

Creigh Rourke

Mid-Prairie

Wellman, IA

Nicaragua, Factor 16: Education

Nicaragua: Expanding Agricultural Education

Located between Costa Rica and Honduras, Nicaragua is the poorest country in Central America and the second poorest in the Western Hemisphere. One and a half million Nicaraguans are undernourished (Walker-Leigh). Nicaragua is bordered by both the Caribbean Sea and the North Pacific Ocean. The lowlands of Nicaragua experience a tropical climate versus in the highlands, the climate is cooler. With Caribbean coastal plains, central mountains, and Pacific coastal plains, that are scattered with volcanoes, natural disasters such as: volcanoes, earthquakes, landslides, floods, droughts and hurricanes contribute to the destruction of farmland and infrastructure. In addition, political conflict has left the country behind in social and economic development. In consequence of governmental corruption and manipulation, a civil war was started and resulted in the Marxist Sandinista guerillas coming to power in 1979 (The World Factbook). The Sandinista Revolution in the 1980's put an emphasis on expanding education, and health care services. The main goal of the revolution was to create a socialistic state without U.S. intervention. This resentment came in response to the continuing involvement of the U.S. in the political affairs of Nicaragua. Contras, with the support of the Reagan Administration, formed in opposition of the economic policies and repressive nature of the Sandinistas. In 2006, former Sandinista President Daniel Ortega Saavedra was re-elected and has remained in power (The World Factbook). Nicaragua's economy and infrastructure is continuing to recover from the civil war and Hurricane Mitch in 1998 and Hurricane Felix in 2007 (The World Factbook). In the wake of these setbacks comes a need for improvement. One area of improvement that can be focused on is education, more specifically agricultural education. There is a need for agricultural education both in school and out.

A majority of the Nicaraguan population is located in the Western half of the country. With 58.8 percent of the population being urban, the most urban growth is centered in the capital, Managua, and coastal areas. However, Nicaragua's rural population has been hit the hardest by poverty. The average Nicaraguan has a deficit of 122 kilocalories every day. Rural inhabitants rely immensely on agriculture with four-fifths of them depending on it for their livelihood (Walker-Leigh). Both agriculturalists and indigenous people make up the rural population. An average family consists of six to eight people, with many households including grandparents, aunts, uncles, poor godchildren, and orphaned relatives. When

a young couple gets married they often live with one of their families. It is especially common for families in rural areas to be large so they have more people to help with farm work. Families live together to share resources and housing. This compadrazgo system creates strong ties between children, parents, grandparents, and godparents. Rural Nicaraguans often live in self-made houses with 4/5ths of them being composed of carton and plastic bags. Floors are made of dirt in 41 percent of the homes in Nicaragua. They are often overcrowded, lack proper sanitary conditions and protection from hazards, are vulnerable to crime, and have indoor air pollution (Agriculture).

Access to health care in large cities such as Managua is strong and not very expensive. Health care is subsidized by the Nicaraguan government. While the large cities have exemplary health care, it is the rural areas that are lacking. Lack of funding results in low hospital and medical professional access. There is not a lot of incentives in place to encourage more health care in rural areas. In rural areas there is less than one doctor per 1,000 residents. More than 1/3 of the population does not have access to health care. It is due to this lack of options in the rural areas that causes a lot of women to give birth at home. Nicaragua has a higher maternal mortality rate than the average rate in Latin America. A lot of the health issues that occur in Nicaragua are related to maternal health issues. Chronic malnutrition also affects rural inhabitants more so than urban, with 22.6 percent of the rural population being malnourished versus 12.3 percent in urban areas. Some other health issues that Nicaraguans face are acute respiratory infections, diarrhea, tuberculosis, cervical cancer, and vector-borne diseases. The ability to have good health care in Nicaragua depends significantly on one's location. (Rural Nicaragua)

A large part of Nicaragua's agricultural sector is made up of small and medium farmers. They account for producing 90 percent of the staple foods that are consumed. Rural Nicaraguans depend heavily on agriculture for their livelihoods. Forty-two point two percent of the land in Nicaragua is agricultural with 12.5 percent of it being arable, 2.5 percent being permanent crops, and 27.2 percent of it being permanent pasture. (The World Factbook) In the lowlands where it is cooler, farmers grow sorghum and maize. In the highlands they are able to grow beans and vegetables. The Pacific Coast contains fertile soil which allows farmers to raise oilseed, fruit, and tubers as well as having shrimp processing. The Atlantic Coast has high rainfall rates, large areas for forestry such as African Palm trees, and cocoa plantations. Coffee production can be found in the northern parts of Nicaragua (Walker-Leigh). Cattle provide sources of hide, meat, and dairy products. Sheep, pigs, and goats are generally kept in small quantities. Other agricultural products are: bananas, sugarcane, poultry, sesame, cotton, rice, soya, beans, and lobster. Agriculture employs 31 percent of the labor force. Many farmers farm small amounts of land. Around 55 percent of Nicaraguan farmers farm on less than 7 hectares of land. Another 33 percent own less than 1.75

hectares of land while subsistence farmers generally own less than 0.7 hectares of land. (The World Factbook)

