Derrick Freshcorn Ridgemont High School Ridgeway, OH El Salvador, Factor 1 Feeding El Salvador

Early July 1863 the United States was unstable; one of the most memorable battles of a war no American will forget was taking place. The Battle of Gettysburg began on July 1, 1863 and ended on July 3, 1863. This battle of the American Civil War is the most remembered; however other civil wars took place long after this one. More than one hundred years after the American Civil War conflict broke out in the small country of El Salvador sparking the beginning of the Salvadoran Civil War. The Salvadoran Civil war lasted twelve years starting in 1980 after the assassination of Archbishop Romero and exhausted the country's resources. Today, the country struggles with providing food to its citizens because of the war. The inability to supply food to its population has led to many of the Salvadoran citizens becoming malnourished or starving. As a result of the war ending in 1992, the country continues to struggle financially. The recent war also made it hard to import food or sustain the domestic growth. Despite this agriculture is still one of the most important industries in El Salvador producing 25 percent of the country's Gross Domestic Product (GDP).

Salvadoran Civil War guerrilla tactic sabotage deeply impacted agriculture in El Salvador because of guerrilla tactic sabotages by the rebels. The sabotage included the destruction of farms with intentions to cripple the government supporting economy. The value of agriculture dropped by 2.3 percent each year from 1980 to 1986 (Agriculture; El Salvador, U.S. Library of Congress). However, this decline cannot be solely contributed to the rebel sabotage; other factors included land reforms making farms inefficient, as well as the inefficiencies of government policies. Despite some natural occurrences impeding coffee production, human behaviors are largely to blame for the lack of production. Human causes such as a "War Tax" during the civil conflict made for extra expenses. Other expenses to growing coffee were the increased export tax rate decreased because of a lack of yields that made for little investments in the industry. As a result of taxing on exports increasing and the domestic supply of coffee was plentiful the industry struggled. Companies such as Incafe also had longer time periods until payment because of the decline making exporting less attractive to farmers. Restrictions to the coffee industry were short lived as it still is the leading industry in El Salvador; however other food crops were not so productive. The decline of agricultural value is one reason why food has become difficult to obtain in El Salvador. Because of this, basic grains such as wheat, rice, and corn are grown for domestic consumption. Beyond that the leading agricultural industries are coffee, sugar, and cotton. However, despite issues with hunger in El Salvador, agriculture is a leading export revenue producing 80 percent of the country's export revenue. This is because the climate in El Salvador is ideal for growing tropical crops such as coffee, indigo, and sugar. Along with the ideal climate a hybrid common in the country known as Pacamara coffee has helped the Salvadoran coffee industry to flourish (Agriculture; El Salvador, U.S. Library of Congress).

Cotton was rarely grown in El Salvador before World War II, however after the war cotton production boomed when production increased by fifteen times the primary rate. This increase was the result of technological advancements that help cotton to produce against factors such as disease and infestations. Cotton boomed up until the civil war where it plummeted. Civil conflict aided by land reforms caused this plummet in production and impedes increased productions. Cotton production was devastated the most out of all the crops in El Salvador and remains low.

Another common crop to El Salvador is sugar which thrives in the tropical climate of El Salvador. Sugar was most dynamic in the 1980s when production was higher and the amount of land cultivated for sugar was greater. However, sugar farmers experienced trouble when the global value of sugar decreased from

eight and a half cents to 4 cents in United States currency (Sugar; El Salvador, U.S. Library of Congress). This decrease in value did not halt sugar production, but merely impeded production below coffee, making coffee the leading commodity.

Despite the abundance of coffee and sugar productivity other simple grains are harder to grow because of agriculture and land policies in the country. The government of El Salvador has put an emphasis on the production of coffee in order to reestablish a strong economy. This limits the amount of land that can be used for other agricultural purposes such as producing a domestic supply of food. According to Agriculture and Food –El Salvador by Earth Trends only 810 hectares (approximately 2001.55 acres) are used as cropland of that only 4.9 percent is irrigated. Since El Salvador is the most densely populated and smallest country in Central America, 1.6 million citizens in 8000 square miles of land, it is hard to provide food for the entire population. Common grains such as maize (corn) decreased production around the time of the civil war. However, not all grains were devastated by the war. One market only slightly affected by civil issues was sorghum which remained fairly productive. Rice production remained very steady during and after the war, barely affected by the events that devastated other productions. Growing common grains such as sorghum and maize takes up a large amount of land land and if it isn't highly productive it becomes difficult to supply food to the 1.6 million Salvadorans.

The crop aspect of the agricultural industry was not the only one affected during the time, livestock industries such as the cattle industry and the hog industry were affected as well. Before the war, El Salvador's cattle industry decreased by about ten percent and hog industry decreased by about eleven percent. This decline was due in part by civil issues similarly to crops but there were different reasons for this market's decline. Over slaughtering was a key attributing factor of the decline. Farmers began to slaughter and sell their livestock so they wouldn't lose them to land reforms taking place at the time.

