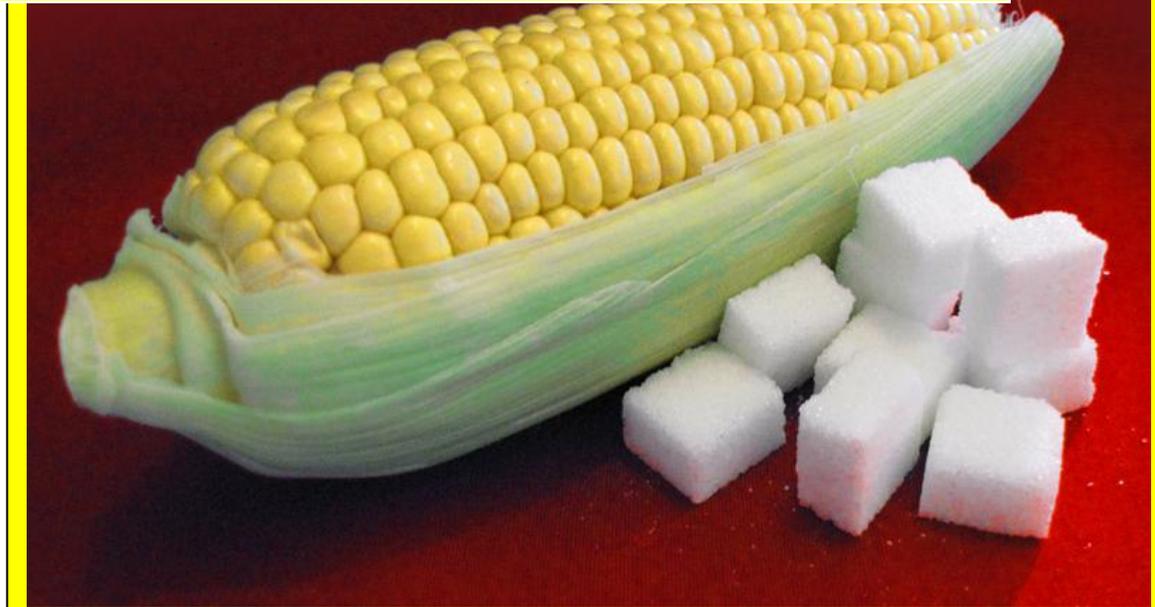


**2013**

**Commercial Farming in Guatemala  
Correlated with Chronic Malnutrition  
for Indigenous Mayan Population**



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“The gods made the first Maqya-Quices out of clay. Few survived. They were soft, lacking strength; they fell apart before they could walk.

Then the gods tried wood. The wooden dolls talked and walked but were dry; they had no blood or substance, no memory and no purpose. They didn’t know how to talk to the gods, or couldn’t think of anything to say to them.

Then the gods made mothers and fathers of corn. They molded their flesh with yellow and white corn.

The women and men of corn saw as much as the gods. Their gaze ranged over the whole world. The gods breathed on them and left their eyes forever clouded, because they didn’t want people to see over the horizon.”

*Popol Vuh*<sup>1</sup> (K’iche’ Mayan creation text, title translated as “Book of the Community”)

“Sown to be eaten, it is the sacred substance of the men who were made of maize. Sown to make money, it means famine for the men who were made of maize.”

*‘Men of Maize’ Miguel Angel Asturias*<sup>2</sup>

“... those who sow maize for profit leave the Earth empty of bones, because it is the bones of the forefathers that give the maize, and then the Earth demands bones, and the softest ones, those of children, pile up on top of her and beneath her black crust to feed her.”

*‘Men of Maize’ Miguel Angel Asturias*<sup>3</sup>

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<sup>1</sup> Anonymous. [revision of original document] Dennis Tedlock. *Popol Vuh: The Mayan Book of the Dawn of Life*. 2<sup>nd</sup> ed. 2011. [translation]

<sup>2</sup> Asturias, Miguel Angel. *Men of Maize*. Buenos Aires: Dell Publishing Co., Inc., 1975. [translation]

<sup>3</sup> Asturias, Miguel Angel. *Men of Maize*. 1975. [translation]

## I. PREFACE

The data for this study has been drawn from international agencies with the professed goal of collecting and organizing statistical data for the bettering of the economies participating in the global market. Data from agencies primarily concerned with regional economic development for the advance of global trade and development such as The World Bank (WB), The Food and Agricultural Organization of the United Nations (FAOSTAT), and The National Institute of Statistics of Guatemala (INE), have been reviewed and used. Data from agencies primarily concerned with advancing social welfare and regional standards of living has also been included, these include United Nations International Children's Emergency Fund (UNICEF), The World Health Organization (WTO), and The United Nations Development Programme (UNDP). Data from a wealth of academic sources documenting the life and challenges of the impoverished Mayan natives of Guatemala, as well as select primary accounts have been integrated into this essay as well.

The data in this essay compares changes in the quantities of crops produced, the percentage of crops exported rather than consumed domestically, and the prices of the Maya population's staple crops; maize and beans. The data covers a 10-year span of time, contrasting the year 2001 with 2010. This data interval was chosen simply because it avoided the devastating civil wars in Guatemala which lasted until 1996, which in addition to the damage to human life, wreaked havoc on the economy and halted many sectors of production crucial to a socio-economic analysis. As 2010 is the most recent publication of complete data in all of the economic sectors analyzed, this 10-year interval best serves to capture the adjustments in economic outputs & inputs over a recent period of time. This data is then compared to various markers of economic power to determine if there is a significant correlation between agricultural

production trends and the ability of people in Guatemala, particularly the Mayan people, to purchase the basic foodstuffs they need to meet their daily needs. The markers of economic power used are the Income Gini Coefficient, the Multidimensional Poverty Index (MPI), and the PPP GNI or the Gross National Income per capita converted to international dollars using purchasing power parity.