There are barriers in Nicaraguan agricultural production that inhibit farmers from having the highest success. With 63 percent of the rural population below the poverty line, farmers are disadvantaged in their ability to reach the levels of financial stability and education to expand their operations. Households that are involved in agriculture are especially susceptible to poverty, as 70 percent are below the poverty line. To increase the income level many males will migrate on a seasonal basis to Costa Rica to harvest bananas and coffee. This practice leaves families deprived of the support from the male figure. Women, children, and any remaining men are left to care for the household and the farm. Ninety-three percent of agricultural households only have a primary education at most. This is seen due to children being needed to help support their family through working on the farm instead of going to school. According to the Food and Agriculture Organization of the United Nations, “Only 17 percent of farmers use certified, high yielding seeds.” (Agriculture) Farmers have low productivity rates and are destroying forests in order to create more land for farming.

Nicaragua has had many changes in their education system. Different government groups have changed the curriculum and landscape of their system. The Ministry of Education oversees everything involved with education. The education system is broken into four different levels. The first level is pre-primary and is available to children up to the age of six. Pre-primary is free at public schools and non-compulsory. At the age of seven, students will enter primary school. They are required to stay in school until the age of 12. Secondary education is for students ranging from the age of 13 to 17. Even though these levels of schooling appear to be free, there are hidden costs which make schooling harder for parents to manage financially. Parents are responsible for paying for desks, educational supplies, additional salaries, electric bills, and cleaning materials. The students are often responsible for cleaning the school. In Nicaragua, girls are more likely to continue with their education than males. Sixty-six percent of males will participate in secondary schooling, whereas 73 percent of girls will continue. After completing secondary, a student is able to go on to a technical/vocational school or a tertiary school. For every year of secondary education, a Nicaraguan worker is able to earn 10.3 percent higher wages (Williams). However, many Nicaraguans are unable to experience the benefits of this wage increase considering 72 percent of the population will not finish their secondary education.

“Education is sustainability”(Bond). While food aid helps in lessening the problem right now, it is not always the answer for the future. Education is an important aspect in having the ability to improve upon

the lives of many Nicaraguans. The answer for the future is bettering agricultural education. One way to do this is by creating school gardens at the universities. There are currently 37 universities in Nicaragua with the National Agrarian University being the primary university for agricultural education (Williams). There are two other public and nine private institutions that provide various programs in agriculture. Creating university gardens can be very beneficial to teaching university students about agriculture. These gardens can provide an opportunity for students to test a variety of agricultural practices and give them hands on experience with different crops. A lot of Nicaraguan staple foods consist of beans, maize, rice, and vegetables. All of these foods that Nicaraguans rely on can be produced in university gardens. Many farmers are too weary about ruining the only thing which helps them survive day to day so they are unwilling to try new practices. University gardens allow students to experiment new ideas without putting a rural family's livelihood at risk.

With school gardens comes the need for someone to teach the students about more advanced agricultural practices and how to successfully raise crops. One cannot teach all the university students on their own. University students from the U.S. would have resources at their disposal which could help teach Nicaraguan university students. U.S. university students have the ability through study abroad trips to help teach the Nicaraguan students different ways to grow plants in their gardens and how to solve problems such as pests. Being that there are United States universities which are affiliated with universities in Nicaragua, there is a great possibility for these connections. They can test soils and evaluate what problems the local farmers are facing. Creating long term relationships with these universities allows connections to be created. If multiple visits and exchanges are conducted, U.S. university students can evaluate some of the more long term problems. They can then return to the United States and research solutions that cannot be discovered during the short study abroad trips. These U.S. university students will get a better idea of what is happening in Nicaragua and can focus on problem solving. A benefit for the university students from the U.S. is giving them a better view of agricultural practices in other countries. In addition to learning better farming practices, the produce from the gardens can be used at the university or locally.

Next comes the need for teaching farmers who will not go to college and the current farmers. To do this one needs a level of trust and buy-in from the farmers. The Nicaraguan students can work with the local farmers to teach them what they have learned from their university gardens. They can have workshops where they bring in local farmers and show them how their different techniques have helped improve upon the yield and sustainability of local crops. Some of these farming techniques could include using legume cover crops to replace the use of burning practices. There often is not a lot of extension to the

older farmers. Having workshops to teach local farmers will allow more connections to be created between the university students and the farmers. These agricultural summits will provide a chance for the students to show what they have discovered and learned through their research in the school gardens. Farmers can bring problems they are facing to the university students to receive assistance in finding a viable solution. As more farmers are able to improve upon their farming practices hopefully they will help spread their knowledge to other farmers in their community.

