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### **Malawi: Investing in a Sustainable Future through Education and Training**

Gandhi said “To a hungry man, a piece of bread is the face of God.” It can be easy to take for granted our access to food; thus it is hard to believe that we live in a world where 18,000 children die from hunger or malnutrition every day. We are in the year 2011, and people still do not have enough food to survive. The Millennium Development Goals (MDGs) were developed in 2000 by the United Nations to improve the lives of at least 1 billion of the world’s poor by 2015. The MDGs are working to address certain issues by seeking advancements in areas such as food security, economic development, and health; this is especially important in Malawi. Malawi has made much progress in its MDGs; “The UN Secretary General has lauded Malawi for its progress: ‘In a few short years, Malawi has come from famine to feast; from food deficit to surplus; from food-importing country to food exporting country’” (Vandermoortele). Much of this success is attributed to the government’s subsidy program for farmers. However, this program may be in jeopardy. Therefore, it is essential that educational training on basic farming and research on new technologies be accessible to a greater percentage of farmers in Malawi to ensure a sustainable future.

To develop stronger agricultural training, education, and research programs it is necessary to understand Malawi and its people. Malawi is known as the “warm heart of Africa” (“Malawi” *mmint*). It is a landlocked country about the size of Pennsylvania, and it is located in Southern Africa (“Africa::Malawi”). Unlike other countries, Malawi has been in a state of peace for over a century now; it has not been impacted by war or internal discord. Malawi, one of the most densely populated nations in the world, has almost 16 million citizens (“Malawi” *mmint*) (“Africa::Malawi”). Its people are notorious for their unrivaled friendliness (“Malawi” *mmint*). Despite all these positive aspects in their lifestyle, they suffer. They suffer from poverty, hunger, malnutrition and disease.

More than forty percent of the population lives below the poverty line of less than a \$1 a day (“Malawi” *wfp*). Malnourishment is a problem. Their common diet of two daily porridge meals lacks diversity and foods rich in micronutrients (“Malawi Summary”). Many people are malnourished, and fifty percent of children under the age of five are stunted or very small for their age due to malnutrition (“The role”). Studies have shown iron deficiencies, vitamin A deficiencies especially in children, and anemia affects seventy five percent of children under the age of five. In Malawi, about eleven percent of the population has HIV/AIDS; that is approximately one out of every seven Malawians has contracted the disease (“Africa::Malawi”) This disease has become the main cause of death for those between the ages of 20 and 49. Every year, approximately 50,000 to 70,000 adults and children die from Aids (*Africa* 120). Up to seventy percent of hospital beds are taken by victims who are HIV positive (*Nations* 1021). Furthermore, women account for fifty percent of those infected with disease, and this has disastrous consequences because they are the primary subsistence farmers. Without the help of women, agricultural output severely decreases. HIV/AIDS has also impacted the lives of children; many are left orphaned because of the disease and are forced to drop out of school to take care of their families. Challenges arise for farmers to produce food and for workers to provide for their families because they are either infected with HIV/AIDS, or they are looking after someone else who is infected. In 2009, half a million became orphans (“HIV”). In addition to HIV/AIDS, another deadly virus that plagues Malawians is malaria. It remains one of the chief causes of death, and it is the leading basis for outpatient visits according to the Health Management Informational System (“President’s”). When it comes to health care, Malawi loses an average of four nurses a month to HIV/AIDS. Furthermore, there is only one doctor per 50,000 people; this is one of the lowest ratios in the world (“HIV”). It is a stark contrast to the United States ratio of one doctor per 390 people (“The Patients”).