This essay concerns trends in Guatemala's domestic agricultural production within the corporate commercialized farming industry, and how these changes relate to the distribution of food within the nation of Guatemala. Focused upon, is the variation in the degree of agricultural production which is produced as cash crops to be exported, as opposed to production for local consumption. Particularly the study uses monetary measures of income and purchasing power within the population with a specific focus on poverty within the indigenous Mayan population.

The hypothesis of this research was that as the intensification of land for agricultural use increased, economic power and consequently rates of malnutrition would decline among the urban population and increase among the rural populations, particularly populations which were either not fully integrated into the wage labor system or were among the lowest earning occupations. The reasoning for this was that as the production of cash crops, or primarily export-oriented agricultural production increases, the degree of poverty and malnutrition in the overall population would decrease. This would be due to the construction of infrastructure and transportation systems in the country, as private industry oriented the economy towards participation in the global market. As the construction of infrastructure resulted in increased urbanization, the concentration of the domestic market would result in an incrementally raised standard of living for the urban population alone. However, the appropriation of land for use in both cash crop production and for the production of food for sale to the domestic population

presents a disadvantage for populations not integrated into the wage-labor system and populations in the lowest earning occupations. These populations previously engaged in small-scale agricultural production would be eventually forced to sell off their land to the large-scale production corporations as land taxes and other variables, such as hunger brought on by decreased yields due to environmental conditions, required them to utilize monetary currency to either pay bills or buy food. With the loss of their land previously used for self-subsistence, this population would be forced to engage in wage-labor to buy their food, likely occupations which require a large, unskilled labor force, such as hard labor, factory work, and manual agricultural labor for large corporations. These jobs would be by their profit-oriented nature, very low wage jobs which would create a high rate of poverty and malnutrition among this particular population.

From these deliberations, it can be hypothesized that in such a situation the indigenous Maya population would depict very low levels of purchasing power which would result in high rates of malnutrition in comparison to the overall population. Research has found that high rates of malnourishment are particularly concentrated among the rural agricultural worker class, particularly the indigenous populations of the region, which also have a significantly lower salary than the average of the population as a whole.

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## II. INTRODUCTION

The mass privatization of Guatemala's arable land to commercialized farming corporations results in the expansion of the production & export of cash crops rather than the production of subsistence goods for domestic consumption. This trend has greatly undermined the ability of the rural Guatemalan people to sustain themselves. The farmland in the nation is used primarily for cash-crop agriculture which in turn makes it so a disproportionate amount of food-goods are available for local consumption which raises the prices on these goods due to scarcity. The people who were previously land-owning, self-sustaining farmers in their own right are now becoming reliant on the very low wage jobs within the commercialized farming industry to buy their food. The resulting lack of purchasing power among rural Guatemalans, particularly of the indigenous Mayan population, has resulted in wide spread malnutrition and poverty in Guatemala. However, while the standard of living for rural Guatemalans either stays stagnant or declines, the income of the small group of wealthy Ladino landowners is climbing as they increasingly convert what was previously land used for growing staple food crops to much more profitable crops such as sugar, bananas, and oil palm fruit for export to the wealthy nations of the world. In the attempt to develop their economy, Guatemala is urbanizing, privatizing land, and expanding commercialized farming; all strategies which impoverish the Maya of their cropland, creating vast malnourishment and forcing the Maya into a cycle of debt-slavery similar to that of the colonial era. As commercialized farms expand in Guatemala, the Maya's cropland is split up forcing them in the wage-labor economy, this results in an increase in malnutrition among the rural populations, particularly populations which are either not fully integrated into the wage labor system or are among the lowest earning occupations.

Guatemala is a lush nation located in Central America just South of the U.S. and is on the border of Mexico and Belize to the North, and Honduras, and El Salvador to the Southeast. The Human Development Index (HDI) is a widely used economic measure from the United Nation's Development Program (UNDP), which calculates economic growth within nations around the globe to determine how it affects levels of human development within the nation<sup>4</sup>. Variables calculated into determining a nation's score are; life expectancy, education, income, inequality, poverty, gender equality, sustainability, demography, access to basic technology, and economic trade and production<sup>5</sup>. In the most recent 2013 publication of the United Nation's Development Programme's (UNDP) Human Development Index (HDI), Guatemala ranked low at #133 out of the 186 countries with workable data collected<sup>6</sup>. On a scale of 1.000 as the marker of the highest HDI in a nation, Guatemala has a score of 0.581, an improvement of only 0.149 from its 1980 score of 0.432<sup>7</sup>. Guatemala's low ranking is primarily due to the nation's high level of poverty, high gender inequality in the labor force, high maternal mortality ratio, high infant mortality rates, and a low life expectancy within the rural population<sup>8</sup>. Guatemala places above only one nation in the entirety of Latin America and the Caribbean, Haiti, which ranks at #161 on the HDI with a score of 0.456<sup>9</sup>. Guatemala's HDI score is just barely ahead of the vastly impoverished nations of Ghana (#135) & India (#136), while in comparison, the United States of America

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<sup>4</sup> United Nations Development Programme. *Human Development Report: Guatemala 2013*. 2013. <http://hdr.undp.org/en/>.

