

AGRICULTURE IN GUATEMALA

In 2016, Guatemala was Central America's largest economy, accounting for almost one-quarter of the region's gross domestic product (GDP).¹ Agriculture is one of Guatemala's main economic drivers. Since 2000, the sector has employed at least one in three Guatemalans,² and in 2015, it accounted for 45 percent of total exports.³ However, the economy is slowly shifting towards the service sector and away from agriculture. From 2001 to 2015, agriculture value added (as a percentage of GDP) decreased from 15.1 percent to 11.1 percent, while the service sector value added (as a percentage of GDP) grew from 55.8 percent to 60.8 percent.⁴ The agricultural sector is also closely linked to Guatemala's food security and nutrition problems. In 2015, the prevalence of stunting of children under five years old was 45.6 percent and the total proportion of undernourishment in the population was 15.6 percent in 2016.⁵ The following analysis will give a statistical overview of agricultural inputs, the main commodity production, agri-business and trade, and global official development assistance to the agriculture sector in Guatemala.

INPUTS

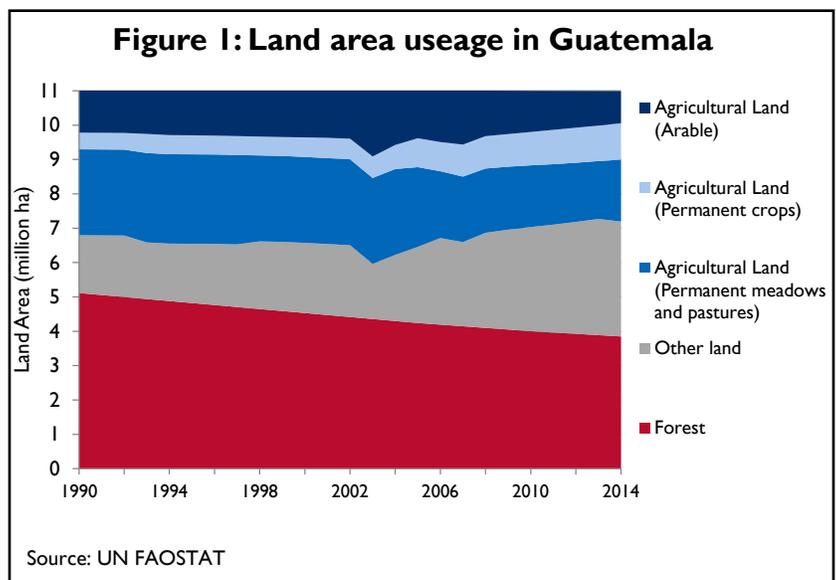
Characterization of Agricultural Regions

Guatemalan agriculture is characterized by high geographical and climate variability. The central highlands area, also known as the high plateau, is between the Sierra Madre and the Cuchumatanes mountain ranges. Surrounding the mountain ranges, there are three tropical lowland areas in Guatemala. Along the Pacific coast lays the Boca Costa or Pacific Piedmont region, which is known for its rich soil. This region is home to sugarcane, rice, oil palm, and some coffee production. In the north, Petén is a large and densely forested area, but oil palm production can be found in Sayaxche and rubber production is concentrated directly south of Petén in the Northern Transversal Strip. In addition, there is a dry corridor, el corredor seco, running from central Guatemala to the south-eastern border, which produces melons, watermelon, mango, maize, tobacco, lemon, papaya, tomato, chili, and okra.⁶ This area is particularly vulnerable to drought and food insecurity issues. In 2016, the dry corridor, which also runs through Honduras and El Salvador, faced one of the worst droughts in ten years resulting in 3.5 million people needing humanitarian assistance and an estimated 102.3 million USD financial loss from the shortfall of maize and black bean production.⁷

Land Use

As of 2014, agricultural land area makes up 34.5 percent of total land area in Guatemala, or 3.8 million hectares, and forest area makes up 35 percent.⁸ The Food and Agriculture Organization (FAO) of the United Nations defines agriculture area as the sum of arable land, permanent crops, and permanent meadows and pastures,⁹ and its division in Guatemala from 1990 to 2014 is shown in Figure 1. Both forest and agricultural areas have decreased since 1990, 25 and 11 percent respectively, while other land area has nearly doubled from 1.7 million hectares to 3.3 million hectares in the same time period.

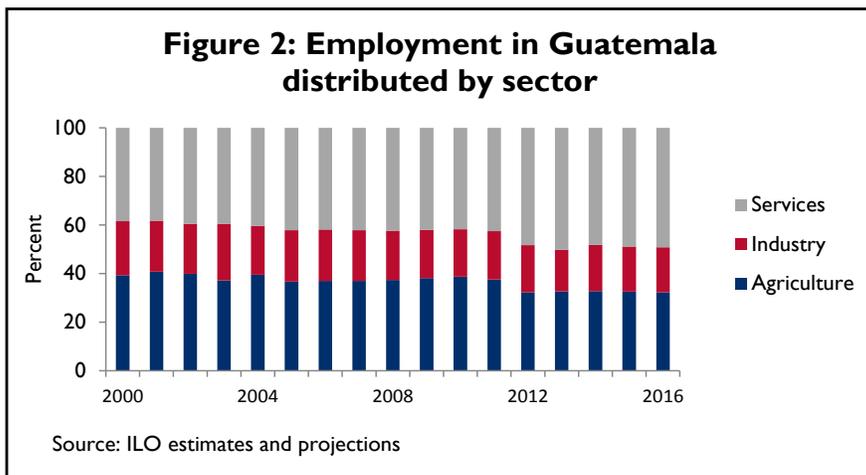
Within the total agricultural land area, permanent crop area has steadily increased since 1992, more



than doubling by 2014, when it reached 28 percent of total agricultural area, or 1.06 million hectares. This trend has in part been driven by the growth of export oriented crops in the 90s and early 2000s in Guatemala.¹⁰ Arable land and permanent meadows and pastures saw sharp and prolonged drops in their land area starting in 2003 and 2004, respectively. Organic agricultural production has grown in Guatemala since 2005, and according to the Guatemalan Ministry of Agriculture, Livestock and Food (MAGA), in 2014, 94,000 hectares were set aside for organic agriculture,¹¹ of which 13,380 hectares were organically cultivated, less than one percent of total agricultural area.

