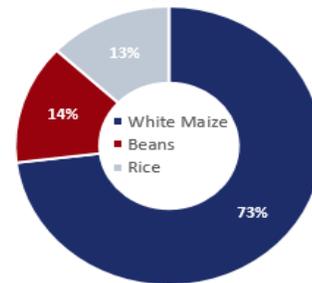
**Overview**

- Maize, beans, and rice are the main staple foods in the Central America region and are the base of food security, especially among poorer populations. Maize is the dominant crop produced in the region, comprising nearly 75 percent of total annual regional staple food production, on average (**Figure 1**). Bean and rice production contribute a much smaller volume to total production, but are also important crops in the region.
- Central America as a region is typically self-sufficient in maize supply, structurally surplus in bean supply, and structurally deficit in rice supply. However, national levels of self-sufficiency vary from country to country for each commodity (**Figure 2**).

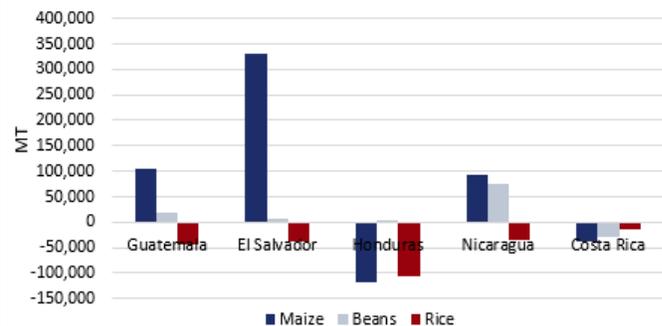
**Production**

- Not including Mexico, Guatemala is the main maize producer in the region, contributing almost half of total regional production on average (**Figure 3**). El Salvador is the regions second largest maize producer, followed by Honduras and Nicaragua. Costa Rica produces only trivial amounts of maize. Average total regional production between 2011/12 and 2015/16 was 3.2 million MT but has varied year to year. As a predominantly rain-fed crop in the region, production is strongly correlated with climate performance indicators such as rainfall and temperature. El Salvador has the highest maize yields in the region, at 46.1 qq/mz, followed by Guatemala (32.8 qq/mz), Costa Rica (31 qq/mz), Honduras (23.2 qq/mz), and lastly Nicaragua (21.9 qq/mz) (RED SICTA 2013).<sup>1</sup>

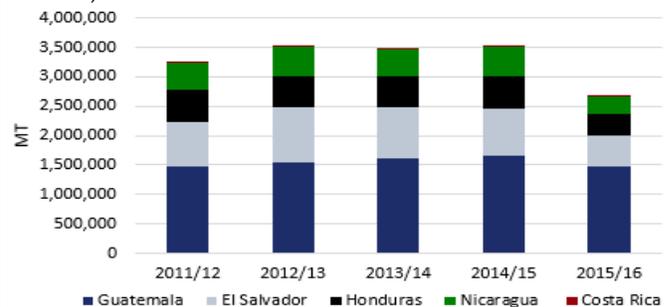
**Figure 1.** Central America average regional staple food production (2011/12 - 2015/16)



**Figure 2.** Average national staple food surplus/deficit estimates (2011/12 - 2015/16)



**Figure 3.** Central America annual maize production (2011/12 - 2015/16)



Source: FEWS NET calculations with data from the respective government ministries.

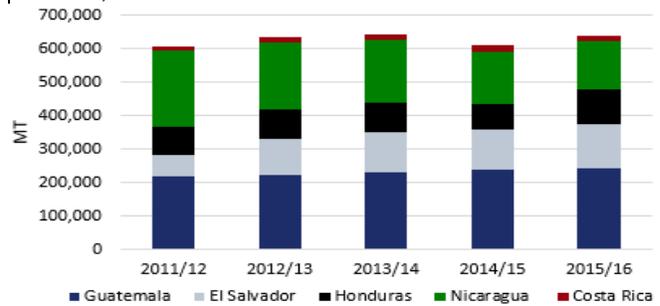
<sup>1</sup> Estudio de las Cadenas de Valor de Maíz Blanco y Frijol en Centroamérica, IICA, RED SICTA, Cooperación Suiza en America Central, 2013.