Agriculture expands beyond the casual farming; other industries such as fishing can be considered agriculture. In El Salvador fish exports are high but the domestic supply is very low. A majority of the fish market is exported to countries that in other case would be unable to obtain fish. As a result very little is kept for the domestic supply leaving a shortage of food replace by and an economic increase for a small population of the country. Of the fishing industry the most profitable is the shrimp industry, totaling over eighteen million dollars in U.S. currency. The issue in the shrimp industry is the risk of over-fishing; should the domestic supply of shrimp be depleted export revenue in El Salvador would plummet creating an economic collapse. This has urged the country to find other means to help support the economy beyond fishing, intensifying the need to grow crops such as coffee. Government officials in El Salvador have also experimented with creating fish farms to maintain the shrimp population, however in 1987 there were only four operating shrimp farms in the country. This led to the country using a 50 million-dollar loan from France to build on the tuna fishing industry. However, this plan showed results far from promising when the largest tuna port was shut down due to poor management and tuna exports were embargoed in the United States.

Growing food and obtaining food has become difficult in El Salvador. As a result malnourishment is also common among a large portion of the population since the profits of the coffee industry are limited to a small group of the upper class population. According to the World Bank article, "Fighting Malnutrition in Central America" one in every three children under five years of age are chronically malnourished.

To summarize the troubles in El Salvador would be to say there is little food with viable nutrients. The solution seems simple, increase yields and land used for common food production, however implementing it is much more difficult. One way to attack this situation is through this 3-step plan.

Step one: One of the main reasons stated before was the lack of land used for common agricultural practices due in part by government regulations. The government is attempting to restore the economy by

using cash crops to export to developed countries that are unable to make those crops for a variety of reason such as the climate. One of the leading countries that El Salvador exports to is the United States. The government may be persuaded into creating stimulus plans for the lower class using programs that can increase the number of people who work in the agricultural industry. There are a variety of ways this can be done and must be compromised to please as many groups of citizens as possible. Being as the government recently exited a civil war, the situation has been far from ideal. Their reforms have been successful to a small percent of the population most still struggle in the economy.

One step the government has taken that may be in the right direction is their use of loans to look into new industries to increase revenue and diversity, although not very diverse yet. The government should also use research funds and assistance from researchers to research crops in the area. This would allow researchers to improve food productions and improve the quality of content in the food so they can fulfill gaps in citizens' diet while maintaining affordability.

Step two: Once land policies have been made to increase the agricultural production in the country the next step is to determine what the malnourished citizens lack and use that information to determine what crops should be grown in that climate. Developed countries such as the United States can assist in this process in a number of ways. Being a developed country the United States has access to a broad spectrum of research technology. These countries can use this research technology to help determine what the citizens lack nutritionally and what decreases the yields and renders crops less productive. Through certain methods rather than change what crops are used they can change what the crops contain so that they can meet the specific dietary needs of certain groups of people or the country's population as a whole.

It may seem like science fiction but cutting edge genetics has been able to manipulate plants to contain certain nutrients or have different traits to help meet the needs of the area. Developed countries can use these technologies to help the developing countries grow food making the task at hand easier for an already struggling country. Projects like this are done in developed countries often, for example, some varieties of rice have been genetically modified to contain more Vitamin A improving the nutrient value. This can be done to common crops grown in El Salvador such as sugar, wheat, and corn. Crops can also be modified to increase yields so that more food can be grown in a smaller area of land, whether by traits that allow the plat to flourish or by increasing the produce output of the plant, for example, corn has been genetically modified to be drought and pest resistant allowing corn to grown in harsh environments and still produce promising yields, or strawberry plants have also been genetically modified to be resistant to frost allowing them to thrive in more temperate climates. This means for El Salvador crops can be modified to grow more food on the smaller amount of land and meet the nutritional requirements of population.

Step three: Agricultural practices can be changed so that a balance between economic and domestic use can be balanced. Increasing production of sugar and cotton as cash crops as well as the production of more food crops can balance hunger and economic situations. One solution is to switch major income methods so that agriculture is not the focus of the economy to something such as tourism. Tourism could safely redirect the focus of the economy to a more stable source of income and can keep the economy stable while making more food for the citizens. Being located coastally there would be numerous beaches that could make for good resorts. Diversifying the country's revenues would prevent disasters such as epidemics that could ruin other sources of revenue. For example, if coffee is supremely dominate over all other industries and a new virus kills a large portion of the coffee plants the industry would likely collapse by the time resistance can be established. If industries such as livestock, other crops, and services such as tourism could be worked into the revenue there would be more chance of the economy to resist a disaster. Currently the government is using loans from other countries to look into other forms of revenue but the

process has been slow. The biggest urging factor to this research is the slow decline of worldwide coffee prices in recent years which have slowly decreased the export revenue.

Exports however may not be the only solution for economic growth in the country; domestic commerce could also aid in its growth. Should policies be adopted that promoted domestic production the economy could begin to flourish and resources would not be as scarce. Should all these actions take place there is a possibility that the country could solve the food crisis by increasing yields per acre and utilizing that advantage by changing and adopting policies to support the efforts to increase the Gross Domestic Supply of food products.

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