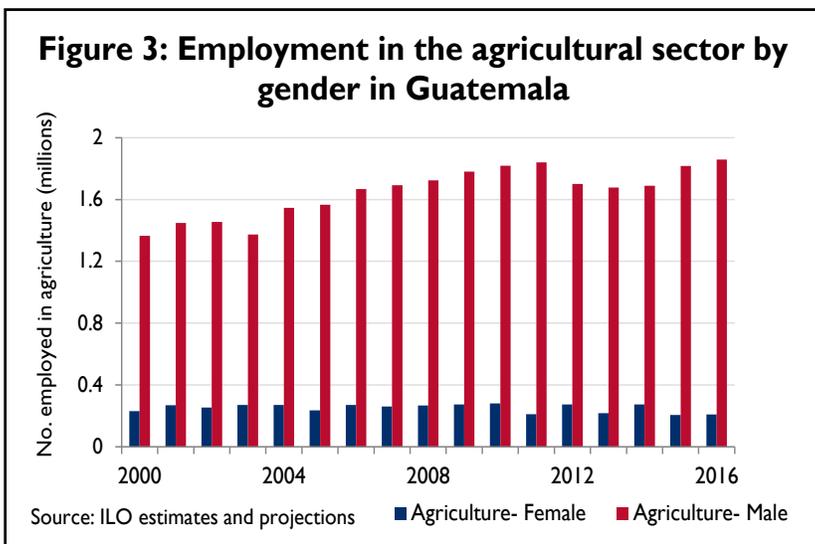
Land Tenure

Equitable land distribution is a particularly important issue for Guatemala, and the high level of inequality was a key contributing factor to the 36-year civil war that ended in 1996.¹² After a Peace Agreement was signed in 1996, a market-assisted land reform (MARL) project was initiated. It was considered a failure because it only assisted in redistributing four percent of poor quality and overpriced agricultural land.¹³ Land distribution, especially agricultural land, is still extremely unequal in Guatemala as 57 percent of the land is being occupied by two percent of commercial producers.¹⁴ On the other hand, 92 percent of smallholder producers occupy only 22 percent of the land.¹⁵ Large land holdings are associated with export oriented agriculture in the sugar cane, oil palm, and forestry industries; the heaviest concentration of land is in the coastal areas.¹⁶ These crops also experience the highest levels of foreign ownership of production throughout the production chain.¹⁷ The issue of inequitable land distribution is further exacerbated by the gender disparity of land ownership. Women only own eight percent of land in Guatemala.¹⁸



Employment

In 2016, the International Labor Organization estimated that the agricultural sector made up 32 percent of total employment in Guatemala.¹⁹ As a percentage of total employment, employment in agriculture has decreased by 7 percentage points although the raw number of people working in agriculture has increased by 29.5 percent from 2000 to 2016.²² In addition, agricultural value added by worker has increased from 2006 to 2015 by 13.9 percent from \$2,145 to \$2,443 US dollars (constant 2010).²⁰



Employment in agriculture, displayed in Figure 3, is dominated by males, making up 89.9 percent of the agricultural labor force in 2016. Since 2000, female agricultural employment fell 9.7 percent, however the number of women employed in the agricultural sector has remained relatively stable from 2000 to 2016, staying between 0.21 and 0.28 million. On the other hand, male employment, in the same period, grew 36.1 percent and has ranged between 1.4 and 1.9 million. In 2011, the latest year of available data on total youth employment in the agricultural sector, 37 percent of youth aged 15 to 24 were employed in the agriculture sector, up from 32 percent in 2006.²¹ Employment in the agriculture sector was

comprised of 48 percent of male youth and 16 percent of female youth.²² As for labor rights, Guatemala has strong labor legislation on the books that prioritizes employee protection.²³ Guatemala allows for union development, and has put in place protection for union members.²⁴ However, non-compliance with labor legislation is widespread in the agricultural sector.

Other Inputs

Fertilizer consumption, measured in kilograms per hectare of arable land, has increased by 170 percent from 2002 to 2014, only dropping from 2006 to 2008.²⁵ Along with a rise in fertilizer consumption, pesticide use has also been increasing in Guatemala. Pesticide use, measured by its trade value, increased 112 percent from 2000 to 2013, and herbicide use, measured in its trade value, increased 101 percent in the same period.²⁶ While fertilizer consumption decreased from 2006 to 2008, pesticide and herbicide use dramatically increased in 2007, increasing by 43 and 72 percent respectively.²⁷

The World Bank’s Enabling the Business of Agriculture (EBA) project has collected and provided data on the regulatory environment for agricultural enterprises since 2013 and covers seed, fertilizer, machinery, finance, markets, transport, ICT, and water policies. According to the EBA, the cost and time required to register a new fertilizer is 95 and 53 percent lower in Guatemala than the regional average for Latin America and the Caribbean.²⁸ In Guatemala it takes on average 113 days to register a new fertilizer product, and 1.2 percent of income per capita.²⁹ Registration times and costs for new varieties of seed are similarly lower, 66 and 99 percent respectively, in Guatemala than in the rest of the region on average.³⁰ It takes 166 days to register a new variety of seed in Guatemala.³¹

PRODUCTION

Policies

Since 2006, MAGA and the Ministry of Economy of Guatemala (MINECO) have been promoting the production of non-traditional and organic commodities, especially through SMES.³² Traditional crops are local varieties of fruit, vegetables, and grain, whereas non-traditional crops are not part of the customary diet of the local population and grown primarily for their high value and export potential. This can include high-value vegetables and counter-seasonal fruits. Figure 4 outlines some of the main commodities that fall under the traditional, non-traditional, and organic commodity categories.