- Compared with average annual regional maize production (3.2 million MT), average annual regional bean production (Figure 4) is much lower (0.6 million MT). Not including Mexico, Guatemala and Nicaragua are the largest bean producers in the region, although Guatemala produces black beans and Nicaragua predominantly produces red beans. While El Salvador, Honduras, and Costa Rica all produce much smaller amounts, El Salvador's bean production has increased over the past five years and again has the highest yield rates in the region (13.2 qq/mz), followed by Guatemala (13 qq/mz), Nicaragua (11.7 qq/mz), Honduras (11.2 qq/mz), and lastly Costa Rica (10.2 qq/mz) (RED SICTA 2013)<sup>2</sup>.
- Total annual regional rice production (Figure 5) is on par with bean production volumes, averaging near 0.6 million MT. Nicaragua and Costa Rica lead the region in rice production. Guatemala, El Salvador, and Honduras produce only trivial amounts of rice.

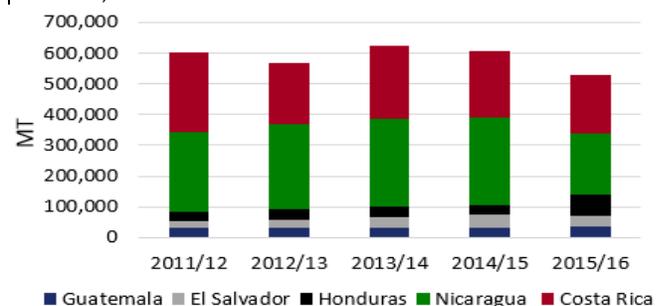
**Consumption**

- White maize accounts for the majority of maize produced and consumed in Central America. In Central America, there is some production of yellow maize but it is primarily for industrial use as livestock feed. Production, consumption, and trade flows within the region largely reflect white maize trends.
- Maize is the most consumed staple food throughout the region, on a per capita basis and at aggregate national levels (Figures 6 and 7). Guatemala has the greatest maize consumption (both per capita and national level), followed by Honduras and El Salvador. Costa Rica maize consumption is very low compared to the rest of the region.
- There are two bean varieties produced and consumed in the region: black beans and red beans. Black beans are preferred in Guatemala, Costa Rica, and Mexico, while red beans are preferred in Nicaragua, El Salvador, and Honduras. All production, consumption, and trade flows in this report represent the respective consumer preferred bean variety.
- Bean consumption is high in Central America and Mexico, but there is some variation between the countries, ranging from 9 kg/capita per year in Costa Rica to more than 16 kg/capita per year in neighboring Nicaragua, which is one of the highest bean consumption levels in the world.<sup>34</sup>
- Although rice is the least produced staple food commodity of the three, it is the second most consumed staple commodity in total annual volumes. Per capita consumption is far higher in Costa Rica and Nicaragua (53 and 48 kg/year, respectively) than in the rest of the region where rice per capita consumption rates range from 18 kg/year in Honduras

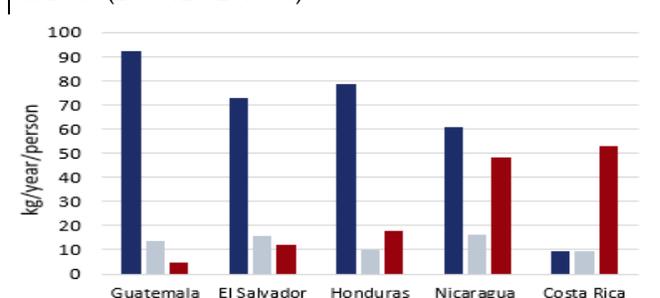
**Figure 4.** Central America annual bean production (2011/12 – 2015/16)



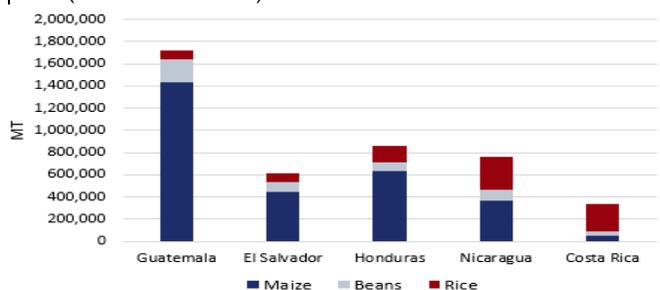
**Figure 5.** Central America annual rice production (2011/12 – 2015/16)



**Figure 6.** Average annual per capita consumption of maize, beans, and rice (2011/12 – 2015/16)



**Figure 7.** Average total annual consumption of maize, beans, and rice (2011/12 – 2015/16)



Source: FEWS NET calculations with data from the respective government ministries

<sup>2</sup> Estudio de las Cadenas de Valor de Maíz Blanco y Frijol en Centroamérica, IICA, RED SICTA, Cooperación Suiza en America Central, 2013.

