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Malawi, Factor 11 Malnutrition

Malawi: Increasing Access to Nutrition through Fortification

The smallest of all African countries, Malawi, is often called the “Warm heart of Africa.” This nickname comes from the warm and friendly nature of the people who live there. Despite conditions that limit access to food, health care and education the people display a generous spirit. These conditions signify that though improving access to the right resources, farmers have the potential to help themselves while helping each other. Addressing the issues related to malnutrition by providing families access to fortified foods can help set Malawi on the right track. One solution that comes to mind is the introduction and adaptation of adding orange-fleshed sweet potatoes, OFSP.

The average Malawi family size is five people (Villages, 2011.) Families build houses of mud and thatched roofs or corrugated iron and stone close to each other like a compound. Diets consists of a corn based diet. The traditional dish of nsima, a thick mashed starchy mixture which is formed into patties and cooked. Often nsima is served with an ndiwo which is a sauce made of beans or meat to give the nsima taste. Diets in Malawi also may include rice, cassava, potatoes and fish.

There are many issues in Malawi, but extreme poverty is at the heart of all of the issues. As a country, Malawi is landlocked and is one of the world's most densely populated and least developed countries. The economy relies heavily on agriculture and 80% of the population lives in rural areas (“The World Factbook: MALAWI”, 2017.) The CIA reports that agriculture makes up one-third of the gross domestic product and accounts for 90% of the revenues of exports. Tobacco alone accounts for more than half the country's exports. The major cash crops produced in Malawi also include coffee, cotton, sugar and tobacco. Tobacco occupies four percent of farmland (“Country Profile: Malawi.”) With the drastic reduction in smoking, poor leaf quality and overproduction have caused the price of tobacco to drop.

Due to the high level of poverty, Malawi has made education a priority. One quarter of the national budget is spent on education and primary education is compulsory, or mandatory. Despite this positive move, there are still many challenges. One in ten students still does not go to school, and only one quarter of students go onto secondary education (“school-resources-and-learning-environment-in-africa-2016-en/school-resources-and-learning-environment-in-africa-2016-”, 2016.) According to the United Nations, teachers often have 80 students in a classroom, with some classes consisting of over 100 students.

Healthcare is very limited in Malawi. More than one in ten adults is infected with the HIV virus. To further complicate healthy issues few houses have access to plumbing or electricity. Diseases like malaria, measles, tuberculosis and pneumonia are common. There are four main hospitals in Malawi, but there is a lack of medical supplies and doctors and nurses.

("Poverty & Healthcare") The World Health Organization (WHO) reports that for every doctor in Malawi there are around 50,000 people. To put this in perspective, the United States has one doctor per 390 people. ("The Patients per Doctor Map of the World | Big Think")

The rural nature of Malawi reflects the fact that 80 percent of its people are engaged in production agriculture. Over 40 percent of smallholders cultivate less than 0.5 hectares with the average farm size of 0.28 hectares ("EASTERN AND SOUTHERN AFRICA - ifad.org.") According to the New Agriculturalist, most farmers have less than a hectare on which to grow the bulk of their food, have decreasing fertility and limited access to credit which makes productivity very limited (Country Profile, New Agriculturalist.) These smallholders produce 75 percent of the food consumed in Malawi. Most people rely on their crops to feed their family. This has in turn caused decreased soil fertility. Farmers must plant a crop to feed their family, and this pressure requires farmers to plant crops, with or without access to fertilizer, water, or even the right seed. There have been initiatives to improve seed varieties and fertilizer, which has worked but has come at the expense of education and healthcare.

The problem in Malawi also deeply impact children, of which there are 6.8 million in Malawi. Children make up 51% of the population, and 12% have the HIV virus. The families live on \$0.32 a day, and that one's and extreme poverty live on \$0.20 a day. This has resulted in 46% of the children 5 years old are stunted, 21% are underweight, and 4% are wasted, which simply means they're close to dying ("The children.") According to the World Bank, malnutrition is not just a poverty issue, but also stems from caring practices and disease.