<sup>5</sup> United Nations Development Programme. *Human Development Report: Guatemala 2013*. 2013.

<sup>6</sup> United Nations Development Programme. *Human Development Report: Guatemala 2013*. 2013.

<sup>7</sup> United Nations Development Programme. *Human Development Report: Guatemala 2013*. 2013.

<sup>8</sup> United Nations Development Programme. *Human Development Report: Guatemala 2013*. 2013.

<sup>9</sup> United Nations Development Programme. *Human Development Report: Guatemala 2013*. 2013.

ranks #3 on the HDI with a high score of 0.937<sup>10</sup>. Knowledge of the history of Guatemala is absolutely essential in understanding the roots of the nation's economic situation, as well as nature of the unequal relationship between the Ladino & Maya populations.

The indigenous Maya population was colonized c. 1524 by the Spanish whom turned the region into a cash crop economy for almost three centuries<sup>11</sup>. The Spanish seized the land of the indigenous people, mostly Maya, and through violence and hunger from the loss of their lands, the Maya were forced to work for the Spanish in the cultivation of cash crops on their land<sup>12</sup>. After gaining independence from Spain in 1821, control of Guatemala quickly fell to a long series of dictators whose control over the people was facilitated by the United Fruit Company (now called Chiquita), which further seized large tracts of land from the natives in order to expand the production of its cash crops, such as sugar, bananas, and coffee<sup>13</sup>. Throughout the Cold War, the United States also backed both the efforts of the UFC as well as dictators in their effort to halt the spread of communism and efforts at the redistribution of land in the nation<sup>14</sup>. Civil war broke out in Guatemala in 1960 and lasted until 1996, as leftist groups such as The Guerrilla Army of the Poor (EGP) and the Organization of the People in Arms (ORPA) sought to overthrow the tyrannical government and its army<sup>15</sup>. The leftist groups joined together with others in the region to form the Guatemalan National Revolutionary Party (URNG). Notably, the

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<sup>10</sup> United Nations Development Programme. *Human Development Report: Guatemala 2013*. 2013.

<sup>11</sup> Central Intelligence Agency. "Central America and the Caribbean: Guatemala". *The World Factbook*. U.S.A: U.S. Government, February 13, 2013. [www.cia.gov](http://www.cia.gov).

<sup>12</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>13</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>14</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>15</sup> *Guatemalan National Revolutionary Party*. 2013. [www.urng-maiz.org.gt](http://www.urng-maiz.org.gt).

URNG's symbol is an open ear of maize- a symbolization of their direct opposition to the cash-crop oriented economics of the dictatorships and UFC<sup>16</sup>.

The history of the nation is important because the forced appropriation of land from the Maya people by the descendants of the Spanish colonizers, the Ladinos, is still a large issue today, and one of the major causes of the poverty of the Maya. In the text *Guatemala: A Guide to People, Politics, and Cultures*, Trish O' Kane goes as far as to refer to Guatemala by its longstanding nickname, the "banana republic" for it is colonial markers of the extreme unequal distribution of land and wealth, its unequal development, and its heavy dependence on both its export crops and foreign investment<sup>17</sup>. In fact, Guatemala's economic development has changed only remotely over the centuries, the nation is still based on the original colonial model of landholding elites appropriating the land of the indigenous population, and then employing them at extremely low wages to increase their own profits, while reinvesting very little back into the local economy<sup>18</sup>. The agricultural industry still leans heavily on the cultivation of cash crops for the export industry, and land is still appropriated from the Maya for this purpose, increasing the fortunes of the rich while systematically trapping the Maya people in a vicious cycle of poverty.

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<sup>16</sup> *Guatemalan National Revolutionary Party*. 2013.

<sup>17</sup> O' Kane, Trish. *Guatemala: A Guide to People, Politics, and Culture*. New York: Interlink Publishing Group, Inc., 1999. 42.

<sup>18</sup> O' Kane, Trish. *Guatemala: A Guide to People, Politics, and Culture*. 42.

### III. DISTRIBUTION OF ECONOMIC POWER

The Central Intelligence Agency's *World Factbook* hosts an expansive collection of statistics and other data on the nations of the world, ranging from history, population, government, and the military to economics, energy use, and communications and transportation systems. Guatemala is rife with poverty, violence, and malnutrition and an astonishing 73% of the indigenous population which make up 40% of the entire nation's population, live in poverty, and around 50% of the nation's children under the age of 5 are moderately to severely malnourished<sup>19</sup>. Currently, as of 2012, 54% of the entire population of Guatemala, or roughly 7,613,477 people, are at or below the poverty line<sup>20</sup>. The nation has both the highest population growth rate in Latin America at 1.948% and the youngest population with around half being younger than 19 years of age<sup>21</sup>. Income distribution is vastly unequal and mainly divided along the lines of who owns land and who doesn't, the lowest 10% hold only 1.3% of the nation's wealth while the highest 10% hold 29.9%<sup>22</sup>.

In *Table 1: Demography; 2001, 2010 [Guatemala]*, the statistics show currently over half of the population of Guatemala live in rural areas, the majority of which are both employed in agricultural production and are of Maya ethnicity (Table 1). The contemporary urban capital of the nation is Guatemala City, where a majority of Spanish-speaking 59.4% of Ladino and European population reside, as well as the majority of the middle and upper class population<sup>23</sup>.

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<sup>19</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>20</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>21</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>22</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>23</sup> Central Intelligence Agency. *The World Factbook*. 2013.

