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## **Bahamas: Improving Education through Agriculture**

When the country of the Bahamas comes to mind, one will most likely think of the lush beaches, glamorous vacations, and maybe even their famous swimming pigs. While the Bahamas is all of these things, there are still natives living on the island who face several challenges. The Bahamas is not considered an incredibly poor country, but like all countries, there is still room for improvement around things such as food security. The public education system and family structure can be improved. By educating youth about agriculture and bringing families together, the Bahamas can be an even better country with stronger food security.

The Commonwealth of The Bahamas, more frequently known as the Bahamas is an island chain in the Caribbean Region ("Culturegrams"). It is located 650 miles off the eastern coast of Florida with the Tropic of Cancer running through the Bahamian Island of Great Exuma ("Geography"). The chain consists of more than 700 islands, 30 to 40 of which are inhabited ("Geography"). The current population is 352,655 with 83% living in urban areas ("Culturegrams"). The Bahamas' government type is a Parliamentary Democracy and Constitutional Monarchy ("Culturegrams"). Because the country is one of the Commonwealth of Nations, the government closely follows that of the United Kingdom and recognizes King Charles III, but has its own government, with the head being Prime Minister, Philip Davis ("Culturegrams").

When looking at the agricultural sector of the Bahamas, the average farm size is 11.55 acres ("Bahamas - Agricultural Sectors"). To put this into perspective, the average farm size in the United States is 446 acres ("Farming and Farm Income"). With the smaller farm sizes and the climate described as semi-tropical or subtropical marine ("Culturegrams"), Bahamian farmers can grow crops like winter vegetables and citrus fruits ("Bahamas - Agricultural Sectors"). Other things that flourish in the Bahamas are grapefruit, limes, okra, pineapple, avocados, and papayas ("Bahamas - Agricultural Sectors"). One limiting factor for these small farmers is the lack of access to private land ownership. The government currently owns around 90% of farmable land ("Bahamas - Agricultural Sectors").

A typical family is one or two children and a mother ("Culturegrams"). There are many single-mother families because of a practice called Sweethearting ("Culturegrams"). Sweethearting is when a man has multiple children with a woman out of wedlock before leaving her ("Culturegrams"). This leaves the mothers and children financially insecure. Because of this, grandparents usually have a large part in children's lives. These multi-generational families live in brightly painted houses with steep roofs to protect from heavy rainfall ("Culturegrams"). Most build their own wood homes that take four to five years to construct. Additionally, their diets are heavy in seafood such as fish, shellfish, lobster, and crab thanks to their abundant ocean access (Greenberg). Families also eat items such as rice, pigeon peas, pork, and tropical fruits (Greenberg). Shelf-stable food is usually imported and can be bought from local grocery stores and small supermarket chains. Supply chain issues are frequent for packaged food.

Food is cooked by primarily steaming or frying it (Greenberg). They cook meat in greased tinfoil over hot coals (Greenberg). A special way to cook food in the Bahamas is called En Papillote ("Culturegrams"). This is done by cooking in a paper bag or parchment paper ("Culturegrams"). Most natives are employed in the tourism industry with 80% of the Gross Domestic Product (GDP) being tourism ("Working and Getting a Job in the Bahamas"). Their daily tasks involve serving customers at resorts and leading tours. International banking is also prominent, contributing to 15% of the GDP ("Working and Getting a Job in the Bahamas"). Including these popular jobs, the average wage is around \$47,000 a year ("Working and Getting a Job in the Bahamas"). Although the average wage may seem like a respectable amount, with the higher cost of living because of importation, it can still leave families financially insecure.

Sanitation and electricity in the Bahamas are considered very good. This is especially true in more urban areas. As of 2020, the Bahamas had a 100% electrification rate ("Culturegrams"). Some of the sanitation and electrical infrastructure was affected by Hurricane Dorian in 2019, but it is almost all back up and running ("Culturegrams").

Healthcare in the Bahamas is supervised and administered by the government ("The Bahamas Healthcare System & Insurance Options for Expats"). Children, pregnant women, civil servants, and citizens exceeding 60 years of age have access to free healthcare ("The Bahamas Healthcare System & Insurance Options for Expats"). A base insurance plan costs around \$54 per month ("The Bahamas Healthcare System & Insurance Options for Expats"). There is one hospital in Freeport and two in Nassau along with two other specialty care facilities ("The Bahamas Healthcare System & Insurance Options for Expats"). These are the only hospitals in the Bahamas. With hundreds of miles between the islands, this can make it more challenging to get healthcare. So, on the family islands, the small islands, healthcare is limited. However, there are over 10 clinics throughout the islands ("The Bahamas Healthcare System & Insurance Options for Expats"). If extensive care is required, such as hospitalization, patients will most likely be airlifted to Nassau.