Figure 4: GUATEMALAN CROP CLASSIFICATIONS		
TRADITIONAL³³	NON-TRADITIONAL³⁴	ORGANIC³⁵
Coffee Sugar Bananas Cardamom	Rubber Snow peas Broccoli Cauliflower Zucchini Melons, including cantaloupe Mangoes Peppers Green beans Carrots	Coffee Cardamom Macadamia nuts Sesame seed Honey Dehydrated lemons Black tea Bananas Cacao Sugar
<p>Sources:</p> <ul style="list-style-type: none"> Luis Linares, Pedro Prado, and Raquel Zelaya, <i>Shared Harvests: Agriculture, Trade, and Employment</i>, Edited by Cheong, David, Marion Jansen, and Ralf Peters. Geneva, Switzerland: International Labour Office, 2013, 220. USDA Organic potential, pg 2 Edith Vasquez, "Organic Products Growth Potential in Guatemala," <i>USDA Foreign Agricultural Service</i>, June 12, 2015, https://gain.fas.usda.gov/Recent%20GAIN%20Publications/New%20opportunities%20for%20organic%20agriculture_Guatemala_Guatemala_6-12-2015.pdf 		

In 2013, the National Commission for Ecological Agriculture, established in 1999, created a ten-year National Strategic Plan for organic agricultural production in Guatemala which sought to increase market access and improve productivity and the institutional sector.³⁶ MAGA, along with the National Quality System of the Ministry of Economy, works to evaluate and certify agencies that provide organic certifications. There are 146 organic producers certified for export.³⁷ However, the organic agricultural sector still faces challenges in terms of access to organic agricultural seeds, soil degradation and fertility, pests, irrigation, crop diversification, production record keeping, and production expertise.³⁸

Commodity Trends

In the last five years of available data (2009-2014), bananas, sugar cane, rubber (natural), coffee (green), and maize had the

five highest cumulative gross production value (constant 2004-06 dollars). Figures 5 through 9 highlight trends for the top five commodities:

Bananas

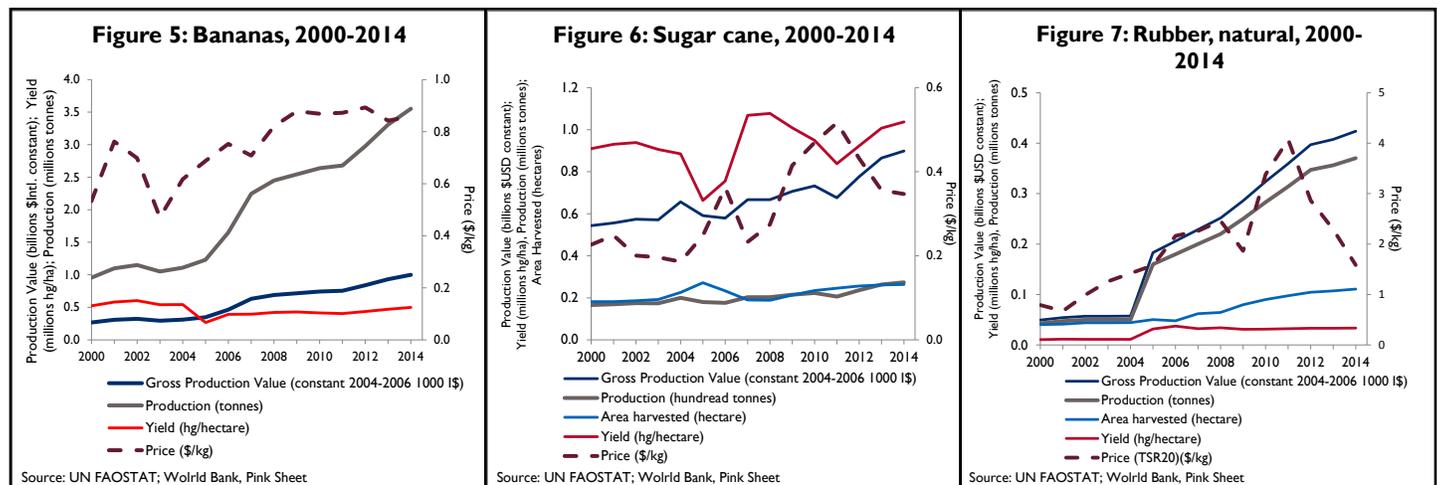
Since 2008, bananas have been the highest gross production value crop in Guatemala.³⁹ Banana area harvested remained stable until 2004, and then grew 249 percent from 2004 to 2014, when bananas occupied 71,218 hectares of land. Production increases have followed a steady growth in banana prices, with the exception of a small dip in 2007. Banana yield has remained relatively steady, only growing 16 percent from 2009 to 2014. However, in 2005, banana yield dropped by 51 percent in one year due to Hurricane Stan.⁴⁰ According to the World Bank, Guatemala is ranked fifth among all countries in exposure to three or more natural hazards with a significant portion of its GDP, 83.3 percent, situated in at-risk areas.⁴¹

Sugar Cane

From 1982 to 2008, sugar cane was the highest gross production value crop in Guatemala, only falling second to bananas from 2008 to 2014.⁴² The sugar cane industry is concentrated in the Southern Coastal region. However, according to the USDA, sugar cane harvested area is nearing its maximum capacity of 270,000 Ha, and will therefore have to depend on improving sugar recovery rates to continue its production trends.⁴³ To do so, older milling infrastructure will need to receive upgrades.⁴⁴ In terms of yield, exhibited in Figure 6, the USDA argues that given current technologies, Guatemalan sugar cane yield has also reached its peak. The sugar industry has been able to steadily expand in Guatemala, but will have to break through current technological barriers in order to continue growing.

Rubber, natural

Rubber, native to South America, is a non-traditional agricultural commodity in Guatemala. As seen in Figure 7, growth of the industry skyrocketed in 2005 when rubber yield almost tripled in one year growing from 11,287hg/ha to 31,746hg/ha. Gross production value of rubber has increased by 641 percent from 2004 to 2014. Its production is concentrated in the Northern Transversal strip and in southern coastal region. Growth in the industry, measured by production value, followed the increase in rubber prices, but the growth rate has slowed down since prices dropped in 2011.