Table 1  
Demography; 2001-2010 [Guatemala]

Year	Agricultural Population		Rural Population		Indigenous Population (Maya)		Total Population	
	<i>in millions</i>	<i>percent of total</i>	<i>in millions</i>	<i>percent of total</i>	<i>in millions</i>	<i>percent of total</i>	<i>in millions</i>	<i>percent of total</i>
2010	6,059,000	42.1%	8,330,000	57.9%	5,827,545	40.5%	14,389,000	100%
2001	5,720,000	49.7%	5,793,000	50.3%	4,662,765	40.5%	11,513,000	100%

*Source:* FAOSTAT; 2001, 2010

\*all data values have been rounded to the 1000<sup>th</sup> place

\*Indigenous population constitutes the Mayan groups K'iche (9.1%), Kaqchikel (8.4%), Mam (7.9%), Q'eqchi (6.3%), Other Mayan (8.6%), and indigenous non-Mayan (0.2%)

\*40.5% is FAOSTAT's set approximation of the indigenous population for the years 2001-2010

The 2<sup>nd</sup> half of the population is made up by the Maya, a people indigenous to the land, with a complex culture, social structure, and advanced agricultural techniques. In 2010, near 58% of the population of Guatemala lived in rural settings, and 42% worked in agriculture, mainly Maya who make up about 41% of this ( Table 1). According to many international economics organizations such as the World Bank and the International Monetary Fund, the standard of living is improving in Guatemala. However, even as wealth and economic activity increases in the nation, the living situation of the poor is not improving, and in many cases it is getting worse.

While per capita GNI (Gross National Income) of a nation is a popular measure of poverty, it is only useful in measuring monetary wealth on an average at the macro scale and cannot pinpoint which populations in society are benefiting. While this is much more effective when applied to urban populations, it has very limited use when measuring purchasing power in rural communities. For instance, in the case of the Guatemala, while the GNI of the nation is

increasing the income share of the lowest classes are stagnant or declining and as the population grows, the purchasing power of these people is actually declining in most areas. Data from the World Bank's statistics *World Development Indicators*, while having incomplete data from 2007-2012, shows that income shares in Guatemala have not improved much in the lower classes. The lowest 20% & 10% of the population actually saw a significant decline in their income shares from 2000 to 2006, with the lowest 20% going from 3.54% of the GNI in 2000 to only 3.08 in the year 2006<sup>24</sup>. Similarly, the lowest 10% of Guatemala's population went from making a tiny 1.13% of the GNI in 2000 to only 1.06 in 2006<sup>25</sup>! By using the GNI we can calculate the income of these groups, shown in *Table 2 : Measures of Economic Wealth; 2000, 2006 [Guatemala]*, we can see that while the amount of money which these groups made increased slightly, their actual purchasing power declined in response to other variables in the market.

All variables taken into account, even though the GNI grew by almost \$10 ½ billion between the year 2000 and 2006, the percent of this increase which benefited the poorest 20% and below actually *declined* instead of increased (Table 2 ). This means that the average person living in poverty, the majority of which are rural Maya agricultural workers, saw their monthly wages in the fields go up by around \$5 in a period of 7 years (Table 2). In Howard Leathers and Phillip Foster's text *The World Food Problem*, the issues of both unequal income distribution and malnutrition are noted in the correlation they have with the rising standard of living, both domestically and internationally. As the average income of an individual increases, both the

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<sup>24</sup> World Bank Group. *World Development Indicators*. New York: United Nations, 2013. [www.worldbank.org](http://www.worldbank.org).

<sup>25</sup> World Bank Group. *World Development Indicators*. 2013. [www.worldbank.org](http://www.worldbank.org).

Table 2

Measures of Economic Wealth; 2000, 2006 [Guatemala]

<b>Economic Wealth Measure by Population</b>	<b>2000</b>	<b>2006</b>
<b>Total Population</b>		
<i>Population (total)</i>	<i>11,237,101</i>	<i>13,034,904</i>
GNI	\$19,064,941,281.80	\$29,550,730,543.00
GNI per capita	\$1,730.00	\$2,220.00
<b>Lowest 20% of Population</b>		
<i>Population (20% of total)</i>	<i>2,247,420</i>	<i>2,606,981</i>
Income Share (total)	\$674,898,921.37	\$910,162,500.72
<b>Percent of GNI</b>	<b>3.54%</b>	<b>3.08%</b>
Annual Income per Person (average)	\$300.30	\$349.12
Monthly Income per Person (average)	\$25.02	\$29.09
Daily Income per Person (average)	\$0.82	\$0.96
<b>Lowest 10% of Population</b>		
<i>Population (10% of total)</i>	<i>1,123,710</i>	<i>1,303,490</i>
Income Share (total)	215,433,836.48	333,923,255.14
<b>Percent of GNI</b>	<b>1.13%</b>	<b>1.06%</b>
Annual Income per Person (average)	\$191.72	\$256.18
Monthly Income per Person (average)	\$15.98	\$21.35
Daily Income per Person (average)	\$0.53	\$0.70

*Source:* World Bank, World Development Indicators; 2000, 2006

\*All values are in current USD

\*All data values are approximations rounded to the nearest 10<sup>th</sup>

quantity and variety of food they consume also increases drastically, leaving less for those without such purchasing power<sup>26</sup>. For Guatemala, the affordability of food for the poorest people

<sup>26</sup> Leathers, Howard D., Foster, Phillips. *The World Food Problem: Tackling the Causes of Undernutrition in the Third World*. 3<sup>rd</sup> ed. London: Lynne Rienner Publishers, 2004.

is determined by the consumption patterns of the people they nations exports to, the people who are often in much more wealthier countries of the world, for Guatemala, primarily the U.S.<sup>27</sup>.