<sup>3</sup> Cadenas de Valor de Maíz Blanco y Frijol en Centroamérica, IICA, RED SICTA, Cooperación Suiza en America Central, 2014.

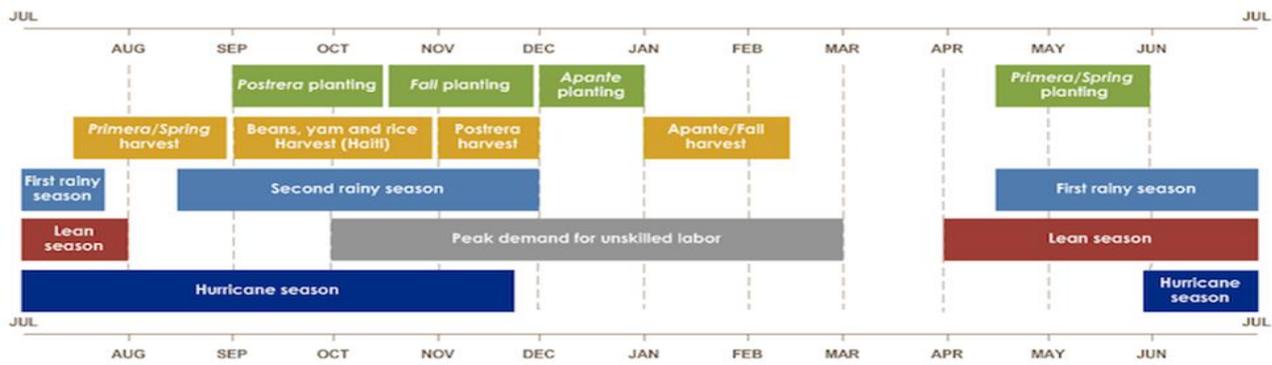
<sup>4</sup> Factors influencing pulse consumption in Latin America Pascal Leterme<sup>1</sup> \* and L. Carmenza Munoz.

to 5 kg/year in Guatemala. However, every country consumes more than it produces and are therefore all structurally deficit in rice and dependent on imports.

**Seasonal Calendar**

- There are three harvests in the region: the *Primera*, *Postrera*, and *Apante* (Figure 8). The *Primera* harvest, which spans from August to October and typically peaks in August in most of Central America, with local variations, is the major production season. At the regional level, the *Primera* harvest produces nearly 70 percent of the total annual regional maize production (Figure 9).<sup>5</sup> At the national level, the *Primera* harvest produces the greatest percent of domestic annual maize production in El Salvador (85 percent of total domestic maize produced during the *Primera* harvest), followed by Honduras (70 percent). The *Primera* harvest also produces about 40 percent of total annual bean production in the region as well, with Costa Rica and Guatemala producing the greatest proportion of domestic annual supplies (87 and 60 percent, respectively) during this harvest.

**Figure 8.** Central America regional seasonal calendar



Source: FEWS NET.

- The *Postrera* harvest is the main bean harvest and typically lasts from December to February in most parts of the region, but again varies country to country. Regionally, the *Postrera* harvest contributes nearly 50 percent of total annual bean production, and 30 percent of total annual regional maize.<sup>6</sup>
- Finally, the *Apante* harvest is a predominantly bean harvest that only takes place in Honduras and Nicaragua, and lasts from February to April. The bean harvest during the *Apante* season in these two countries contributes only 15 percent of total regional annual bean supplies, but is an important source for beans in Honduras and Nicaragua, as well as neighboring El Salvador, during the lean season months between the end of the *Postrera* and the start of the *Primera*.
- The major rice harvest in most of Central America spans from August to October, except for Guatemala where rice production peak is in October and extended until December.
- While rice prices are typically stable year round, maize and bean prices are typically at their lowest levels in December and gradually increase until they reach their highest levels in August for maize and November for beans, depending on the respective commodity's lean season peak (Figure 10). Maize prices typically decline rapidly in August as supplies from the *Primera* harvest,