Agriculture is the primary basis of Malawi's economy, and it makes up 86 percent of employment, one-third of the GDP, and 90 percent of the export income. Tobacco makes up for more than half of these exports. Because of agriculture's large role in Malawian life, more than 80 percent of the population is made up of small farmers living in rural areas ("Africa::Malawi"). These small farmers have farms with an average size of 0.69 acres ("Land"). This land is primarily tended to by women and youth ("Statement"). The main crops grown are tobacco, sugarcane, cotton, tea, maize, potatoes, cassava, sorghum, and pulses. However, only 32 percent of the land is farmable (state.gov). Most of the available farm land is used to grow tobacco, sugar, and tea. This leaves an even smaller portion of land available for food production (Appiah 704). In addition, climate changes have brought on droughts, erratic rains, floods, and higher temperatures which have lowered crop yields and increased the rate of soil fertility degradation. Many small rural farmers endure food shortages for up to five months of the year due to poor harvests ("Making"). Therefore, they can only sell a small quantity of their crops to earn an income, and as a result most cannot afford fertilizer to increase their crop yield (Ngozo). More than 60 percent of the population lives below the poverty line of \$1 a day, so it is easy to understand why many do not buy fertilizer which can cost up to \$15 (Marmion). The Farm Input Subsidy Program (FISP) was a nationwide program instituted in 2005 to subsidize fertilizer and maize seeds for small farmers. The purpose of this program is to increase maize yield and food availability at a reduced cost to small farmers with limited resources (Chibwana). Although this program has helped Malawian farmers, its future is uncertain due to government funding.

In a typical subsistence farm family, families are usually very large; a woman, on average, will have six children. Families often consist of extended family members such as the husband's brothers or the wife's sisters (Africa World Edition 2008). Many families build their homes close together in small communities and villages. Their houses are made of sticks and mud with a thatch roof or a corrugated iron roof held in place by rocks, and floors are made of cow dung. An average home has sleeping, eating, and storage quarters ("Malawi" *everyculture*). Water for cooking and bathing is usually carried a long distance from lakes, rivers, or wells. The main diet for Malawians is nsima, a dense, starchy porridge made from corn, cassava, and other starches ("Favorite"). It is eaten instead of rice because it is cheaper and more filling; despite this, many Malawians do not eat enough calories to reach the basic nutritional requirements. Sources of protein available in Malawi are fish from Lake Malawi, chicken, beef, and goat, which are all sold in markets, but unfortunately most cannot afford a diverse, nutritional diet. Thus many Malawians do not enjoy the luxury of a fish dinner which can cost about to 35 cents (Marmion). Other available protein includes red beans and peanut flower, both of which are plentiful, and insects like grasshoppers and termite larvae. As for the liquid portion of their diet, Malawians typically drink water with their meals, and if they can afford it, many enjoy drinking tea daily (*Africa* 119).

Malawi children begin their primary schooling around the age five and finish at about the age of thirteen. Afterwards, they go on to junior secondary school, and if they do well, they may advance to senior secondary school. In total, secondary school lasts for four years (*Nations* 1020). In 1995, primary education in Malawi became free, and enrollment increased from 1.4 million to 3 million. However, approximately one quarter of children of secondary school-age go to secondary school. In addition, because primary education is now free, there is a great demand for schooling, and some children walk 13 kilometers to go to school. The education budget is very limited since the government's decision to supply free primary schooling, and due to this, a primary school teacher may teach 59 to 96 children in a single class. As for secondary schools, they have only half the teachers they need, and at least two-thirds of these are not qualified to teach at the secondary stage. Only sixty two percent of the adult population is literate (Appiah 704).

Malawian farmers typically learn about new agricultural practices and technologies from extension workers, also known as agriculture information officers. These extension workers share information from researchers with farmers, and "stimulate desirable agricultural developments by providing informal

education to farmers through meetings, demonstrations, and field days” (Mobarak). However, there is only one extension worker for every 1300 farmers; preferably, this ratio should be one worker for every 750 farmers (“Support”). This would cover 10-20 villages. The reasons behind the lack of extension personnel include shortages in government funding for extension workers and for their training as well as death from HIV/AIDS and malaria (“The Impacts”). Despite this, there have been several successful extension projects such as composting training. One man, who viewed farming as a burden, said, “My attitude towards farming changed ... when the extension worker visited [my] village and advised us to start making [compost] manure.” He is now able to feed his family and has food left over to sell (Ndipita).

The lead farmer program has also been successful in helping with the shortage of extension workers. In one program, 25 farmers were taught beneficial agricultural practices such as irrigating and composting; those lead farmers were then instructed to teach 50 other farmers. They saw an improvement in soil fertility, crop yield, and income (“In Malawi”). