

Katherine Howell
James Madison High School
San Antonio, Texas
Haiti, Factor 15

**Haiti: Improving Literacy Rates Using ABC Books in Creole
Along with Increasing Sustainable Agriculture Using Breadfruit Trees**

“There comes a time when we heed a certain call, when the world must come together as one, there are people are dying, oh, and it’s time to lend a hand to life, the greatest gift of all...” Those are just a few words that the late mega-pop star Michael Jackson wrote beneath some music notes one day. Those words can mean much more to the people of Haiti. Granted, it could be said that the world came together to assist the people of Haiti following the catastrophic events of January 12, 2010, when a 7.0 magnitude earthquake shook the island nation to its core. An estimated 3 million people were affected by the quake, including a staggering death toll in the hundreds of thousands. Additionally, hundreds of thousands were injured, and almost 1 million became homeless. Three years later, more than 350,000 people still live in terrible conditions. In the last paragraph of a National Public Radio (NPR) article *Despite Billions In Aid, Many Haitians Still Live In Squalid Camps*; Haiti’s plight is summed up: “Before the earthquake, Haiti was the poorest country in the Western Hemisphere. As it moves on from the disaster, the nation is still burdened with all the problems it had before its capital was destroyed.” Only about half of the population in Haiti over age 15 can read and write (CIA). This fact is a deplorable state which keeps farmers in poverty. Only 10 percent of children enrolled in elementary go to high school, not to mention that more than 80 percent of Haiti’s schools were destroyed in the 2010 earthquake. The illiteracy rate hinders all farmers across Haiti which has only one public university, located in Port-au-Prince (CIA). This means that getting a college degree in Haiti is only for a select few. Even though half of adults can read, the other half cannot. This, in turn, hinders the country’s exports and decreases its Gross Domestic Product (GDP). Agriculture represents 25.7 percent of the country’s GDP and 38.1 percent of the total labor force is involved in some sort of agriculture (CIA). Haiti exports 80 percent of its production to the United States in apparel, manufactures, oils, cocoa, mangoes, and coffee.

The typical life of a farming family in Haiti is an existence on a tiny patch of land fewer than two acres in size, which was probably part of a plantation where their forefathers were slaves. Some even farm on the mountainside and tie themselves to the mountains to keep from falling off. Most of them live in small, one-room huts that have a thatch roof made of sticks covered with dried mud. Because the literacy rate is so low, their average per capita income is about \$480 (U.S. dollars equivalent) per year compared to the current United States standard of \$33,550 dollars per capita. By comparison, the United States has a 99 percent literacy rate. Due to a low income, few have access to healthcare. Not being able to read simple things such as feed sacks or how to use a tool properly can be a danger to the illiterate. Yes, we do learn by doing; but, moving from simply *doing* to *innovating* requires *learning* which requires *reading*.

Before being able to read, Haitians need to eat to survive. Haitians normally eat two meals a day. First is a small breakfast consisting of coffee, bread, juice or an egg. Second is an afternoon meal focused on a carbohydrate source such as sweet potatoes or rice. The afternoon meal includes a type of bean or bean sauce with usually a small amount of poultry, fish, goat, beef or mutton; however, these last two meats are less common. All are typically prepared in a sauce with a tomato base. Fruits are prized in-between-meal snacks. Crops in Haiti are mostly cultivated with simple hand tools and the plow or animal power is rarely used, except on sugar plantations. Because Haiti is a mountainous country, coffee is grown on humid mountain slopes and cotton is grown on the semi-arid plains and plateaus. Commonly grown crops are

coffee, mangoes, sugarcane, rice, beans, corn and yams for the farming family's own food. A farmer is considered lucky if he has chickens, pigs or goats.

The millions of relief aid dollars that poured into Haiti following the 2010 earthquake as well as the ongoing relief and rebuilding efforts are noble; however, Haiti needs more. Haiti desperately needs diversified, sustainable agriculture and to do this, local farmers need to do two things: Learn to read and plant breadfruit trees. As simplistic as this notion sounds, it can go a long way in eliminating both poverty and hunger in this Caribbean nation. According to the United Nations Educational, Scientific, and Cultural Organization's (UNESCO) website, literacy is fundamental for human rights and is the foundation for lifelong learning. It is essential to human development as it is an instrument of empowerment. A literate community is able to exchange ideas and engage in debate.

Retired teacher Ann Cheatham of San Angelo, Texas, says reading was like tasting chocolate for the first time. Books can tell us about people who have lives that seem so strange to us, but show us that our hearts, hopes, and Creator are the same. Reading is still like chocolate. For Gina Lindsey of Plattsburgh, New York, reading exists on a similar plain. Lindsey, who works at Clinton Community College, said "I think the most important reasons we read are to discover who we are and to develop compassion for others—that is, to be able to identify with others' stories who are similar to us, or to empathize with those whom we initially think we can't relate to by embracing our common humanity" (Lindsey interview). Learning how to read is one of the most important skills a person can have. It is a basic form of communication that everyone should enjoy. American author and literary critic Elizabeth Hardwick once said: "The greatest gift is the passion for reading. It is cheap, it consoles, it distracts, it excites, and it gives you knowledge of the world and experience of a wide kind. It is a moral illumination." Another important skill that comes along with reading is applying what you have learned. "At first, we learn to *read*. Then, we read to *learn*. Reading is the key to all learning," this is according to the website of the Prince Edward Island Literary Alliance in Canada (PEILA). Doing this makes you an independent being, meaning no matter what happens you are prepared to take care of yourself and your family without the need for assistance. These are the keys to Haiti's future and success in the world.

History has not been kind to Haiti. "Haiti became the world's first black-led republic and the first independent Caribbean state when it threw off French colonial control and slavery in the early 19th century. But chronic instability, dictatorships and natural disasters have left it as the poorest nation in the Americas." (BBC News). Throughout its history, Haiti has been devastated by earthquakes as well as periodic droughts and government corruption; these inherent problems have created a tremendous burden on the availability and sustainability of food, as well as illiteracy among its farmers.

Haiti is officially the Republic of Haiti, and is a Caribbean country that sits west of the Dominican Republic and east of Jamaica. It occupies the western portion of the island of Hispaniola and is in the greater Antillean Archipelago, which it shares with the Dominican Republic. Its capital is Port-au-Prince. Their currency is the Haitian gourde and the country has two official languages: Creole French and French, however, English is also commonly spoken. Creole French is the language most Haitians speak; therefore, any type of help or aid should be given in the language of Creole. Unfortunately, most of Haiti's children are forced to do their school work in French. This is according to a BBC news article written by Cordelia Hebblethwaite, "It's like a toddler who is forced to start walking with a blindfold" (BBC).

A great deal is already being done to help Haiti with earthquake relief. The effective collaboration between the government, UN agencies and NGOs (non-governmental organizations) has changed the lives of 4,300 of the country's poorest children. An education project has provided school materials and supplies to 33 schools. Most of the children lived in the populated slum, Cité Soleil, an area where overpopulation, violence and insecurity are a daily reality. This rapid-impact project also promoted the right to ed-

ucation, in particular by encouraging and supporting school attendance and teachers' training. It was funded by a donation of \$70,000 from soccer stars Ronaldo and Zidane, both United Nations Development Programme Goodwill Ambassadors” (Millennium Development Goals Monitor). Trees That Feed is an example of an NGO that works with governments and not for profit organizations in countries with the greatest needs that include Haiti.

But, Haitians need help in learning how to read and write. This skill is essential to life and means so much more to the people of Haiti. The ability to read is a precious gift to the people of Haiti that we in the United States sometimes take for granted. Any project, combining literacy and the breadfruit tree, should start simple. Forcing this upon Haitian farmers is going to make them shut down and make them resist. I propose that we start a series of books in Creole which is the language most commonly spoken and most known throughout Haiti. We start with books as simple as an ABC book, meaning each letter of the alphabet has a phrase or word attached to it. The word or phrase should be about the little miracle called the breadfruit tree. For example, A is for agriculture, B is for breadfruit, C is for cultivation, and so forth. These books should be handed out with breadfruit tree saplings and should be free to the people of Haiti.

Just why is the breadfruit tree a little miracle? The answer is simple: the breadfruit tree grows in a wide range of ecological conditions with minimal labor or materials and requires little attention or care. Trees start producing fruit within three to five years and will keep producing for many decades (Breadfruit Institute). The planting guides for the trees could easily be translated into Creole for farmers in Haiti (Ragone interview). I propose that reading and the breadfruit go hand in hand. Reading is essential to life and the breadfruit tree brings all of the essentials together. According to Dr. Diane Ragone, director of the Breadfruit Institute, “Breadfruit is the perfect food source and crop for Haiti for many reasons. Breadfruit is already grown in Haiti and is known and accepted by the Haitian people. The tree can be grown in many areas of the country and is a long-lived perennial tree which provides not only nutritious food, but also vital canopy cover and watershed protection. I've seen centuries-old breadfruit agro-forests on steep hillsides in Micronesia, mixed plantings of breadfruit and other useful plant species that could be a model for long-term sustainability on Haiti. Breadfruit agro forests will help reforest Haiti in less than a decade” (Ragone interview).

This project could be funded with donations from millionaires and ordinary people alike. Public relations would be the key to getting the message across just like Michael Jackson did with his song “We Are the World.” He brought many famous people together to raise millions of dollars; this same idea should be applied to the breadfruit tree and the ABCs of literacy. These books should be sent out along with as many breadfruit trees that can be propagated. “Most varieties of breadfruit are seedless and must be propagated vegetatively, using root shoots or root cuttings. This method is slow and inefficient. The Breadfruit Institute and its partner Global Breadfruit have developed innovative micro propagation methods that make it possible to produce and distribute tens of thousands, or even millions, of breadfruit trees. The trees are shipped as small, weaned plugs that are transplanted into a simple shade house and grown for 12-16 weeks until they are large enough to be planted in the ground,” said Dr. Ragone of the Breadfruit Institute (Ragone interview). But, how much would all of this cost? Right now, the cost per tree plus shipping and handling is \$10 (U.S. dollars); however, the price could decrease as more trees are purchased (Ragone interview). Funding the project could be done with organizations that are already there in Haiti, and which are already taking a stand to help. Organizations like the International Red Cross, Trees That Feed, and perhaps even Catholic missionaries might not be opposed to helping in these relief efforts, because after all, 80 percent of Haitians are Roman Catholic (CIA). What better idea is out there than to learn to read by the ABC books, and then to read the Bible, if that is your religion, to help you get through your time of need?

A farming initiative needs to be implemented along with the availability of books to help the Haitians apply what they have learned. Here is where the breadfruit tree comes in. According to the article will Breadfruit Solve the World Hunger Crisis? New Developments in an Innovative Food Crop, *the Breadfruit Institute, within the nonprofit National Tropical Botanical Garden (NTBG)*, is a major center for the tree's conservation and research of more than 120 varieties from throughout the Pacific, making it the world's largest repository of breadfruit. As a result of this work, the institute has received requests from numerous countries seeking quality breadfruit varieties for tree-planting projects. To address this need, the Breadfruit Institute has developed innovative propagation methods, making it possible to produce and ship thousands, or even millions, of breadfruit plants anywhere in the world (Lucas and Ragone). The planting of breadfruit trees in Haiti can contribute to sustainable food security, diversification of agriculture, and agro forestry. This agro forestry is important to Haiti because, over the past couple of decades, they have lost many of their trees due to natural disasters and ignorance in proper land use. This ignorance comes from illiteracy. Because people cannot and do not have access to the new ideas in AG efforts, they have a hard time in bringing bring back the forests and also in getting food and the basic essentials a family needs to survive. In a magazine article which appeared in *Hana Hou!*, the magazine of Hawaiian Airlines, Dr. Ragone says that "Haiti has such problems with deforestation, loss of tree cover, loss of watershed, with hunger...and the breadfruit could change that" (Steele article).

There are approximately 120 varieties of breadfruit trees from 34 islands in the Pacific, all within a short plane ride away from Haiti. In an article she wrote for *Hana Hou!*, author Julia Steele described the breadfruit tree in the following way: "It is the great staple of the Pacific, the sustenance that for millennia fueled migrations west across the ocean and nourished emerging cultures. Voyagers seeking new islands would carry young breadfruit trees in their canoes, precious cargo that promised incredible bounty" (Steele article). "The Ma'afala variety that the Breadfruit Institute is distributing through its Global Hunger Initiative are fast growing and begin to fruit in two to three years . . . Think of it as a 'potato on a tree.' The fruit can be prepared and eaten at all stages of maturity. When small and immature it is cooked as a vegetable, (similar in flavor to artichoke hearts), when starchy and mature it is most similar to potatoes and can be roasted, baked, boiled, or fried, or dried and ground into flour. The ripe, sweet fruit can be eaten raw or used to make desserts or sweets. Mature, starchy fruit can be dried and ground into flour and flour of the Ma'afala variety contains 7.6% protein, more than any other variety," said Dr. Ragone (Ragone interview.)

The National Tropical Botanical Gardens in Hawaii is where the Breadfruit Institute is located. It was founded in the 1970s; the first trees were planted in 1978, and there were 25 varieties of breadfruit trees growing by 1982. They have an extensive computerized data base to monitor production. The breadfruit tree produces gluten free products and can be made into gluten free flour which is healthy for anyone. An averaged sized breadfruit tree has a canopy of 25 meters (squared) and will produce 100 pieces of fruit, whereas, larger trees can yield 400 to 600 pieces of fruit each growing season. The breadfruit is a tree which has an amazing range of uses. Its fruit can be cooked and eaten at all stages of growth; this is important because at any time in the tree's life of producing fruit, a farmer will always have an availability of food or the food can be bartered or sold. The fresh fruit can be baked, roasted, steamed or broiled (Breadfruit Institute.)

"The fruit can be used for home consumption, sold as fresh fruits in markets, and processed into many different products to provide income. The skins and unused fruit can be fed to pigs, chickens, and rabbits, and goats," said Dr. Ragone (Ragone interview). There are numerous ways to prepare dishes based on the breadfruit. It is also very nutritious and provides all of the essential nutrients a Haitian needs in the everyday diet. It is high in energy in carbohydrates and low in fat and is a good source of niacin and thiamine, potassium, magnesium, iron, fiber and calcium. Some varieties are good sources of antioxidants (Breadfruit Institute). But aside from just food, this tree can provide construction materials, fabric, medi-

cine, glue, insect repellent, animal feed, and so much more. This tree can be grown with a wide range of plants and the tree improves soil and water conditions and provides food security. It also gives shelter and food for important plant pollinators and seed dispersers such as fruit bats, birds, and honey bees.

Why Haiti? What does Haiti give the world? And why is Haiti important? Haiti is important because its exports are part of the everyday trade that is extended throughout the world, including the United States where 80 percent of Haitian exports are shipped. You more than likely cannot wake up without sipping coffee from Haiti. You might also enjoy a mango which came from Haiti or eat a bowl of rice that was grown in Haiti. To make sure that you can have your coffee, mangoes and rice, literacy rates need to improve to increase learning and ultimately increase production and this comes through the breadfruit tree. Literacy rates can be improved through the ABC books and NGOs which are already in place. However, the people of Haiti should not read the books on their own; that is not the intention. You will not learn if you are not taught. The teaching should come from all across Haiti as mentioned above. Empower farmers to take interest in this; farmers who take it should take it to show determination for creating the best Haiti it can be, by being empowered, by being independent, by learning to read, write, and learn. In the same *Hana Hou!* article, Steele writes that Cultivaris, a globally minded horticulture company that produces millions of plants every year, wants to help spread the breadfruit tree. “Company partner Josh Schneider is ecstatic at breadfruit’s potential. ‘These plants really offer a huge opportunity to change the world,’ he says. ‘Breadfruit has so much promise to empower people to feed themselves and their families. I honestly think it is one of the most exciting things that we have ever been involved in our lives’” (Steele article).

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