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Venezuela, Sustainable Agriculture

**Shifting Ag Practices in Venezuela**

Venezuela is located in South America, its coastline borders the Caribbean Sea and the North Atlantic Ocean. Neighboring countries are Brazil, Guyana, and Colombia (Central Intelligence Agency, 2023). The population is 30 million people with 88.4% living in an urban area (Central Intelligence Agency, 2023). There are four different types of terrain in Venezuela, the Maracaibo lowlands in the northwest, the Andes Mountains, Orinoco central plains, and the Guiana highlands in the southeast (Central Intelligence Agency, 2023). The climate is tropical, hot, and humid. The type of government in Venezuela is a federal presidential republic. The government plays a huge role in everything including how much money and attention is put into the agriculture sector. Over the years the agriculture sector in Venezuela has declined. After World War II, Venezuela had a rapid period of economic growth and diversification. The development of new industries such as oil, manufacturing, and tourism led to the decline in the importance of agriculture (Collegenp, 2023). With a decline in the agricultural sector there have also been problems with poverty and malnutrition.

Only 24.5% of land in Venezuela is used for agriculture, of this land 3.1% is arable, 0.8% is used for permanent crops, and 20.6% is pasture (Central Intelligence Agency, 2023). That is a very small amount of farmland compared to the overall size and amount of people in Venezuela. The main food product, maize, is grown from October/November to April/May, with a second season in some areas between May/June and October/November (The Agriculture Industry in the Bolivarian Republic of Venezuela, 2023). Rice, potatoes, cacao, cotton, sugarcane and sorghum are grown during the main season. Coffee is also grown in Venezuela and is used as a cash crop (Encyclopedia Britannica, 1999). There are two types of farms in Venezuela, the Fincas Comercializados which are commercial crop farms, and Conuco’s which are family farms (Encyclopedia Britannica, 1999). Fincas Comercializados are 50 acres with wage earning laborers (Encyclopedia Britannica, 1999). They are able to have some farm machinery, fertilizer, and pesticides due to the benefits they receive from government provisions of credit. On these farms they grow crops such as sugarcane, cotton, and rice, they also have access to local and export markets (Encyclopedia Britannica, 1999). The Conuco farms are leased by the farmer and are typically small. They grow corn and beans for local consumption and coffee and cacao for commercial use. “Venezuela now imports more than half the food it consumes” (Encyclopedia Britannica, 1999).

Venezuela is one of the most urbanized countries in Latin America. However, poverty levels are very high in rural areas. Economic growth and redistribution policies led to a decline in poverty from 50% in 1998 to 30% in 2013, the economic crisis began to raise the poverty level again to 33.1% in 2015 (Venezuela, n.d.).

Their food scarcity and years of hyperinflation have made the most basic needs unaffordable. There are roughly four people per household in Venezuela. A typical family, even one who is educated, does not always make enough money to live above the poverty line. “Esperanza lives in Altavista, in Catia. She has a degree in education and works as a preschool teacher. She has a husband and two children and her salary is twenty million bolivars, which is about seven U.S. dollars a month” (Reality of Wages, 2021). This is not enough money for food or other basic necessities. As of 2021 there were 10.245 million people in the workforce, with a 6.41% unemployment rate (Central Intelligence Agency, 2023). Even with that many people working there are still not enough people in the agriculture sector.

In Venezuela the main trade is oil which represents 9/10th of the export earnings (Encyclopedia Britannica, 1999). Their export trading partners are India, China, the United States, and Spain (Central Intelligence Agency, 2023). Their import trading partners are China, the United States, Brazil, Spain, and Mexico (Central Intelligence Agency, 2023). Main export commodities are crude petroleum, refined petroleum, industrial alcohols, gold, and iron (Central Intelligence Agency, 2023). Import commodities are refined petroleum, rice, corn, tires, soybean meal, and wheat (Central Intelligence Agency, 2023). Freight and bulk transportation is done on coastal shipping routes, inland waterways, and oil and natural gas pipelines (Encyclopedia Britannica, 1999). Domestic travel depends largely on roads, and air provides access to regions without other means of transportation. Private railways are used to transport iron and steel from mines in the Guiana Highlands to Ciudad Guayana (Encyclopedia Britannica, 1999).

In Venezuela they consume more than they produce, which causes problems. Rice is a staple food, and is on a decline in production and consumption. A reason for this decline is that the government controls the price on the sales. “Venezuelan millers are mandated to sell between 50-60% of their production to the government at fixed prices” (How Deep Is Venezuela’s Food Crisis, 2019). Farmers also don't make enough money after selling their rice to break even on the cost of producing it. Wheat is highly consumed by Venezualns but they do not produce it, so they rely solely on importing it from countries such as the United States, Canada, Russia, and Mexico (How Deep Is Venezuela’s Food Crisis, 2019). Corn is another staple crop in their diet, but it is getting more expensive so people are switching to potatoes and cassava instead. Not only is corn too expensive for people to eat, but also to feed animals. “Analysts expect a 50% decline in chicken meat production and a 25% decline in egg production over the next year” (How Deep Is Venezuela’s Food Crisis, 2019).