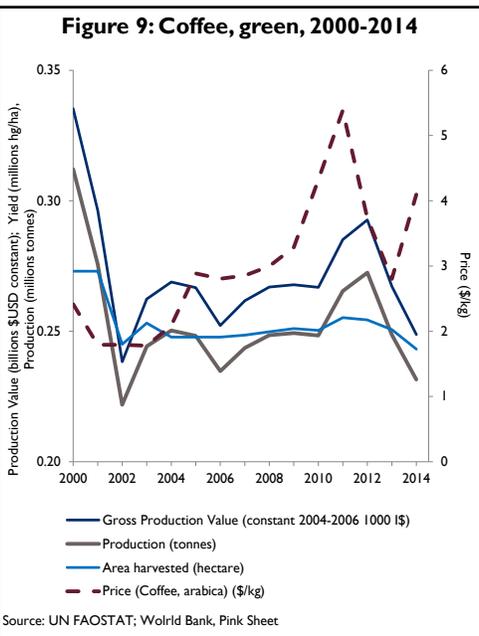
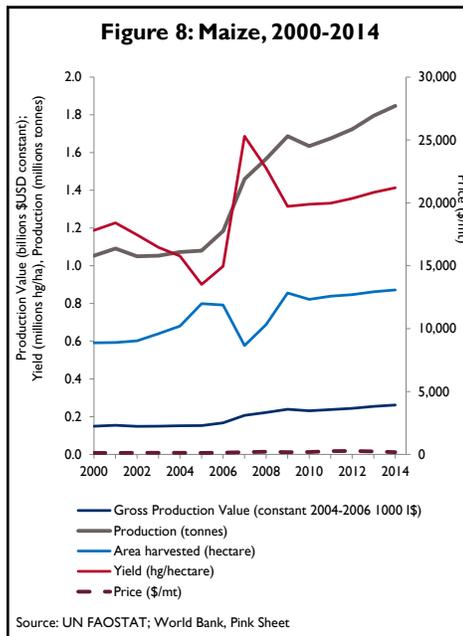


Maize

Maize, the fourth highest gross production value crop in Guatemala in 2014, is a traditional crop in the country and largely produced for domestic consumption.⁴⁶ Maize, similar to bananas, is also highly exposed to environmental risks. In 2009, Guatemala faced the worst drought in 30 years in Central America.⁴⁷ Yield dropped by 13.4 percent from 2008 to 2009 and to maintain gross production value growth, harvest area increased by 24 percent.⁴⁸ Four years later, the dry corridor was again affected by drought associated with El Niño for three consecutive years from 2014 to 2016, resulting in production losses of maize and black beans. Domestic prices were kept down by increasing imports of maize and black beans from Mexico.⁴⁹

Coffee, green

In 2014, coffee was the fifth highest gross production value crop in Guatemala.⁵⁰ However, from 2004 to 2014, gross production value of coffee decreased by seven percent. This is a result of a corresponding decrease in the coffee planted and harvested area. Further decreases in production are forecasted in 2017 and 2018 by the USDA.⁵¹ Several climate factors have negatively affected Guatemalan coffee production in the last five years. Recently an El Nino related drought negatively affected production causing lower returns in the 2017 market year;⁵² and previously in 2012, 20 percent of Guatemalan coffee production was lost to a coffee rust epidemic.⁵³ Coffee rust is a fungus that infects coffee leaves and causes them to fall early. A coffee rust epidemic also hit coffee production in the 1970s, and since then eighty percent of lowland coffee production has moved to the highlands where farmers can take advantage of lower temperatures,⁵⁴ which helps avoid the coffee rust fungus. However, rising minimum temperatures allowed the fungus to spread to higher altitudes where coffee is now grown.⁵⁵ Larger producers in the lowlands shifted towards more profitable crops such as sugar as a result of cost increases due to the 2012 coffee rust epidemic.⁵⁶ Now small-scale farmers produce 98 percent of coffee in Guatemala for the high quality specialty market; 122,000 of 125,000 small-scale farmers grow coffee on 1.7 to 2 hectares.⁵⁷ Overall, recovery of coffee production has been slow since the coffee rust epidemic and drought.⁵⁸



Other Non-Traditional Crops

Non-traditional commercial agricultural production largely began in 1980s and then grew and diversified in the early 1990s in Guatemala.⁵⁹ Twelve non-traditional agricultural product categories were selected for this analysis (green beans; carrots and turnips; cauliflowers and broccoli; mangoes, mangosteens, guavas; melons, other including cantaloupes; papayas; peaches and nectarines; peas, green; pepper, piper spp; watermelons, strawberries, and sweet potatoes). Although the gross production value of these crops only equated to 5.35 percent of total gross agricultural production value in 2014 in Guatemala, this sector has quickly expanded.⁶⁰ In 2014, MAGA estimated that 10 percent of employment (equivalent in permanent jobs) in agricultural activity was made up from production of the selected non-traditional crops.⁶¹ Production quantities measured in tons have tripled for these products since 1993, the first year of available production data for all twelve crops.⁶² Figure 10 breaks down the percentage change for four production indicators for the 12 outlined non-traditional crops from 1993 (the first year of available data for all of the crops) to 2014. It shows the highest relative growth in melons, carrots and turnips.

Non-traditional farmer cooperatives were formed in order to help non-traditional commodity production to be adopted and grow.⁶³ However non-traditional agriculture has also faced growth challenges. A study

	Gross Production Value 1000 Int. \$	Area harvested ha	Yield hg/ha
Beans, green	320%	208%	37%
Carrots and turnips	703%	532%	27%
Cauliflowers and broccoli	13%	165%	-57%
Mangoes, mangosteens, guavas	5281%	53%	-13%
Melons, other (inc. cantaloupes)	32%	836%	20%
Papayas	1026%	659%	-50%
Peaches and nectarines	280%	-20%	31%
Peas, green	5%	422%	-14%
Pepper (piper spp.)	351%	58%	8%
Watermelons	141%	-45%	-11%
Strawberries	149%	45%	66%
Sweet potatoes	-51%	150%	2%

Source: UN FAOSTATS
*Gross production value is based on the production quantity and a constant price over time.

in the 1990s found that there was a limit to non-traditional crop adoption among small farms.⁶⁴ The study found that “cultivation levels off at 0.35 hectares as farm size approaches 2 hectares and does not increase until farm size exceeds four hectares.”⁶⁵ In Guatemala, 84 percent of family farms were smaller than 1.81 hectares in 2006⁶⁶ and the majority of horticultural production is from small-scale farms.⁶⁷ In addition, in the late 1980s and 1990s, increased pesticide use for non-traditional crops resulted in pesticide resistance and soil degradation.⁶⁸ This led to increased costs for smallholder farmers and decreased productivity.⁶⁹ As of 2006, small holder farmers used 3.4 times more fertilizer per hectare (constant 2009 international dollars) than other farmers in Guatemala.⁷⁰ A 2013 USAID assessment of constraints to horticultural sector growth in Central America also found the following barriers to be the most limiting to Guatemalan horticultural production: access to and cost of credit for small producers and availability and cost of agricultural insurance.⁷¹ Survey results also indicated an inadequate extension system in which local research capacity was limited as well as insufficient connection between horticultural researchers and smallholder farmers.⁷²

Growth in Production Value

Additionally, Figure 11 highlights the crops exhibiting the fastest growth and largest decreases in production value in the last 10 years of available data in Guatemala. Of the six highlighted fastest growing crops, four are considered non-tradition commodities in Guatemala. Oil palm cultivation in Guatemala began in the 1980s, but grew quickly, especially after a rise in global prices in the early 2000s.⁷³ Between 2000 and 2015, the area harvested for palm oil increased by 424 percent and has resulted in a large land concentration and production concentration in the hands of six large producers.⁷⁴

Figure 11: Largest changes in production value, 2004-2014

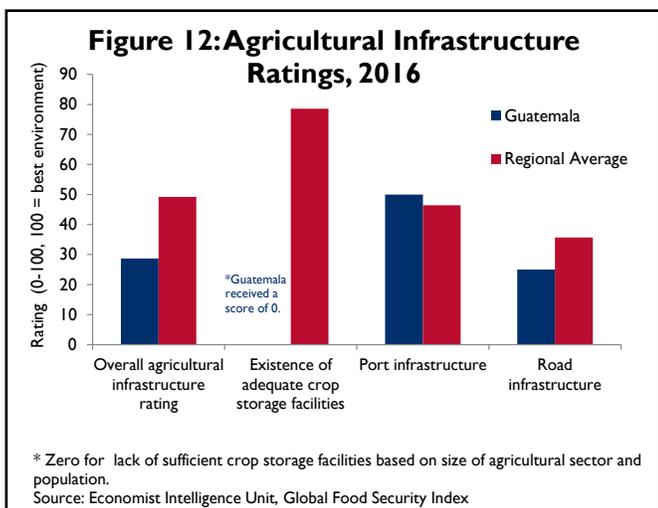
Rubber, natural	641 percent
Oil, palm	415 percent
Palm kernels	376 percent
Vegetables, leguminous	274 percent
Pineapples	242 percent
Chillies and peppers, green	223 percent
Cottonseed	-23 percent
Bastfibers, other	-23 percent
Cauliflowers and broccoli	-52 percent
Watermelons	-57 percent
Wheat	-83 percent

Source: FAOSTATS

AGRIBUSINESS AND TRADE

Infrastructure

Infrastructure is an often cited challenge for Guatemala’s agricultural sector. The Economist Intelligence Unit (EIU), as part of its Global Food Security Index, measures a country’s agricultural infrastructure, which includes existence of adequate crop storage facilities, extent and quality of road infrastructure, and quality of ports’ infrastructure. Guatemala’s performance is compared to the regional average of other USAID Latin American and Caribbean (LAC) countries in the EIU’s Global Food Security Index in Figure 12. In 2016, Guatemala underperformed compared to the USAID LAC regional average in the EIU’s overall agricultural infrastructure rating, receiving a 28.7 out of a 100 while the region received a 49.2. Guatemala performed better in its rating of port infrastructure, but received a lower rating in road infrastructure and a zero for adequacy of crop storage facilities.



Access to Finance

Access to finance is one challenge facing agriculture technology and infrastructure improvements. Credit to the agricultural, forestry and fishing sector increased by 56.6 percent from 221.4 to 346.7 million US dollars from 2006 to 2011.⁷⁵ However, as a share of total credit, credit to the agricultural sector fell from 6.1 percent to 5.5 percent in the same time period.⁷⁶ In the EIU’s Food Security Index measurement of access to financing for farmers, Guatemala scored slightly less than the regional average, receiving a 50 compared to 51.8 out of 100 indicating only some multilateral or government financing.⁷⁷ The data correspond with the World Bank’s argument that the banking sectors of developing countries

have loan portfolio shares to the agricultural sectors that are smaller than agriculture's share of GDP, which limits not only investment in agriculture, but also growth of the sector.⁷⁸ Overall investment in Guatemala is also hindered by the country's unfavorable regulatory environment, which investors have argued suffers from unnecessary complexity and corruption.⁷⁹

Agricultural Insurance

The agricultural sector is also limited by a lack of agricultural insurance options. In 2010, only one company in Guatemala offered agricultural insurance, and insurance penetration rates were less than one percent of total crop area.⁸⁰ However, at the end of 2016, MiCRO, a specialty reinsurance company, worked with Aseguradora Rural and Banrural to launch an index-based natural catastrophe microinsurance product, Esfuerzo Seguro, aimed at the agricultural and small business sectors in Guatemala.⁸¹ Index insurance pays benefits based on a predetermined weather index that measures deviations from set parameters, and not on direct measurements of losses. This process removes traditional claims assessments, and aims for a faster and more objective process. However, it also faces basis risk, which is when a farmer's losses do not match the index measurements. Esfuerzo Seguro covers "business interruption losses from excessive rainfall, severe drought and earthquake," and is the first index insurance offering to rural Guatemalans.⁸² However, a brief by the International Food Policy Research Institute (IFPRI) on index insurance also stressed that garnering demand for insurance can be a challenge in populations that have not been previously insured.⁸³ Issues can arise if farmers do not understand or under or overvalue the insurance product. IFPRI argues that index insurance product uptake may prove ineffective without financial literacy training for buyers.⁸⁴