**Figure 9.** 2016/17 Contribution of each season to total annual production by country and commodity

Country	Season	Maize	Beans	Rice
Guatemala	Primera	58 %	60 %	0 %
	Postrera	42 %	40 %	100 %
El Salvador	Primera	85 %	15 %	100 %
	Postrera	15 %	85 %	0 %
Honduras	Primera	70 %	31 %	76 %
	Postrera	22 %	49 %	24 %
	Apante	8 %	20 %	
Nicaragua	Primera	59 %	28 %	92 %
	Postrera	31 %	31 %	8 %
	Apante	10 %	41 %	
Costa Rica	Primera	61 %	87 %	66 %
	Postrera	39 %	13 %	34 %
Regional	Primera	67 %	39 %	49 %
	Postrera	31 %	46 %	51 %
	Apante	2 %	15 %	NA

Source: FEWS NET calculations with data from the respective Government Ministries

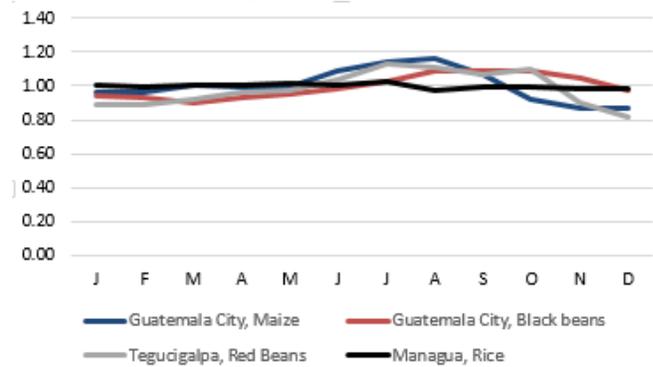
<sup>5</sup> Cadenas de Valor de Maiz Blanco y frijol en Centroamérica

<sup>6</sup> Cadenas de Valor de Maiz Blanco y frijol en Centroamérica

the main maize harvest, reach the markets. Bean prices decline with the *Postrera* harvest, the main bean harvest, in November.

- Price stabilization government interventions in some countries also have an effect on price levels. The various government programs involved in maize and bean marketing in the region include the Instituto Hondureño de Mercadeo Agrícola (IHMA) in Honduras, and Empresa Nicaragüense de Alimentos Básicos (ENABAS) in Nicaragua. The Instituto Hondureño de Mercadeo Agrícola (IHMA) in Honduras is a governmental organization that purchases local maize and beans to supply the Strategic State Reserve and the National Commodity Supplement (BANASUPRO). By purchasing the maize and bean supplies at a fixed price that is competitive with market prices, the IHMA also acts as a price stabilizer in the national market. The Empresa Nicaragüense de Alimentos Básicos (ENABAS) in Nicaragua is the government program that acquires basic grains from local producers at competitive price for the national strategic reserves. The supplies are then distributed across the country through the Food for the People Program. For beans, governments in the region have also implemented export bans and price floors during deficit years, including an export ban in El Salvador in 2014, and price fixing by the governments of Honduras and El Salvador in 2015.