Not being able to produce enough crops not only means less income but it also affects how much people eat. The consumption of corn, wheat, and soybeans has drastically declined since 2013 (The Agriculture Industry in the Bolivarian Republic of Venezuela, 2023). This means people in Venezuela are not getting enough calories and protein. Animal production is very important because it helps people eat more protein. Cattle and swine are the most common species. Sheep and goats are less common but are found in parts of the Lara and Falcón states, and in the upper parts of the Andes (The Agriculture Industry in the Bolivarian Republic of Venezuela, 2023). However with the corn prices high, it is difficult to afford these animals. “Currently, Venezuela produces only 30% of its food supply” (How Deep Is Venezuela’s Food Crisis, 2019). Many farmers in Venezuela are moving away from crops that the government controls the prices of. They are also starting to grow more crops like black beans, that don't require many fertilizers. To import over half their food supply they need another source of income. The revenue made from the state-owned oil industry is used to fund the import of food, but it has fallen sharply (How Deep Is Venezuela’s Food Crisis, 2019). “According to a report by the United Nations, Venezuela is facing its worst food crisis in modern history, with over 90% of its population living in poverty” (Collegenp, 2023). If nothing is done to help the agricultural sector in Venezuela the amount of people lacking food is only going to get worse.

A solution to Venezuela's agriculture problem is shifting agriculture. It is where land is cleared and cultivated for a short period of time, then abandoned to revert to its natural state (Encyclopedia Britannica, 1998). The land is cultivated until it is overgrown by weeds, normally for a year or two, then it takes about a decade before the land can be used again. Shifting cultivation is a management system practiced sequentially on the same plot of land (Choudhury, 2021). Slash and burn is used to clear the land. It not only frees the land of most weeds but the ashes help enrich the soil (Encyclopedia Britannica, 1998). Cultivation is done with a hoe or digging stick because most farmers cannot afford a plow. Shifting agriculture is also practiced across south and south-east Asia. When well managed, it can be beneficial to communities and the environment, and it also helps preserve soil fertility. Cons of shifting agriculture is biodiversity loss, and using slash and burn emits a lot of carbon dioxide (Encyclopedia Britannica, 1998).

People in the community should work together when they clear the land, so not everyone is burning all at once. Shifting agriculture could be very beneficial for the farmers in Venezuela because it helps enrich the soil and they can farm the same field for consecutive years.

Fundamental attributes to shifting agriculture are rich agro-biodiversity, sequential alteration of agriculture and fallow forestry on the same plot, along with a built in tenure system (Choudhury, 2021). It has a rich agro-biodiversity because it allows farmers to harvest between 20 and 30 crops per year, have a year round food supply, and have better pest management (Choudhury, 2021). By alternating the plants that are grown on the land it helps decrease land degradation, contributes to long term sustainability, and ensures the resilience of the food system and the farmer. A built-in tenure system is where the land is owned by the community, and people within the community get a portion of the land depending on their household size. It ensures universal access to land and resources.

While there are still many things that need to be done to ensure Venezuelans have enough food and get their agriculture sector back on track, they have already started doing some things. They have implemented the Global Soil Doctors programme through a Global Environment Facility (Global Soil Partnership, 2024). It launched on January 24, 2024 and plans to train 44 trainers, 122 soil doctors, and 1,100 farmers in 73 cities over the next three years (Global Soil Partnership, 2024). In the beginning of December, 16 members of the GEF and IFLA were trained as soil trainers, they will then train 16 soil doctors in Campo Elías and Rangel in the state of Mérida, who will train 40 farmers within their communities (Global Soil Partnership, 2024). These soil doctors will help teach people proper soil management practices, and will be able to help them better the soil they farm on.

Another program that is already implemented in Venezuela is the System of Rice Intensification. It is already implemented in Chile, Colombia, Costa Rica, Panama, and the Dominican Republic (Successful Innovation, n.d). The SRI runs on four basic principles; provide early and rapid establishment of healthy plants, reduce competition between plants, keep the soil healthy, aerated and rich in organic matter, and through better management of water by altering dry and wet soils (Successful Innovation, n.d). These principles are put into practice through intermittent irrigation, incorporating organic matter, weeding and improvement of soil biotin (Successful Innovation, n.d). The crops are more profitable through this, but some challenges are reduced availability and cost of labor. By implementing this farmers will be able to make the soil better and be able to produce a more sustainable crop.

Agriculture has been a big challenge in Venezuela over the past years. The government plays a role in this along with the farmers lack of resources. Shifting agriculture is the best solution for this problem because it will better the soil and improve the crops. By using this method they will need little to no fertilizers and will be able to farm on the same field for a few consecutive years. By finding a better agricultural solution the people in Venezuela will be able to have enough food. It will also give people jobs and a source of income. Improving production practices reduces the need to rely on imports, which improves the economy and strengthens the overall fabric that holds the country together.

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