All children have free access to public education, with it being required for children five to 16 years old ("Culturegrams"). Many of the private schools are run by churches ("Culturegrams"). Private school education is usually much better than the education received at a public school. Teachers are often brought in from other countries such as Jamaica because of the lack of qualified local teachers ("Culturegrams"). Educational achievement is increasingly becoming more valued. There are three universities in the Bahamas ("Culturegrams"). Although tuition is unaffordable for many, scholarships are available for those who are qualified.

One of the major problems in the Bahamas is education. The public education system is not strong. Although education is required from ages five to 16, it is a rather poor education ("Culturegrams"). This is why there is such a large gap between public and private education quality. One approach to improving public education is to incorporate more agricultural learning into education. This is education that can be applied throughout the rest of students' lives. Three ways that we can improve public education not only for children but also for adults is by creating and utilizing school gardens, Extension and Outreach programs, and Agricultural Education programs.

School gardens are a great way to enrich education. School gardens would add a hands-on aspect of learning. The United States Department of Agriculture reported that there are over 5,000 school gardens throughout the United States ("School Gardens: Using Gardens"). If public schools in the Bahamas could implement these gardens in elementary schools, students would be impacted at a younger age and have a greater understanding of how plants grow and fruits and vegetables are produced. Just a few raised garden beds would encourage students to explore gardening outside of school as well. The USDA also reported that fruits and vegetables were consumed more readily when a school garden was put into place at schools ("School Gardens: Using Gardens"). Students take pride in their gardening. In turn, it helps them to live a healthier lifestyle by choosing more nutritious options because they have grown them themselves. Researchers at Harvard University found students need 35-50 hours of nutritional education to change their eating preferences (Shafer). Most children only receive around 3.4 hours of nutritional education (Shafer). With a garden, they would receive significantly more quality nutritional education, which would in turn change their eating preferences (Shafer). School gardens would not only impact the students but also the families of the students involved. Students will likely tell their families about their gardening experience, which may encourage families to plant gardens as well. This is a cross-generational activity that grandparents could participate in too because they are so involved in children's lives. School gardens would be a low-cost, hands-on learning experience, which students would use for the rest of their lives, thus boosting the chances that they will live an overall healthier lifestyle.

Extension and Outreach programs are a great way to educate adults. The United States has Extension and Outreach programs that help educate and inform others by taking university research and resources and sharing them with others so that they can better their lives. I have experience with Iowa State University Extension and Outreach, but all 50 states have extension programs ("USDA"). The United States Department of Agriculture manages the Extension programs, but they are typically associated with a public university as well ("USDA"). An Extension program would be more challenging to get up and running than school gardens because it has many moving parts, but it is obtainable by modeling it off of the successful program that the USDA has built. I believe that the Bahamian government could collaborate with the University of the Bahamas to start the Extension program. The program would offer seminars and informal education about new practices, easier ways to farm, and current research. These informational programs would help to make farming easier. This would help the Bahamas to produce more food on the islands because farmers would have a reliable source from which they could get information and guidance. The Extension program would ideally employ a few Extension agents per island. These agents would make farm visits, hold seminars, and bring professionals in to help farmers. I believe that Extension and Outreach Programs can help farmers to be more efficient and successful when producing food.

My final solution would be to add an Agriculture Education program in the Bahamas. The Bahamas could implement a program similar to the Agricultural Education and FFA program in existence in the United States. The FFA program in the United States is made up of classroom instruction, hands-on supervised agricultural experiences, and leadership development (Riebel and Flatt). By focusing more on the classroom side of the FFA model, we could educate youth about being an agriculturalist. This would help students wanting to go further in their education about agriculture. This program would probably be best suited for the ages of 14 to 16. This way, they could advance their knowledge before going out into the workforce or seeking higher education. One way that the Bahamas could start this up would be to have

sister chapters with FFA chapters in the United States. The United States sister chapters could help the start-up chapters by sharing ideas and providing encouragement while building relationships between students from different cultures. I think that having a sister chapter would be helpful so each start-up chapter would have more individualized help. FFA would promote agriculture as a career path for students when they are beginning to think about their future plans (Riebel and Flatt). This would in turn help to grow the agriculture industry in the Bahamas. By adding an agricultural education program such as FFA, more students would go into the agriculture field, helping food insecurity because there would be more farms and agricultural services to produce crops for the Bahamian people.

I believe that incorporating school gardens, Extension and Outreach programs, and an agricultural education program will help to better agriculture as a whole. The public education system will become stronger by incorporating agriculture. Children and adults will become more connected to agriculture, thus creating a more secure food market. With school gardens, Extension and Outreach programs, and an agricultural education program, we can create a better Bahamas.

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