

Eric Schafer
Pana High School
Pana, Illinois
Madagascar, Factor 16: Education

Madagascar: Agriculture education can brighten the food future and can secure better educational opportunities for this developing country

Agriculture education has been encouraged throughout the United States and has been part of the high school education curriculum for many students since 1917 (Agriscience Fundamentals). When this type of education began in United States, the goal was to provide vocational agriculture training to young farm boys. The plan for agriculture education in the high school setting was to improve farming in the United States and make farmers, as well as farmland, as productive as possible. Due to the success of this program and the dedication of the US government, we have a safe and stable food supply. Today, eighty-five percent of the United States population is at least one generation removed from production agriculture due to the improvement of production practices over the last century (Agriscience Fundamentals). Agriculture Education in the United States today is concerned with educating the public on the safety of our food supply. The majority of our agriculture education time in the US is spent discussing food safety and the need for genetically modified crops, animal vaccinations, the use of antibiotics, and environmental issues related to agriculture. Education programs on how to produce food in the United States is at times taken for granted. Other countries do not have the agriculture education luxuries that the United States is accustomed to. In developing countries basic education is rare and agriculture education on production methods and new technologies is nearly non-existent. Many developing countries do not offer basic education and agriculture education opportunities. The lack of education can be one of many factors that lead to malnutrition, starvation, poverty, poor health care, and unstable government in developing countries (Countries and Their Cultures). Agriculture education could be an important start for developing countries educational foundation.

When most people think of Madagascar, they think of the beautiful countryside, intriguing wildlife, and the feel of freedom that is portrayed in the cartoon movie. People do not think of a country in which agriculture accounts for thirty percent of GDP, 40 percent of export earnings, and employs seventy percent of the labor force. Images of malnutrition, starvation, poverty, drought, slash-and-burn agriculture, competition for farmland, and a short life-expectancy of sixty-four years of age is not the image that appears in most minds when they think of the country of Madagascar. This developing country is an island that is located off of the east coast of Africa. It is 587,041 sq km with a population of 22,005,222 that is increasing by 2.68 percent each year (World Fact Book). Fish, hydropower, graphite, chromite, coal, salt, mica, and quartz and some of the valuable natural resources found in this country (New Agriculturist). Roads, bridges, and infrastructure for this country is extremely primitive. The agriculture crops include vanilla, rice, coffee, sugarcane, cloves, rice, cassava, beans, bananas, peanuts, and livestock products (New Agriculturist). Madagascar is known as the number one vanilla producing country in the world but has problems getting this agriculture commodity exported. Madagascar faces natural disasters such as droughts, cyclones, and locust invasions (New Agriculturists). Some of these disasters do not happen every year but are always a concern. These types of issues are very damaging to agriculture and food production. They are some of the reasons production problems arise and inadequate food is always an issue. Livestock is supported by half of the total land mass in Madagascar which causes overgrazing and severe erosion on a regular basis. When researching these issues, agriculture education is an important factor to consider in planning ways to overcome these devastating factors.

The average family size for Madagascar is five people, and providing enough food for every family member is always a struggle. Education is not a priority and every family member is usually responsible

for assisting with food production or working for food. The rural population in this country is at sixty-five percent. Illiteracy rates are around twenty-five percent and are even higher in rural areas. Very few rural households have electricity and even fewer have radios and television. Less than ten percent of all households have a refrigerator which makes food preparation and preservation truly difficult. The surprising fact is that over fifty percent of Madagascar's population is under the age of fifteen years of age and forty-six percent of the population ranges in age from fifteen to sixty-four years of age. Less than three percent of the population ever reaches over sixty-four years of age (US AID). The life expectancy in Madagascar is much lower than that in the US.

Malnutrition and poverty are major problems that need to be addressed. "Madagascar is one of ten countries in the world with the highest burdens of chronic malnutrition" (Unicef). This country has 76 percent of the population living in poverty which is a big reason why 50 percent of children under the age of 5 are stunted in the area of developmental growth (World Food Program). The main diet in Madagascar is rice with protein sources mainly coming from beans, fish, and chicken. This country has the ability to produce vegetables and fruits such as carrots, cauliflower, cabbage, potatoes, pineapples, mangos, and bananas, but insects, droughts, and other factors sometimes destroy production. Several livestock disease problems and epidemics have also plagued Madagascar. Known cases of African swine fever, anthrax, and Newcastle disease have been devastating. Perhaps one of the biggest problems Madagascar is facing is the lack of farmland for growing crops and a population that continues to grow. At times, land that should not be farmed is put into production and natural habitats are destroyed. This problem then creates a snowball effect leading to the lack of irrigation with only 16% of the land cultivated being irrigated (New-Ag Info). Farming land that is not suited for production can lead to poor yields and erosion. The lack of agriculture education and simple production practices is the major reason for these disastrous problems.

Education is a big issue in Madagascar. Primary education (education for children that are 6-11 years of age) is the main requirement but does not get met on a regular basis. "For every 100 children that enters primary school, only 60 will complete this level of education" (Unicef). Less than 3 percent of GDP is spent on education and it is obvious that education is not a priority. Females are the main part of the population that is not expected to go to school with 44 percent never attending even primary school (Unicef). The need for education is very apparent. Changing the mindset that females are needed to take care of the household and education is not a necessity needs to be addressed.