## II. PRODUCTION PRIORITIES FOR COMMERCIAL FARMING IN GUATEMALA

Guatemala's primary agricultural products are sugarcane, maize, bananas, coffee, beans, cardamom, cattle, sheep, pigs, and chickens<sup>28</sup>. The most recent data from 2012, shows that the nation exported around \$9.864 billion, largely coffee, sugar, petroleum, apparel, bananas, fruits and vegetables, and cardamom<sup>29</sup>. Imported goods totaled \$15.57 billion and were composed primarily of fuels, machinery, construction materials, grain, fertilizers, electricity, mineral products, chemical products, and plastic materials<sup>30</sup>.

While Guatemala's major export products in the manufacturing industry, the natural resources industry, and in processed livestock products form a large and important part of the nation's economy, as well as their land and labor use, they are not variables which have been included in this study. This is primarily for the reason that the focus of this study is the appropriation of the indigenous population's agricultural land for use in agricultural cash cropping specifically, and the effect that has on access to food in the nation. Therefore non-food sources, while relevant as wage-earning jobs enabling food purchase, are not included in the narrow scope of this study. Also, livestock products are not included because their historically

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<sup>27</sup> Leathers, Howard D., Foster, Phillips. *The World Food Problem: Tackling the Causes of Undernutrition in the Third World*. 2004

<sup>28</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>29</sup> Central Intelligence Agency. *The World Factbook*. 2013.

<sup>30</sup> Central Intelligence Agency. *The World Factbook*. 2013.

high prices greatly limit their consumption by the lowest wage earners in Guatemala, to the degree that vegetables are almost always a more fiscally accessible alternative. In order to measure only the largest-scale agricultural products, only crops which were produced in excess of 99,999 tonnes annually between the years 2001 and 2010 have been analyzed in this study.

Access to food, as aforementioned, has consistently been one of the biggest problems in Guatemala's history due to the long colonization of the nation, which brought both the nation's economic transformation into a cash crop economy, in addition to the prejudice and violence against the indigenous population. The Food and Agricultural Organization of the United Nations (FAOSTAT) provides a wealth of detailed statistics on production, trade, population, and land use among other things on the vast majority of the nations of the world in the *FAOSTAT Database*, which have been used to configure the tables in this study.

As seen in *Table 3: Agricultural Production over a 10 year span;2001-2010 [Guatemala]*, between the years 2001-2010, the primary agricultural products, produced in excess of 999,999 tons were bananas, maize, oil palm fruit, and sugar cane (Table 3). Notably, only one crop, maize, is a food with nutritional value which is also domestically consumed in Guatemala, while oil palm fruit is wholly an export crop as are the majority of bananas (Table 3). However, while the production of maize did increase in this interval by 542,520 tons that is still just a 33.2% increase from its production 10 years ago (Table 3), which is along the lines of a 20% increase in population (Table 3). The majority of Maya grow their own maize however, as it is a staple crop in their everyday diet.

Table 3

Agricultural Production over a 10-year span; 2001-2010 [Guatemala]

Crop	Production (tons) 2001	Production (tons) 2010	Change in tons, 2001-2010	Percentage Change 2001-2010
<i>For production values at or in excess of 999,999 tons in 2010</i>				
<b>Bananas</b>	<b>1,100,000</b>	<b>2,637,570</b>	<b>+1,537,570</b>	<b>+58.2%</b>
Maize	1,091,480	1,634,000	+542,520	+33.2%
<b>Oil Palm Fruit</b>	<b>466,600</b>	<b>1,213,000</b>	<b>+746,400</b>	<b>+61.5%</b>
Sugar Cane	16,934,900	22,216,700	+5,281,800	+23.7%
<i>For production values at or in excess of 99,999 tons in 2010</i>				
<b>Beans (dry)</b>	<b>94,656</b>	<b>196,411</b>	<b>+101,755</b>	<b>+51.8%</b>
Coffee (green)	275,700	247,501	-28,199	-10.2%
Lemons & Limes	130,762	107,796	-22,966	-17.5%
Mangos, Guavas, Mangosteens	82,980	105,909	+22,929	+21.6%
Onions (dry)	105,828	121,744	+15,916	+13.0%
Oranges, Mandarins	120,000	149,504	+29,504	+19.7%
<b>Other Melons; Cantaloupes</b>	<b>188,163</b>	<b>480,434</b>	<b>+292,271</b>	<b>+60.8%</b>
<b>Palm Kernels</b>	<b>46,660</b>	<b>121,300</b>	<b>+76,640</b>	<b>+63.1%</b>
<b>Palm Oil</b>	<b>70,000</b>	<b>182,000</b>	<b>+112,000</b>	<b>+61.5%</b>
<b>Papayas</b>	<b>39,000</b>	<b>203,182</b>	<b>+164,182</b>	<b>+80.8%</b>
<b>Pineapples</b>	<b>101,287</b>	<b>234,326</b>	<b>+133,039</b>	<b>+56.7%</b>
Plantains	266,500	192,607	-73,893	-27.7%
<b>Potatoes</b>	<b>226,578</b>	<b>480,994</b>	<b>+254,416</b>	<b>+52.8%</b>
Tomatoes	174,950	300,193	+125,243	+41.7%
Vegetables*	1,020,501	1,553,445	+532,944	+34.3%
Watermelons	126,150	125,163	-987	-0.7%

Source: FAOSTAT; 2001, 2010

\*Vegetables includes green beans, cabbages & other brassicas, carrots & turnips, cauliflowers & broccoli, chillies & green peppers, garlic, leguminous vegetables, lettuce & chicory, okra, onions, green peas, tomatoes, watermelons, and other melons (such as cantaloupes).