Trade

In the mid-1990s, Guatemala adopted a policy of trade liberalization and entered into several free trade agreements (FTA) and the WTO in 1995. In 2006, the United States, Guatemala, Costa Rica, El Salvador, Honduras, Nicaragua, and the Dominican Republic entered into the Dominican Republic-Central America Free Trade Agreement (CAFTA-DR). CAFTA-DR allows for most agricultural and agro-industrial products from Central America to have direct access to the US market.⁸⁵ It has resulted in \$53 billion in total good trade between the trading partners in 2015 alone.⁸⁶ In 2012, the EU and Central America signed an Association Agreement, which was applied at the end of 2013.⁸⁷ The agreement eliminated most import tariffs, strengthened regional integration in Central America through more consistent trade regulations, and generated more trade predictability between the regions.⁸⁸ Guatemala also has preferential trade agreements with Chile, Colombia, the Dominican Republic, and Taiwan and partial preferential trade agreements with Belize, Cuba, and Venezuela. Guatemala has been part of the Central American Common Market since 1961, but is also in the process of establishing the Central American Customs Union. A key element of several of these trade agreements is the reduction of agricultural product tariffs.⁸⁹

Agricultural exports⁹⁰ have made up at least 45 percent of total Guatemalan exports each year from 2012 to 2015. According to the International Monetary Fund's Direction of Trade Statistics, the United States (33.9 percent), El Salvador (11.7 percent), Honduras (7 percent), Nicaragua (5.9 percent), Costa Rica (4.5 percent) and Mexico (4.3 percent) were the top importing countries of total goods from Guatemala in 2016.⁹¹

Figure 13 shows the top markets for Guatemalan agricultural exports in 2015. Guatemala's largest export market for agricultural goods was the United States, with Guatemalan agricultural exports to the U.S. valued at 1.7 billion U.S. dollars in 2015. El Salvador and the Netherlands followed the United States in agricultural exports at .36 and .26 billion U.S. dollars respectively in 2015. El Salvador has been the second largest agricultural export market for the last four years and remained stable in value. On the other hand, the Netherlands as an export market has grown by 56 percent since 2012 when it was the sixth largest export market for Guatemalan agricultural goods.⁹²

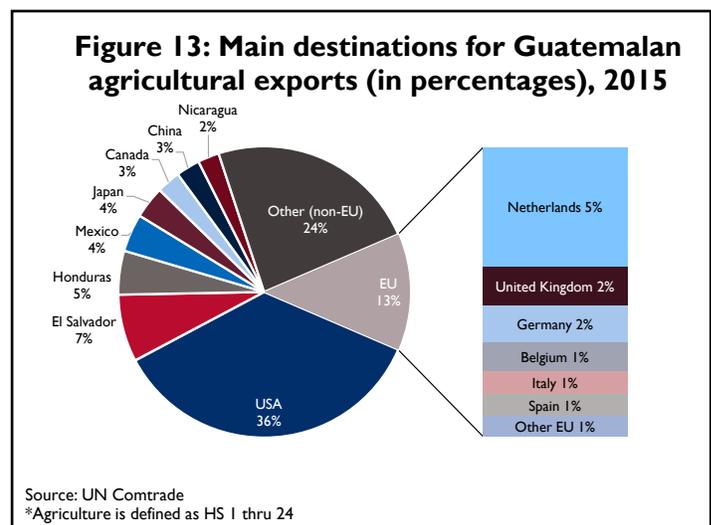


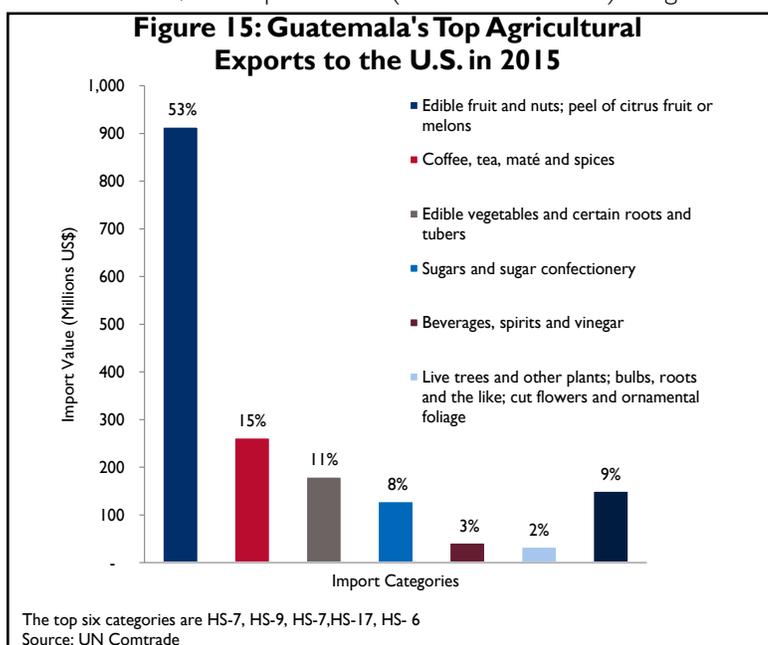
Figure 14 highlights the top three agricultural export categories to the world in 2015, their total value, top three recipient countries, and share of the commodity that was exported to them. The U.S. is the largest importer in each of the listed commodity categories.

The US and El Salvador have historically been the top two export markets for Guatemala.⁹³ Figure 15 illustrates top agricultural exports in 2015 to the U.S. from Guatemala. Two HS categories (HS-7 and HS-9), edible fruit and nuts and coffee, tea, mate and spices, each

FIGURE 14: TOP THREE AGRICULTURAL EXPORT CATEGORIES			
COMMODITY	VALUE OF AGRICULTURAL EXPORTS TO THE WORLD, 2015	PERCENTAGE OF AGRICULTURAL EXPORTS TO THE WORLD, 2015	TOP THREE RECIPIENT COUNTRIES
Edible fruit and nuts; peel of citrus fruit or melons ¹	\$ 1,055,520,101	22%	USA (87%), Gibraltar (2%), El Salvador (2%)
Sugars and sugar confectionery ²	\$ 973,347,680	20%	USA (13%), China (12%), Ghana (8%)
Coffee, tea, maté and spices ³	\$ 910,570,164	19%	USA (29%), Japan (14%), Canada (9%)

Source: UN Comtrade
¹HS-7; ²HS-17; ³HS-9

accounted for 53.3 percent and 15.3 percent of total exports from Guatemala to the U.S. at 915 and 263 million, respectively. For El Salvador, the top two HS (HS-22 and HS-15) categories were beverages, spirits, vinegar, and animal or vegetable fats, oils or waxes, which made up 37 percent of agricultural exports from Guatemala.