**Figure 10.** Central America Maize, Beans, and Rice Seasonal Price Indices in select regional markets

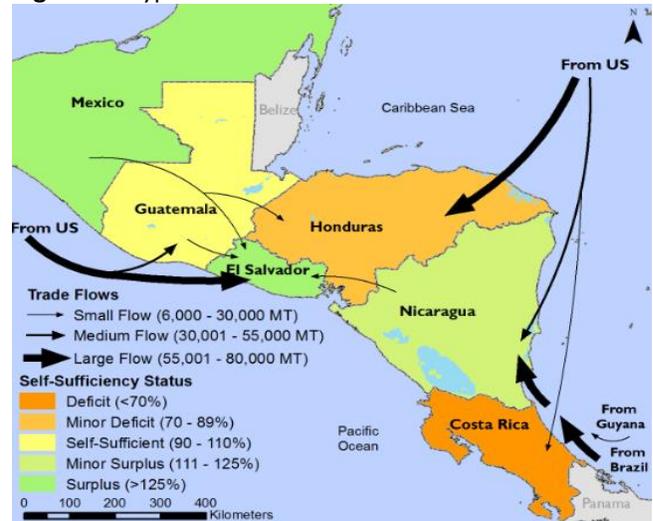


Source: FEWS NET

**Trade Dynamics and Driving Forces**

- The rain fed production of maize and beans in Central America makes domestic production levels highly susceptible to climatic conditions. This can lead to large supply gaps and a high degree of variability in prices across the region and overtime. Price differentials between surplus and deficit countries provide significant incentives for both formal and informal trade.
- Significant volumes of maize are formally imported into the region from the US (**Figure 11**), which is by far the greatest supplier for most of the region, especially for Honduras and El Salvador. In contrast to the rest of the region, Nicaragua imports mostly from South America (Brazil and Guyana).
- Regional maize trade flows are much smaller and more informal than international imports. Although formal trade flows from Mexico, the greatest maize producer, into the region are small, supplies in local markets in Guatemala indicate that unofficial flows from Mexico into Guatemala are significant. El Salvador has the second largest exportable surplus of maize in the region, but still formally imports large quantities of maize, mainly from the US and Mexico. Despite these surplus supplies, El Salvador does not play a role, officially, as an important exporter in the region.
- Honduras and Costa Rica are structurally deficit in maize supply and depend on imports, mainly from the US, to meet requirements. In addition to the large formal flows of maize exports from Mexico and US to the region, informal trade (cross border) flows between surplus and deficit areas of the region play a major role in distribution.
- Bean marketing basins within the region align with the type of bean preferred in each country; Nicaragua, El Salvador, and Honduras are integrated for red bean trade, Mexico and Guatemala are integrated with black bean trade, and Costa Rica is integrated only with international markets.

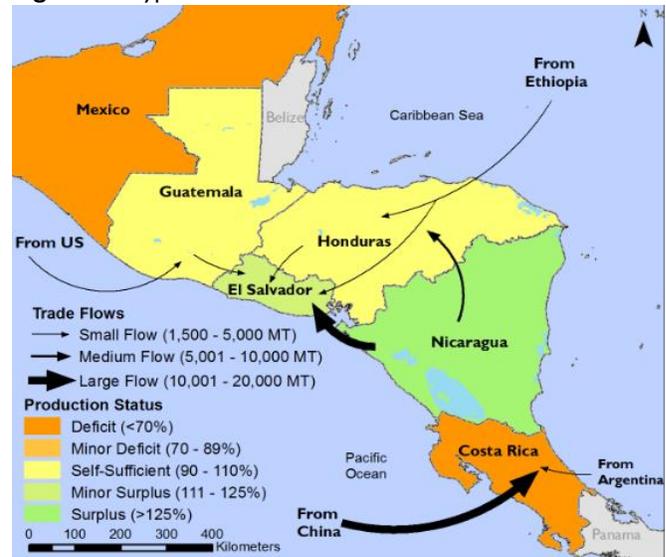
**Figure 11.** Typical Formal Maize Trade Flows



Source: FEWS NET estimates based on data from La Secretaría de Integración Económica Centroamericana (SIECA) and governmental ministries

- Nicaragua is the regions lead bean exporter (**Figure 12**). Although Nicaragua’s exportable surplus of beans has been steadily declining over the past five years, informal bean flows from Nicaragua to neighboring Honduras and El Salvador continue to be important flows. In contrast to Nicaragua, El Salvador’s exportable surplus of beans has been steadily increasing, establishing a role as a surplus country. China, Argentina, and Ethiopia have served as the main suppliers for bean deficit countries in the region, including Costa Rica.
- In contrast to maize and beans, rice is largely produced in irrigated production systems, and is therefore not effected by climatic conditions but instead is limited by the high capital requirements. Furthermore, with high import dependence on international markets for rice supplies in all countries, international prices are the most important determinant of local rice supplies and price trends.

**Figure 12. Typical Formal Bean Trade Flows**



- The United States, El Salvador, Guatemala, Honduras and Nicaragua have ratified the CAFTA (Central American Trade Agreement) treaty. Ratification of the treaty by Costa Rica is pending, and Panama is not included in the treaty. Central American countries are the second largest importer of rice from the United States, importing a combined total of approximately 550,000 MT per year.<sup>7</sup>

**REFERENCES**

- Cadenas de Valor de Maíz Blanco y Frijol en Centroamérica, IICA, RED SICTA, Cooperación Suiza en America Central, 2014.
- Estudio de las Cadenas de Valor de Maíz Blanco y Frijol en Centroamérica, IICA, RED SICTA, Cooperación Suiza en America Central, 2013.
- Factors influencing pulse consumption in Latin America Pascal Leterme and L. Carmenza Munoz.
- Rice production in Latin America at critical crossroads L. Calvert, a L. Sanint,a M. Châtel a and J. Izquierdo.

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