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El Salvador: Sustainable Practices for a Sustainable Future

With over 800 million people in the world facing hunger before they go to bed every night, a solution to global food insecurity is necessary now more than ever. Even though this issue is an obstacle faced by a majority of the planet, it too often goes overlooked by people wondering, "How does this affect me?" In reality, the world is interconnected in such a way that hunger issues in a developing country an ocean away can affect the economy of the United States. It is imperative for this exact reason that countries take initiative in resolving the dilemma of world hunger through the implementation of sustainable agriculture practices.

By definition, El Salvador is a developing country. With a Human Development Index of 0.667, calculated by the education, life expectancy, and per capita income of the country, El Salvador ranks 124 out of 189 countries as of 2019 ("Human Development Reports"). The Republic of El Salvador is led by President Nayib Armando Bukele. This Central American country of only 21,041 square kilometers (about the size of New Jersey) is densely populated with 6,481,102 people ("The World Factbook"). Although 73.4 % of the population is urban, 82% of the land is for agricultural use. While an average family farm is about 2.98 acres, agribusiness farms are significantly larger, averaging at about 209.64 acres. Its tropical geography with temperate uplands makes the country well-suited for cultivating their major exports, coffee, sugar, corn, and beans.

A typical Salvadoran family is drastically different from the typical American family. Considering that the average Salvadoran family is of the lower socio-economic class, they live in small adobe homes, built of mudbrick, wood, and metal scraps. Since most families grow the crops they consume, their diets consist of corn, beans, and rice prepared on a comal which is similar to a griddle made out of clay. The most common jobs in the agricultural and manufacturing sectors of El Salvador earn a minimum wage of $113.70 USD per month ("El Salvador Minimum Wage Rate"). With households receiving such a low income, most families can only afford to support two children. Car ownership is not common among the lower class families resulting in most of them walking or taking the local bus. Because of the lack of money, families normally cannot provide an education for their children; instead, children begin to work in the fields at a young age. Similarly, healthcare is generally not accessible for Salvadorans even though past efforts have been made by the Salvadoran Social Security Institute (ISSS) to cover portions of the

population with public insurance ("Health in the Americas"). While the ISSS was able to successfully cover 26.9% of the population in 2015, they have failed to sustain those numbers since then, only covering 18.4% in 2019. The access in El Salvador to electricity and telephones is disproportionately greater than the access they have to clean water and indoor plumbing. In 2017, 99.49% of the country had access to a cellphone but 61% did not have toilets in their household ("Access to Electricity"). Instead, most families excrete their human waste in outdoor latrines which are easily capable of contaminating the environment.

Currently, low-income families in El Salvador, especially from the countryside, suffer from a deficit of food. The factor that plays the most significant role in this issue is the inadequacy of sustainable agricultural practices. The absence of farmers with the knowledge of how their cultivation methods affect their environment results in the deterioration of natural resources. Consequently, the availability of fertile land diminishes resulting in the low harvests of corn, beans, and rice, crucial to not only the diets of Salvadorans but their economy as well ("GIEWS Country Brief"). The most prevalent environmental issues that affect the food supply are deforestation and soil erosion which could have both been avoided through sustainable agriculture practices. The major deforestation in El Salvador coincides with its increasing urbanization and at this rate, it seems to be nearly irreversible ("The World Factbook"). Almost all of the coffee produced by El Salvador is shade-grown and, without enough trees to cover the plantations, coffee production would dwindle (Blackman 24). It not only affects the coffee industry but since the land being deforested is converted into urban areas, the percentage of land available for agricultural use continues to decrease. Deforestation also contributes to the worsening conditions of the soil, increasing the vulnerability of the environment. On account of the farmers not being educated in sustainable farming practices, they pursue their unsustainable methods by continuously harvesting crops of the same family on the same soil (rather than regularly varying the kinds of crops) and growing their crops on inclined land. In doing so, they deplete the soil of its nutrients at a nearly irreversible rate allowing for the topsoil to be easily carried away by the heavy rains (Hahn 16). This erosion of soil minimizes the quantity of fertile farmland, decreasing crop production, and reducing El Salvador's food supply.

The awareness and participation of all in the solution for sustainability is imperative in providing sufficient amounts of food to the entire population. The lack of decisions made by the government to promote a sustainable plan and invest in the long term contributes to the increasing severity of damage inflicted on the country's remaining natural resources. Children and the elderly are vulnerable to the effects of a food deficit due to their greater need for proper nourishment ("Children of El Salvador"). While the failure to cultivate crops in a sustainable manner affects both the rural and urban population, the rural population who makes a living off of agricultural production would be most directly affected. When the supply of food in El Salvador becomes scarce, the urban population can easily access their local

grocery store whereas the rural population would not have enough fertile land to cultivate their crops. Likewise, the marginalized population of indigenous people is undoubtedly at a higher degree of vulnerability to suffering from a food deficit because of their low mobility, low purchasing power, and high rate of illiteracy ("Indigenous People"). Considering how the issue affects the population of El Salvador in its entirety, it is critical that a plan to resolve the issue is created and followed.

