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Mali: Implementing Research

Introduction:

Someone once said, "Being good is commendable, but only when it is combined with doing good is it useful." We all know that world hunger is, and will continue to be, an enormous issue throughout the world. We have heard about droughts and food shortages, seen the footage of starving children, and read about the lack of information that the people in these countries receive. How many times do we process this information, feel sorry for the other people, and then go back to our comfortable lives here in the United States? Everyone has done it. Change is not going to happen unless we decide to take a stand.

The basis of change happening can start with education. In Mali, more research is needed, especially in improving agricultural crops and technology. The agriculture industry is suffering due to changes in temperature causing severe drought. Drought resistant crops are needed and more seed companies are also necessary in order to distribute the product. Local farmers also need to be trained about how to use the seed in order to increase yields and support their families.

Mali has the potential to be a sustainable country. Many people are willing to change their lifestyles if it means gaining a better life for their families. The biggest problem though is getting these higher yielding products to the people and then informing them about implementing these new resources. If this can be accomplished, the people in Mali will have a greater potential to be more economically stable.

Country of Mali:

Mali is located in the interior, western side of Africa. It is slightly less than twice the size of the state of Texas. Mali is arid and dry for most of the year, but it becomes more humid from June to November. Due to the desert or semi-desert area that makes up the majority of the country the water resources are very important. The Niger River runs through the southern half of the country and is the source of livelihood of many of the people.

According to the World Factbook, there are approximately 14 million people living in Mali. About 97% of the population is under the age of 65 and the median age is only 16 years old. The official language is French, but about 80% of the population speaks Bambara, a subcategory of the Mande ethnic group. About 90% of the people are Muslim with the other 10% practicing Christianity or a native religion.

Mali continues to remain one of the 10 poorest countries in the world. They are very dependent on gold and agricultural exports. The fluctuation of prices, along with the yield of the harvest plays a huge role in how well the economy does. Because of this, Mali relies on the help of other countries. Some of the biggest industries include: food processing, construction, and phosphate and gold mining. Many of these jobs tend to be unstable, leaving about 30% of the population unemployed. As a way to increase revenue money was invested in tourism, but due to many security issues the industry of tourism has not been growing as expected.

Lifestyle:

Families in Mali tend to be very large in size. The average household has a little over six children. They will receive, on average, eight years of schooling, but the literacy rate is only 46.4%. The boys generally

attend school longer than the girls. This is because the girls are often forced to stay home in order to learn the tasks needed to one day manage a household of their own. The average per capita income is \$691 per year. The average skilled worker makes about \$1,560 per year.

The majority of the people in Mali do not have a lot of money. This makes it very difficult to buy the food necessary to provide a balanced meal for an entire family. The main food staples in Mali are rice and millet, which count for 19% of the average caloric intake. Only 8.7% of the food eaten daily comes from animal sources. About 87% of the children under the age of five were malnourished in one way or another according to a study done in 1996 and the statistics had changed very little when the data was collected again ten years later. Some of the greatest deficiencies are primarily in iodine and vitamin A. There is also concern for iron deficiency and studies have shown that up to 47% of school children and 59% of young women were anemic. Policies have been developed to get iron supplements to pregnant women only.

Government:

Mali was originally part of the Mali Empire, which a large portion of West Africa along the northern portion of the Niger River. By 1905, most of this area was taken over by the French as part of French Sudan which later became the Mali Federation. They later gained independence from France on June 20, 1960.

Mali is currently divided into eight regions and one district, each of which has its own governor. There is also a president of the country who serves a maximum of two, five year terms. The president then appoints a prime minister to be the head of the government. The president also selects Council Of Ministers who adopt law proposals that are then sent to the National Assembly. The current president is Amadou Toumani Touré and the Prime Minister is Cissé Mariam Kaidama Sidibé.

Health Issues:

There are many health issues facing the people of Mali. A study done in 1994 showed that for every 100,000 people there were only 4.7 doctors and 13.1 nurses. The infant mortality rate is 117 deaths for every 1,000 live births and only 29% of infants less than a year old received DPT immunizations. It was a large focus about ten years ago, when 2.2% of the GDP, or gross domestic product, went toward public health care. Tuberculosis continues to be a problem in many areas of Africa. Meningitis is prevalent in the dry season and Malaria occurs more commonly in the wet season. There are also issues due to sanitation and a lack of improved water quality.

Current Farming Conditions:

Although Mali is currently undergoing difficulty with its economy there is still potential throughout the country. A lot of the promise comes in areas such as mining, agriculture, livestock, and fish. Agriculture currently accounts for 70% of Mali's labor force. Small scale farming is the driving force behind this portion of the economy and currently occupies about 3.4 million acres, according to the United States Department of State.

The fall in gold and cotton prices took a huge toll on the Malian economy. In recent years, the government has been extremely tight on cash and is very susceptible when issues arise in neighboring countries. The Niger River has also been the cause of economic problems. Drier temperatures have caused a dramatic impact on the fishing industry. The fish population has been gradually declining since the 1980s. Mali was very efficient in grain production until the mid-1960s. The harvest yields diminished due to weather related issues almost every year between 1965 and 1986. Production picked up again in 1987, thanks to donations from Western countries and government action. In most cases, it has still not

reached its full potential and more action needs to be taken to increase the amount of education and training given to the people of Mali. Often times, the research has been done, but the people are not properly informed about how to use this new technology to benefit them and their families.

Solution/Conclusion:

There is clearly no easy solution to a problem as vast as this one. Investing in educating the people of Mali and training them to implement new research and technology will definitely take a lot of work, time, and money. There have been new varieties of seeds developed over the last decade that are specifically for areas of the world like Mali. The Malian climate has been changing since the early 1980s. The droughts get more severe and there are issues with rainfall shortage and deforestation. There are many crops, such as sorghum, that have been developed specifically for the unusual climate in Mali. The main issue is getting word out to farmers and then educating them and convincing them that the benefits far outweigh the risks.

Many farmers remain skeptical. It is difficult for them to risk the ways they have always farmed in order to try something new. The hope is that after seeing how well it does with neighboring farmers, others will want to take up the same practice. A study done in 2007 showed that the amount of improved seed products had risen only nine percent in a decade. There are more private seed companies available now than there were ten years ago, making the change seem that much less significant.

Sorghum is an important staple crop throughout Mali. It has been the focus of a lot of research in recent years as well. Three new varieties were introduced to the market in 2009 through AGRA's Program on African Seed Systems (PASS) and Mali's Rural Economic Institute (IER). These new hybrids produce anywhere from 1.5 to 2.5 metric tons more per acre than the locally sold brands. AGRA expects that within the next two to three years as many as 50 percent of Malian farmers will have access to these hybrids.

There are other issues that affect success of this issue. The temperature in Mali continues to rise two to three degrees annually. This change in temperature has a direct impact on the amount of rainfall, which is closely related to the droughts that have been occurring more frequently. If the crops are unable to grow, the quality of the seed has a very small impact.

The key to informing the people about new agricultural research is getting the product to distributors throughout the country. AGRA provided seed to producers, who then were able to sell 100 percent of the seed to farmers throughout the country. Most of the producers would've sold more seed if it was available to them. One example is the company Faso Kaba. In their two years of production, they have been able to produce and sell 348 metric tons of certified crops, such as maize, sorghum, ground nut, and rice. This has over exceeded their goal of 170 metric tons. They have trained 150 people to stock the seed, and it has been distributed to over 30,000 farmers throughout Mali.

Mali is a country with a lot of potential. There is a lot of work that needs to be done in terms of educating and training the people of Mali in order to improve the implementation of agricultural research and technology. There is success happening with small seed companies all across Mali, but in order for the country to continue on this path and move toward dependency from foreign nations, more work needs to be done. The potential is there and the people are willing, the real test is in seeing how well research can be implemented.

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