There is a program already in place in Nicaragua that is based on a similar concept. It is an agricultural extension program which is utilizing three Nicaraguan university students to create more education for farmers. The Alternative Strategies for Agriculture in Rural Nicaragua program that is collaborated on by the Penn State Extension Young Growers Alliance (YGA) and the St. James Lutheran Church is highly successful, however there is still a high demand for more education and extension programs like it. Working with this program to see what has been successful for them will be advantageous to implanting more programs in Nicaragua. To create a school garden, connections would have to be made between a U.S. university and additional Nicaraguan universities. Using these universities that already have a relationship built with Nicaraguan universities and their communities will make implementing school gardens and an agricultural extension program easier. (Young Grower Alliance) USAID, the U.S. agency for international development puts a major emphasis on assisting end extreme poverty. One way they do this is through improving agriculture and food security. Through the Global Food Security Act the U.S. is offering extension, developing sustainable agriculture strategies, conducting agricultural research, and developing agricultural markets. USAID has already been assisting in Nicaragua, making it a viable source for funding for the exchange and extension programs.

While there is no easy solution to fix Nicaraguan agriculture and bring them a higher quality of living, providing students with hands-on learning experiences allows for more growth. There is a need for more widespread education that can be brought back to the rural communities. By bringing together groups of people to collectively work toward improving upon agricultural education in Nicaragua, we can improve the lives of farmers and their families in the rural areas.

Works Cited

- "Agriculture." *ANF Nicaragua*. American Nicaraguan Foundation, n.d. Web. 20 Mar. 2017.
- Bond, Meghan. "Community College Study Abroad Trips." Telephone interview. 16 Mar. 2017.
- Franzoni, Juliana Martinez, Carmen Largaespada-Fredersdorff, Karim Ulloa, and Koen Voorend. "The Political and Social Economy of Care in Nicaragua." *The Political and Social Economy of Care in Nicaragua | Publications | UNRISD*. UNRISD, 22 Apr. 2010. Web. 22 Mar. 2017.
- "Indigenous Peoples in Nicaragua." *IWGIA*. International Work Group for Indigenous Affairs, n.d. Web. 24 Mar. 2017.
- Lumpkin, Garren. "Child Friendly Schools." *NICARAGUA CHILD-FRIENDLY AND HEALTHY SCHOOL (CFHS) INITIATIVE: A CASE STUDY* (2009): n. pag. *Unicef*. Unicef, 2009. Web. 19 Mar. 2017.
- "Nicaragua." *Education Policy Data Center*. Education Policy Data Center, Oct. 2012. Web. 18 Mar. 2017.
- "Nicaragua." *FindTheData*. FindTheData, n.d. Web. 20 Mar. 2017.
- "Nicaragua Overview." *The World Bank*. World Bank Group, 19 Sept. 2016. Web. 27 Mar. 2017.
- "Rural Nicaragua Ag Extension Project." *Project Gettysburg-Leon*. Project Gettysburg-Leon, n.d. Web. 25 Mar. 2017.
- "Rural Nicaragua." *Doctors for Doctors*. Doctors for Doctors, n.d. Web. 24 Mar. 2017.
- "Understanding the Iran-Contra Affairs - The Iran-Contra Affairs." *Understanding the Iran-Contra Affairs - The Iran-Contra Affairs*. Brown University, n.d. Web. 15 Mar. 2017.
- Williams, Rebecca J. "Nicaragua: Background Study." *InnovATE*. University of Florida, Sept. 2014. Web. 21 Mar. 2017.
- "The World Factbook: NICARAGUA." *Central Intelligence Agency*. Central Intelligence Agency, 12 Jan. 2017. Web. 10 Mar. 2017.
- Walker-Leigh, Vanya. "Country Profile-Nicaragua." *New Agriculturist*. New Agriculturalist, Aug. 2011. Web. 27 Mar. 2017.
- "World InfoZone - Nicaragua Information - Page 1." *World InfoZone - Nicaragua Information - Page 1*. World InfoZone, n.d. Web. 27 Mar. 2017.
- "Young Grower Alliance Agricultural Extension Project in Nicaragua (Young Grower Alliance)." *Young Grower Alliance (Penn State College of Ag Sciences)*. Penn State College of Ag Sciences, n.d. Web. 25 Mar. 2017.