\***BOLD** = production increase in excess of 50%

\*Conversion: 1 ton = 2000lbs

However, the World Bank also tells us that between the years 2000 and 2006, inflation on the price of consumer goods in general within Guatemala went up by 0.6%<sup>31</sup>. The United States Department of Agriculture (USDA) *GAIN Report*; “Guatemala Agricultural Situation Guatemala Corn 2007” is an analysis of the prices of maize from the year 2000 to 2007. The report states that the price of maize went up from \$84/ton or \$0.04/lb in 2000 to \$163/ton or \$0.08/lb in 2006, which is a 100% increase in price over just a 7 year period<sup>32</sup>. So even though the annual income of the lowest rural people increased by \$50-60, inflation caused the price of their staple food, maize, to increase by 100% which means that in 2006 they would pay double what they paid in 2000 to buy maize at the market.

In the text *God and Production in a Guatemalan Town*, anthropologist Sheldon Annis discusses his fieldwork in Guatemala and the economic and social conditions of the nation. Maize or corn, has historically been one of the primary staple crops of Guatemala and the primary food in the diet of the nation’s millions of indigenous Mayan people living in the rural countryside<sup>33</sup>. However for the high degree of importance maize has in the Guatemalan people’s diets, the crop is not produced at a high enough quantity to meet the nutritional needs of the population<sup>34</sup>. Maize is the food of the poor in Guatemala, many people use it because it is cheap and nutritional, resilient, as well as a traditional ethnic meal item when made into corn tortillas<sup>35</sup>.

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<sup>31</sup> World Bank Group. *World Development Indicators*. 2013. [www.worldbank.org](http://www.worldbank.org).

<sup>32</sup> United States Department of Agriculture (USDA). “Guatemala: Agricultural Situation, Guatemala Corn, 2007”. *Global Agricultural Information Network (GAIN Report Database)*. New York: United States Government, 2007. [www.usda.gov](http://www.usda.gov).

<sup>33</sup> Annis, Sheldon. *God and Production in a Guatemalan Town*. Austin: University of Texas Press, 1987. 31.

<sup>34</sup> Annis, Sheldon. *God and Production in a Guatemalan Town*. 1987. 39.

<sup>35</sup> Annis, Sheldon. *God and Production in a Guatemalan Town*. 1987. 33.

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However, maize is not a very profitable crop to produce and so commercial farms turn to crops like sugar instead to reap a higher profit<sup>36</sup>.

Sugar cane is historically one of the crops which has been produced in the largest quantity in Guatemala due to high international demand, the nation produced over 22 million tons in 2010, which represented only a 23.7% increase from the almost 17 million tons produced in 2001 (Table 3 ). However, while the production of sugar did not increase as much as many other crops, sugar is still produced in a quantity many times greater than any crop in Guatemala.

Cash crops that did increases steeply from 2001-1020 however were bananas and oil palm fruit (Table 3). Banana production increased by 58.2% in this period, but only 52.6% of the harvest was exported in 2010, as opposed to 79.4% in 2001 (Table 4 ). The exportation of food crops such as potatoes and tomatoes also decreased significantly in this period, while their production nearly doubled (Table 4). These crops were exceptions however, and the majority of the cash crops had increasingly large quantities of their harvests exported. Coffee, palm oil, and plantains all increased in the percent of their production exported, and watermelons exports nearly tripled (Table 4).

In correlation with the changes in production and exportation the percent of the land's area which has been converted to permanent cropland has increased. In 2001, permanent cropland made up 5.5% of the total land area which nearly doubled to 8.8% by the year 2009<sup>37</sup>. Permanent cropland is an important concept, because it denotes land on which a particular crop is cultivated year round, usually cash crops such as cocoa, coffee, and rubber- as such permanent

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<sup>36</sup> Annis, Sheldon. *God and Production in a Guatemalan Town*. 1987. 39.

<sup>37</sup> Food & Agricultural Organization of the United Nations (FAOSTAT). *FAOSTAT Database*. 2012. [www.faostat.fao.org](http://www.faostat.fao.org).

Table 4

Export-Oriented Agricultural Production over a 10-year span; 2001-2010 [Guatemala]