To address the situation, Malawi could start by looking to a solution many of its neighbors are already using. Sweet potatoes are high in vitamin A and are not time consuming to grow. The vitamin is very beneficial to children and other and other people, who are hungry and need the vitamins. Sweet potatoes are already a part of the Malawi diet, but need to be promoted throughout the country. Farmers need to understand the importance of growing this crop and how increased consumption will help to reverse the trends of malnutrition. While malnutrition is a complicated issue, tackling this issue specifically with the introduction and adaptation of OFSP has the potential to decrease issues linked to poverty, eliminate some concerns related to healthcare and reduce agricultural degradation.

Currently, 60% of preschool kids suffer from Vitamin A Deficiency, VAD, in Malawi, while 14% of pregnant women are deficient. (Who) VAD leads to blindness and tragically two-thirds of those children will die within a month of going blind. This condition also increases the possibility of a woman dying during pregnancy and increases the chances of the baby being born light weight. It also is believed to help the widespread of HIV. Zinc, Iodine and micronutrient deficiencies are also common throughout Malawi ("Nutrition at a Glance Malawi.")

Many high vitamin A foods are too expensive for families in Malawi to buy. Growing sweet potatoes allows Malawi family vitamin A storage right in their yard. Unfortunately it is very difficult for them to distribute the nutrients to rural areas farmers (Charles, 2012.) In the neighboring countries of Mozambique and Uganda, Harvest Plus distributed vitamin A rich sweet potato to 24,000 farming households. The project was a success with 68% of Mozambique families adapting the potato and 61% more Uganda households.

According to Harvest Plus, women were key to the success of the project, as they fed it to their children and sold it at markets. 2016 World Food Prize Laureates Maria Andrade, Robert Mwanga, Jan Low, and Howarth Bouis were part of a successful team that in 2016 was recognized for what was called “the single most successful example of micronutrient and bio fortification -the orange fleshed sweet potato-OFSP” (Global Reach Internet Productions, LLC - Ames, IA - globalreach.com.) Dr. Low made the critical observations that farmers and consumers were not quick to adopting the OFSP. She secured grant funding to test the OFSP with women in villages. Her research yielded results that children preferred a potato with a moist consistency while adults preferred a dry consistency. Her studies helped Dr. Andrade and Dr. Mwanga bred the OFSP. The program persuaded almost 10 million households in Africa plant, purchase and consume OFSP. At the end of the project, the sweet potato used had become the third most important food in the diet of young children and supplied 60% of vitamin A ("Rooting out Hunger".)

The group recognized for their work in Uganda and Mozambique through Harvest Plus, the International Potato Center, has already started to apply these principles in Malawi with some tremendous success. In collaboration with the USAID, United States Agency for International Development, a center called the Malawi Improved Seed Systems and Technologies, MISST, worked alongside other groups to educate families about variance in the diet. The program provided access to OFSP to over 62,500 households. A group of over 100 farmers received bundles of OFSP vines in a period from June to October in 2015. The plants yielded 25 tones per hectare, or double what was expected (Kashia & van Vugt, 2016.) These early signs show the potential for great change in Malawi.

Expanding the use of sweet potatoes, specifically the orange-fleshed sweet potato, OFSP, using lessons learned in Mozambique and Uganda can make a significant impact in a place like Malawi. Taking advantage of the fact that most families grow their own food, would allow families to continue to grow the food they need, while improving nutrition. Education and funding are keys. Rural women farmers need to be a part of spreading the message of the nutritional benefits of the OFSP. The Malawi government and aid groups need to play a critical role in helping to provide access to the OFSP and allowing outreach efforts to take place.

The introduction of the OFSP can help to change the nutritional landscape of Malawi. It has the potential to deliver lifesaving vitamin A to women and children and pave the way for other nutrient fortified crops. The early success from MISST indicates that the Malawi government and other not-for-profit agencies could get a great deal of benefit from continued investment in OFSP. Educational programming through schools and aid programs is critical for the programs continued growth and success. These early successes are proof that the OFSP and other fortified foods can and will make a difference in fighting malnutrition in Malawi. These are important steps to helping to fix many of the other bigger problems like poverty, insufficient healthcare, and agricultural degradation.

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