In order to adjudicate El Salvador's food insecurity issue caused by unsustainable methods of agriculture, they need to implement a program intended to educate the population on the environment and agriculture, replenish the lands damaged by soil erosion, and establish regulation enforcing the application of sustainable practices. With investments made by both government and international organizations to subsidize the programs as well as the execution of the regulations, it is possible for all of the needs of the country to be met. If these actions are taken, El Salvador will see lasting changes that will increase their food security and protect their ecosystem.

One of the best examples of sustainability is in Sweden. Sweden's agriculture sector only takes up "less than 7 percent" of the country's arable land ("Sweden Cultivates a Sustainable Future"). Though it seems impossible, Sweden has been making do with what little land they have and invested heavily in securing a sustainable future through progressive farming techniques. Their plan mainly consisted of protecting their forests, adopting sustainable practices, and “green technologies” such as energy-efficient electricity systems (“Sweden Eco-Innovation”). While it was a relatively expensive investment for the country to make, it allowed them to protect both marine and terrestrial areas as well as increasing their production of organic grains. If El Salvador takes similar steps to protect their environment, the country can take itself down a similar path to sustainability.

These solutions require government involvement. Otherwise, the permanent success of such programs cannot be ensured. In El Salvador, the Ministry of Environment and Natural Resources (MARN) and the Ministry of Agriculture and Livestock (MAG) had research and promotion programs to encourage the integration of sustainable methods of agriculture but their inability to reinforce the motions of the program resulted in the farmers not fully adopting the resource sustainability practices. There was also an absence of funds to suffice for the continuation of the program. The challenge is to make sustainable agriculture recognized as the fundamental step for environmental sustainability by national and international organizations, the government, and the citizens of El Salvador.

The plan must start with the establishment of national legislation that integrates sufficient and necessary regulations to encourage, educate, and include everyone. Due to El Salvador’s current political climate, a potential barrier that may be encountered by this plan would be the Salvadoran government focusing on gang-related issues more than the environmental ones. While this could lead to the efforts of such

programs not being enough to motivate citizens to take sustainable action, enforcing regulations would obligate conformity and ensure results. Municipal governments, having the authority to enforce the plan locally, must act with the support of the central government to directly execute and develop the plan to limit deforestation and exploitation, regulate the use of inclined lands, and advise frequent crop rotation. In this plan, the MAG and MARN must develop practices in the agricultural territories that will achieve the incorporation of sustainable techniques and practices by forming a project of reforestation for the eroded sloped soils. It will also require the expansion of support and protection of agricultural lands with vulnerable resources.

Additionally, with the funding of governmental and non-governmental organizations and the management of the United Nations and their affiliated organizations, agricultural and educational programs could be set in motion to constitute change. The government's national and private banks would provide funds with low-interest rate credits oriented towards stimulating sustainable agriculture, but in the long term, financial aid from the World Bank will be needed. With their goal of making "agriculture, forestry, and fisheries more productive and sustainable", it is in the best interest of the Food and Agriculture Organization of the United Nations (FAO) to guide El Salvador on its path to sustainability ("What We Do"). Without the aid of an international organization, the success of a plan to replenish the damaged lands would be difficult considering how ambitious a plan it is. Foreign aid from FAO could go into the investment and improvement of agricultural technologies like soil moisture sensors which would prevent the excessive usage of El Salvador's resources. The cooperation of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) would also be beneficial in accelerating a plan for educating Salvadorans on how to responsibly utilize their environment and natural resources without

exploiting them. An educational program to teach all levels of the population about how their actions affect their environment would open the eyes of farmers and regular citizens to the graveness of this matter. This program could also raise awareness to the citizens of the more developed countries to encourage or petition the government to provide aid for developing the green technologies and restoring the environment.

In theory, with the appropriate environmental education, the solution can be simple. However, involving all levels of society is where it gets more complicated. The participation of the government, community, and other organizations is indispensable in making the implementation of this plan sustainable. Carrying out this plan without the Salvadoran public partaking in the solution would set El Salvador up for failure but with national regulation and legislation, the plan can be adopted throughout the country and the population at all levels can be educated about environmental sustainability.

As the concerns about the availability of food worsen, El Salvador, as well as other developing countries,

need to take part in protecting their environment, sustaining their natural resources, and educating the population about sustainability. Though it is a challenge, achieving change in society through regulations and programs is imperative to resolving the world's problem of food insecurity. Seeking reform in society's careless actions towards the environment is taking a massive step towards a sustainable future and will not be possible without the cooperation of not only the citizens of those countries but the citizens of the world as well.

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