<b>Crop</b>	<b>Fraction of Production Exported (tons)</b> <b>2001</b>	<b>Percentage of Production Exported</b> <b>2001</b>	<b>Fraction of Production Exported (tons)</b> <b>2010</b>	<b>Percentage of Production Exported</b> <b>2010</b>
<i>For production values at or in excess of 999,999 tons in 2010</i>				
<b>Bananas</b>	<b>873,829/1,100,000</b>	<b>79.4%</b>	<b>1,387,516/2,637,570</b>	<b>52.6%</b>
Maize	6,321/1,091,480	0.5%	7,265/1,634,000	0.4%
<b>Oil Palm Fruit</b>	<b>N/A/466,600</b>	<b>N/A</b>	<b>N/A/1,213,000</b>	<b>N/A</b>
Sugar	1,130,249/16,934,900	6.6%	1,742,083/22,216,700	10.2%
<i>For production values at or in excess of 99,999 tons in 2010</i>				
Beans (dry)	3,786/94,656	3.9%	3,451/196,411	1.7%
<b>Coffee (green &amp; roast)</b>	<b>247,590/275,700</b>	<b>89.0%</b>	<b>235,517/247,501</b>	<b>95.1%</b>
Lemons & Limes	1,578/130,762	1.2%	6,041/107,796	5.6%
Mangos, Guavas, Mangosteens	8,104/82,980	9.7%	15,116/105,909	14.2%
Onions (dry)	17,082/105,828	16.1%	17,925/121,744	14.7%
Oranges, Mandarins	57/120,000	0.04%	102/149,504	0.06%
<b>Other Melons; Cantaloupes</b>	<b>164,891/188,163</b>	<b>87.6%</b>	<b>323,636/480,434</b>	<b>67.3%</b>
<b>Palm Oil</b>	<b>48,899/70,000</b>	<b>69.8%</b>	<b>152,762/182,000</b>	<b>83.9%</b>
Papayas	2,814/39,000	7.2%	12,470/203,182	6.1%
Pineapples	5,957/101,287	5.8%	10,624/234,326	4.5%
<b>Plantains</b>	<b>76,975/266,500</b>	<b>28.8%</b>	<b>107,990/192,607</b>	<b>56.0%</b>
Potatoes	72,745/226,578	32.1%	33,888/480,994	7.0%
Tomatoes	46,229/174,950	26.4%	31,723/300,193	10.5%
Vegetables*	377,482/1,020,501	36.9%	586,427/1,553,445	37.7%
<b>Watermelons</b>	<b>21,340/126,150</b>	<b>16.9%</b>	<b>68,693/125,163</b>	<b>54.8%</b>

Source: FAOSTAT; 2001, 2010

\*Vegetables includes green beans, cabbages & other brassicas, carrots & turnips, cauliflowers & broccoli, chillies & green peppers, garlic, leguminous vegetables, lettuce & chicory, okra, onions, green peas, tomatoes, watermelons, and other melons (such as cantaloupes).

**BOLD**= Exports in excess of 50% of production

\*Conversion: 1 ton = 2000lbs

cropland is often a synonym for plantations, can tell us in part the rate at which commercial farming is expanding<sup>38</sup>. This is important when you note that the majority of this land was appropriated as result of the land area once compromising the indigenous Mayan peoples village area, communal farming plots, and the forestland and streams which had once supported these people's self-sufficient lifestyle. Rigoberta Menchu, a Guatemalan social activist for indigenous rights expands on her own personal account of the effects which the fragmentation of their land had on their ability to procure food for themselves in her biography I, Rigoberta Menchu.

When the government parceled the land out and tried to create divisions within the community - everyone with their own plot, their own bit of land – there wasn't enough for us all to live in one place together. They gave us plots which were very separate, a long way from each other, and many neighbors lived quite a distance away, and the houses were very far apart... They used this method to separate us but the little plots of land weren't big enough to work. We had barely a manzana of land each (1.7 acres)<sup>39</sup>.

The expansion of these commercial farms also results in either, the appropriation or the fragmentation of the Maya's agricultural land, the primary effect of this being that the Maya can no longer produce a sufficient quantity of food crops on their land, increasing their dependence on wage-labor for the commercial farms. Working for these farms also often requires workers to relocate next to them during harvest season as company transportation is only offered seasonally, and getting to the farms on foot is time-consuming and often highly dangerous<sup>40</sup>. Repetitive

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<sup>38</sup> Food & Agricultural Organization of the United Nations (FAOSTAT). *FAOSTAT Database*. 2012. [www.faostat.fao.org](http://www.faostat.fao.org).

<sup>39</sup> Menchu, Rigoberta. *I, Rigoberta Menchu: An Indian Woman in Guatemala*. Ed. Elisabeth Burgos-Debray. Britain: Verso Editions and NLB, 1984. 28. [translation].

<sup>40</sup> Menchu, Rigoberta. *I, Rigoberta Menchu: An Indian Woman in Guatemala*. 1984. 34. [translation].

relocation also decreases the Maya's own ability to cultivate their harvests, leading to smaller food yields, and breaks up a community which is highly interdependent.

However, while such export-oriented production policies are supported by international organization like the World Bank and the International Monetary Fund because they integrate the nation's economy more fully into the global economy<sup>41</sup>, such policies do not tend to produce positive results for many people at all. While the notion of the "trickle-down-effect" has notably raised the standard of living of the upper and middle socio-economic classes and resulted in an increase in urbanization over the last few years, they tend to crush the poorer classes which are utilized as mass, cheap labor to move development forward. In Guatemala, the rural Maya women and their families make up this labor force which allows for the expansion of the commercial farming industry. The allocation of land to export-oriented production is problematic, because the practice relies on the theory of trickle-down economics, which produces unequal costs and benefits across the population. For those in management positions and those employed in the professional service industry, export-oriented economics tend to produce an overall positive effect on these classes ability to access food and other resources. However, as this approach also results in much higher food prices coupled with little to no increase in the minimum wage afforded to workers at the bottom rungs of the agricultural & service sectors, it is these people who feel the costs of the system. Particularly, small landholders and farmers as well as indigenous people see their land appropriated because of rising land taxes, government divisions of communal agricultural plots, and incorrectly filed land claims, which

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<sup>41</sup> Food & Agricultural Organization of the United Nations (FAOSTAT). *FAOSTAT Database*. 2012. [www.faostat.fao.org](http://www.faostat.fao.org).

force them into the low-wage industry due to their inability to produce adequate food on their land<sup>42</sup>.