All people of Madagascar, whether rural or urban, are affected by the lack of education. When studying the problems of malnutrition and poverty for this country it is easy to see that vocational agriculture education could make a drastic difference for this country. People around the world can help with this education problem. For example, "The Green Schools of Madagascar" teach the importance of preservation of natural resources and how to improve food sufficiency. Donations for this program can be made through "The Enabling Education Network" (EENET!). The type of hands-on education that this program provides can be started at the primary education age. Young, as well as teenage students, are involved with hands-on activities such as planting school gardens and trees, making compost, learning environmentally friendly weed control, how to use natural waste as fertilizers, and how important conservation of natural resources are to Madagascar. This program educates males as well as females and does not discriminate by age. The philosophy of this program is to start educating students through hands-on methods at the primary age and continue this process throughout a child's life. This curriculum not only benefits the children but also benefits the families. One of the best aspects of this educational opportunity is that new generations of Madagascar farmers are being educated in ways that are improving food sufficiency and teaching the importance of conserving natural resources that are essential for future generations (EENET!). Through these practices, farmers in Madagascar will improve their practices.

Making agriculture education a priority in schools may be a way for the Madagascar government to see the importance of funding education for all children. By teaching production and conservation practices, improved crops and livestock yield will be seen. This country is known for being a great producer of vanilla. With the help of agriculture education this commodity could be widely produced in Madagascar. Hands-on agriculture education will improve agriculture production and could have a direct impact on exports and trade. This could be a great way for agriculture trade to boost this country's economy. Agriculture education could be a way for farmers to learn how to specialize in crops that are better suited for their land and care for the natural habitats and wildlife that should not be destroyed during farming. "Livestock is severely over grazed and erosion of valuable farmland and wildlife habitat is usually destroyed" (New Agriculturist). Land is exceptionally precious in Madagascar and more education is needed to make producers understand how to properly care for the land. Irrigation techniques could be taught and would drastically improve production on a variety of crops. Many producers have systems that no longer work and require supplies and resources to make necessary repairs. Agriculture education is greatly needed in many aspects and is usually welcomed by local farmers. Improving revenue for the country of Madagascar through agriculture education could be a way to start implementing a stable education system for this developing country.

By asking other countries, such as the United States, to help implement agriculture education programs an education system throughout Madagascar could be jump started. In 1917, the Smith Hughes Act allowed vocational agriculture education to be taught in high schools in the United States. This program allowed new agriculture technologies to be directly taught to students that took these practices back home to the farm. It was also an incredible way to encourage the importance of education to rural farm boys in the United States (Agriscience Fundamentals). The very existence of agriculture education in the high school setting was one of the reasons why some rural farm students were allowed to attend school and not be required to drop out in order to take care of daily farm needs. Many farm parents felt that it was more important for their boys to stay home and tend to the farm instead of attend school. This educational opportunity was seen by rural citizens as a hands-on opportunity that was important to the rural way of life. This curriculum required rural farm students to attend a normal class day of core subjects as well as their elective course of agriculture education. This education plan not only increased education about agriculture technologies, but captured rural farm students that did not feel that the education setting was as important as daily farm work. If the United States and the National FFA would be willing to share how this program assisted our country into an agricultural superpower; a similar program could possibly be started in Madagascar. In 1917, the average American farmer produced 29 bushels of corn on an acre of land; in 2015, the US average was 157 bushels per acre. Many factors go into yield and production, but education is a key factor. Agriculture education was an important aspect in developing our country into a major agriculture producing power that supplies food to the United States and a growing population around the world.

By implementing new charity projects that finance agriculture production, experts for educational seminars in rural areas of Madagascar could drastically improve education and ultimately the food shortage. For starters this would open the local farmer's mind to the numerous new technological advancements made in the agriculture industry and allow him to better utilize his or her acreage whether that be for grazing animals or growing crops. This would not only improve food availability in the region but also the overall health of the population, leading to more economic and agricultural growth. Improving agriculture education will not only go a long way to making this third world country agriculturally independent, but it will ultimately lead to more specialization in the job market due to the fact that people will no longer have to worry about food. They will then be able to produce more luxury items therefore improving the economy. It is rare to see a country thrive that has a constant concern about food shortages. Agriculture education could be the key needed to show the youth of Madagascar how to make their farms more productive and how to protect the environment that is vital to the future of agriculture for their country. Charities and help from other countries will be essential for this type of

educational program to work since funding is a major issue. Countries such as the United States and organizations like the National FFA could be the leaders for agriculture education in Madagascar. Community service is one of the key components to the National FFA organization. Helping developing countries such as Madagascar would be an excellent opportunity for worldwide community service for this strong organization that is a leader in youth development.

Besides education, Madagascar faces many other issues such as the lack of farmland for growing crops, lack of irrigation, population growth, destruction of natural wildlife and habitats, and overall extreme poverty. By implementing agriculture education schools through charity projects and existing programs, the government and people of Madagascar will see an improvement in food production. Some of the projects such as “The Green Schools of Madagascar” are already making a difference by educating all types of rural youth about better agriculture production practices and conservation. Using these types of programs for the grassroots of agriculture education in Madagascar could be the beginning for a brighter future for this country. Many small scale projects are already taking place, but much more assistance is needed if this problem to go away completely. If a solid agricultural education system is put into place for students of all ages and genders, food shortages will be less of a problem and Malagasy people can focus on other problems threatening their existence. Assistance will be required from other countries such as the United States and leading organizations such as the National FFA should be asked to help. This education problem will not be able to be solved overnight; it will take decades of work and perseverance. Future generations in Madagascar will benefit by improved education and will see a noticeable difference in poverty and food shortages in the near future if this plan can happen. With 68 percent of Madagascar’s residents living below the poverty level, malnutrition is a huge issue; it is time to take action (Rural Poverty Portal). Throughout history simple solutions have made big impacts. Implementing agriculture education throughout Madagascar could be the end to starvation, malnutrition, and poverty for this country.

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