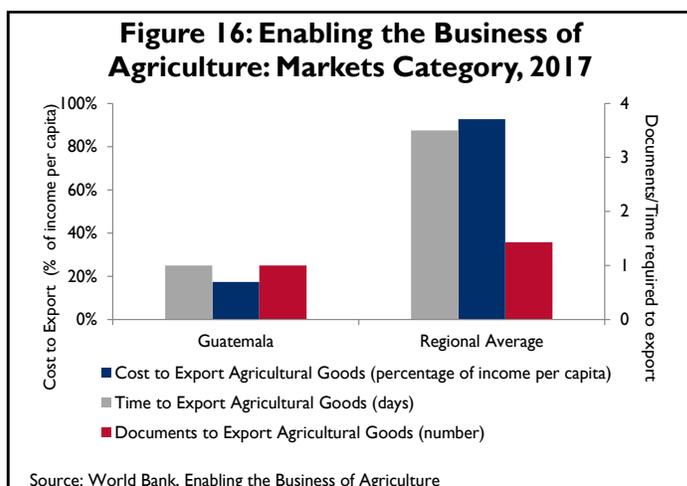


Customs

Even though Guatemala faces certain customs bottlenecks when exporting agricultural products, data from the World Bank's Enabling the Business of Agriculture database shown in Figure 16 indicate that possible exporting bottlenecks such as the number of documents, the time, or cost necessary to export agricultural goods are well below the regional average. However historically, especially in the 1990s, small holder farmers of non-traditional crops did face export issues related to U.S. phytosanitary standards and high levels of pesticide residue.⁹⁴

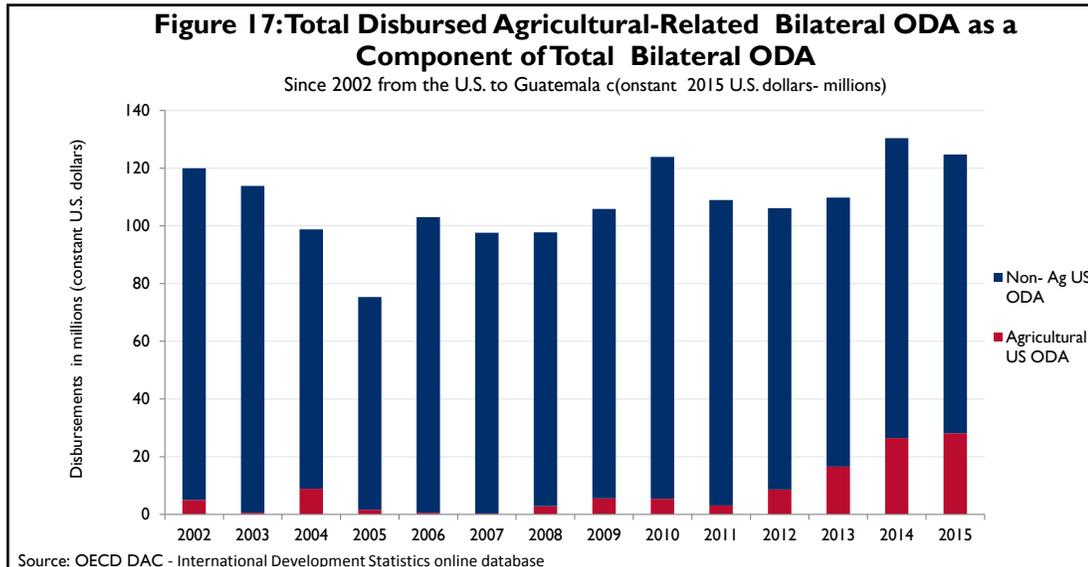
On the other hand, Guatemala has faced criticism of its customs procedures and possible non-tariff trade barriers relating to imports. Other Central American coun-

tries and the US have experienced bottlenecks associated with sanitary and phytosanitary policy measures, which are changed often without WTO notification, and other technical barriers with Guatemalan Customs (SAT) when importing products to Guatemala.⁹⁵ The World Bank concluded in a 2014 study that although Central America has the "lowest prevalence of technical nontariff measures in the world," 15 percent of product lines are still exposed to nontariff measures and 30 percent of total imports exposed to non-tariff measures.⁹⁶ In Guatemala, sanitary and phytosanitary policy measures and technical barriers to trade affect agricultural trade more than any other trade sectors, except for technical trade barriers on oil mineral trade.⁹⁷ The 2014 World Bank study concluded that "an effort to streamline non-tariff measures in Guatemala would likely reduce poverty" by reducing food costs.⁹⁸



OFFICIAL DEVELOPMENT AGRICULTURAL RELATED ASSISTANCE & SELECTED PROJECTS

Since 2002, Guatemala has received 4.4 billion U.S. constant dollars in bilateral official development assistance⁹⁹ (ODA) from all donors.¹⁰⁰ Of which, 5.2 percent has gone towards the agricultural sector. While overall disbursements from all bilateral donors have fluctuated since 2011, assistance to the agricultural sector has almost tripled, growing from 12.8 million to 36.8 million U.S. constant dollars. During this period, Nicaragua and Honduras not only received both higher levels of overall bilateral ODA, but also higher portions of bilateral ODA that went to the agriculture sector.¹⁰¹ Meanwhile, El Salvador, Costa Rica, and Panama received lower bilateral ODA and agricultural assistance levels during this same period.¹⁰²



Since 2002, the U.S. has been the largest bilateral overall donor to Guatemala for all sectors of ODA as well as to the agricultural sector, 34 and 50 percent respectively.¹⁰³ Figure 17 focuses on US ODA disbursements, total and agricultural, to Guatemala from 2002 to 2015. This chart highlights that the previously mentioned overall growth in agricultural bilateral ODA was driven by growth in disbursements from the U.S. since 2011.

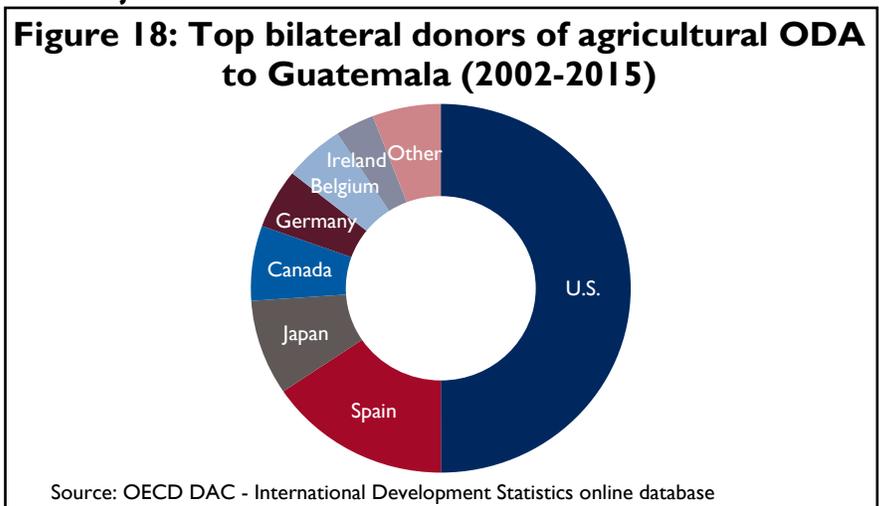
Figure 18 shows the top eight bilateral donors of agricultural ODA to Guatemala from 2002-2015. For overall bilateral ODA disbursements to Guatemala from 2002-2015, the U.S. was followed by Spain and Japan. However, the level of bilateral ODA from Spain and Japan to Guatemala has fallen significantly since 2011 and 2006, respectively.¹⁰⁴ In 2014 and 2015, Germany and Belgium were the second and third highest contributing donors of agricultural bilateral ODA to Guatemala.¹⁰⁵

Figure 19 illustrates the ten highest funded agricultural projects from 2011 to 2015 in Guatemala. Eight projects were supported by the U.S., while two projects were funded by Germany and Canada. The featured projects broadly focus on food security and nutritional issues, such as Paisano and Segamil, as well as agricultural sector development, which are discussed below.

Highlighted Agricultural Sector Development Projects

• **Rural Value Chains Projects:**¹⁰⁶ These two U.S. funded projects, each focusing on separate regions, have received 22.8 percent of U.S. agricultural related ODA from 2011 to 2015. Both projects sought to improve household access to food by expanding and diversifying rural incomes. The projects in Huehuetenango and San Marcos specifically focused on expanding poor rural households' participation in horticulture and coffee value chains and linking them to local and international markets.

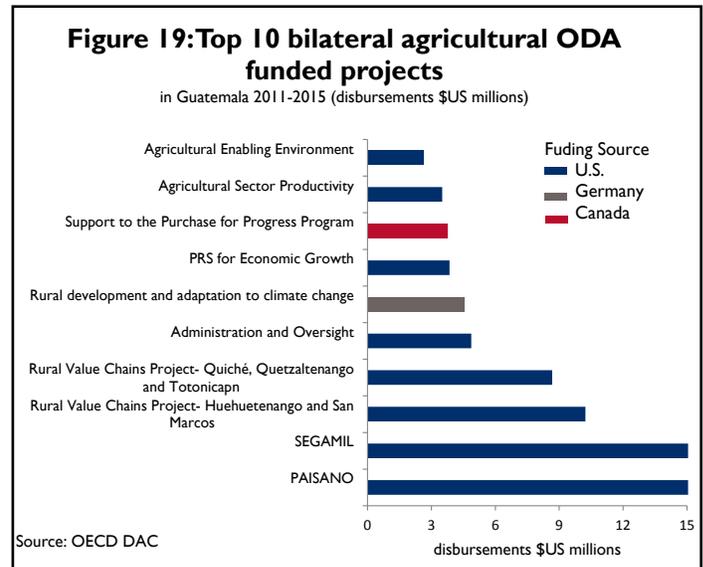
• **Agricultural Sector Productivity:**¹⁰⁷ This U.S. funded project received 4.2 percent of U.S. agricultural ODA from 2011 to 2015, and fo-



cused on sustaining the productivity of the agricultural sector through investments that foster increasing returns to land, labor, and capital. The project targeted interventions to male and female producers, which provided improvements in technology and management practices, expanded access to markets and credit, increased organizational and market efficiency, and restoration and protection of resiliency in production and livelihood systems.

• **Rural Development and Adaptation to Climate Change:**¹⁰⁸ This five year German-funded project began in 2013, and has received 54.3 percent of agricultural related German assistance to Guatemala from 2011 to 2015. Due to Guatemala's high exposure to impacts from climate change, this project is working with the public and private sector on of environmental management and adaptation to climate change in selected regions. Pilot projects were launched in El Progreso and Baja Verapaz provinces.¹⁰⁹

• **Support to the Purchase for Progress Program:**¹¹⁰ The Canadian funded project received 44.1 percent of agriculture related Canadian assistance to Guatemala from 2011 to 2015. It supported the World Food Program's (WFP) Purchase for Progress (P4P) Program in Guatemala, and worked to improve food security and increase the income of low-income farmers in Guatemala by connecting them to markets. The project provided technical assistance and shared best practices among approximately 2,890 small-scale farm families on crop management and technologies to increase quality and quantity of yields, promoted post-harvest management to reduce losses, assisted 25 farmer organizations to increase sales and receive fair market prices from buyers, purchased through WFP of about 7,261 metric tons of the crop surpluses produced by small-scale farmer organizations; and strengthened the business management skills of 25 small-scale farmer organizations and increase women farmers' participation, representation and skills.



CONCLUSION

Even though the agricultural sector is not the largest contributor to Guatemala's GDP, the sector's importance stems from it acting as a large source of employment and food security to a large portion of Guatemalan citizens. However, the challenges it faces, such as poor infrastructure, exposure to natural disasters, and access to financing, serve as high barriers of entry and expansion to small holder farmers. Small holder farmers further face land tenure barriers. The result in Guatemala is a high concentration of large-scale agricultural production of high-value crops with considerable challenges to the growth of small farms.

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To access the data, please visit the EADS International Data & Economic Analysis (IDEA) website at idea.usaid.gov.

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

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