Lack of food security in Guatemala is due in part to these low wages in the service sector combined with export-oriented production & appropriation of the land. According to The International Food Policy Research Institute, the three pillars of food security are adequate food production, economic access to available food, and nutritional security; all of which are centered around sustainable food production<sup>43</sup>. Worldwide, women make up more than 50% of the labor force engaged in 3<sup>rd</sup> world agricultural production and the majority of the labor force engaged in marketing that food domestically<sup>44</sup>. Gender norms also produce negative impacts on women, particularly in the area of women's health and nutritional needs. Women suffer disproportionately from lack of economic access to food, as they tend to control a much smaller fraction of household wealth than men, and the greatest proportion of food available tends to be consumed by the men, while women's food portions are often shared with their children<sup>45</sup>. When including non-paid domestic work, women also carry a disproportionate amount of the burden as they are primarily responsible for child care, cooking, fetching water, washing laundry, as well as buying clothing and other necessities for the family. Women are often also the primary tenders of domestic gardens and the marketers of any sellable goods produced. Women often engage in

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<sup>42</sup> <sup>42</sup> Menchu, Rigoberta. *I, Rigoberta Menchu: An Indian Woman in Guatemala*. 1984. 45. [translation]

<sup>43</sup> Quisumbing, Agnes R., Brown, Lynn R., Feldstein, Hilary Sims., Haddad, Lawrence., Pena, Christine. "Women: The Key to Food Security." *Food Policy Report*. Washington D.C.: The International Food Policy Research Institute, 1995. 1.

<sup>44</sup> Quisumbing, Agnes R., Brown, Lynn R., Feldstein, Hilary Sims., Haddad, Lawrence., Pena, Christine. "Women: The Key to Food Security." *Food Policy Report*. 1995. 2.

<sup>45</sup> Quisumbing, Agnes R., Brown, Lynn R., Feldstein, Hilary Sims., Haddad, Lawrence., Pena, Christine. "Women: The Key to Food Security." *Food Policy Report*. 1995. 10.

both agricultural work on commercial farms with their husbands, in addition to weaving and other crafts to generate extra income.

In “Women’s Work in the Global Economy” from the text, *Women Worldwide*, global politics professor Juanita Elias discusses woman’s work in the agricultural sector and the many challenges they face being forced to work for the very corporations which are slowly destroying not only their way of life, but their community and families as well. Globally, the greatest amount of woman’s labor force works in agriculture , and as such women play a vital role in the food production process<sup>46</sup>. Rigoberta Menchu, a Guatemalan social activist for indigenous rights expands on her own personal account of the harsh life of a Maya mother working to support her family in her biography *I, Rigoberta Menchu*, in which she recalls the death of her young brothers.

Two of my brothers died in the finca. The first, he was the eldest, was called Felipe. I never knew him. He died when my mother started working. They’d sprayed the coffee with pesticide by plane while we were working, as they usually did, and my brother couldn’t stand the fumes and died of intoxication. The second one, I did see die. His name was Nicholas. He died when I was eight... He was two then. When my little brother started crying, crying, crying, my mother didn’t know what to do with him because his belly was swollen by malnutrition too... Then the caporal told my mother that she could bury my brother in the finca but she had to pay a tax to keep him buried there... So my mother decided that, even if she had to work a month without earning, she would pay the tax to the landowner, or the overseer, to bury my brother in the finca...

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<sup>46</sup> Lee, Janet., Shaw, Susan M. “Women’s Work in the Global Economy”. *Women Worldwide: Transnational Feminist Perspectives on Women*. New York, McGraw-Hill, 2011. 403.

That night the overseer told us... You missed a day's work. You're to leave at once and you won't get any pay... The fifteen days we worked we weren't paid. Not only my mother and I; but my brother had worked fifteen days and wasn't paid either<sup>47</sup>.

Menchu's description of the utter callousness with which the commercial farm treated her and her children with is an all too common story all across Guatemala. The Maya people are looked at as no more than an expendable work force for the most part, and little is done by the government to enforce laws to protect their civil rights. In addition, the jobs which the Maya can get in the fields are very low paid, severely devaluing the work of the people, and their added costs of living keep the Maya employed in a cycle of debt, barely surviving paycheck to paycheck.

#### CONCLUSION.

The pushes by the World Bank and the IMF to industrialize and expand the economy of Guatemala has not translated into an improved standard of living for the vast majority of the rural Maya people in the nation. These organizations are promoting a developmental strategy that calls for economic growth, increased urbanization, the mass privatization of space, and the high consumption of material goods in a wage-labor economy. However, these are all trends in direct opposition to both the indigenous people's cultural and spiritual values and a massive detriment to their very survival. Rather than this approach, a basic-needs developmental approach should be taken to enable the people to develop medicinal care, improve literacy, and produce increased quantities of nutritional food crops. In the attempt to develop their economy, Guatemala is urbanizing, privatizing land, and expanding commercialized farming; all strategies which

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<sup>47</sup> Menchu, Rigoberta. *I, Rigoberta Menchu: An Indian Woman in Guatemala*. Ed. Elisabeth Burgos-Debray. 1984. 38. [translation].

impoverish the Maya of their cropland, creating vast malnourishment and forcing the Maya into a cycle of debt-slavery similar to that of the colonial era.

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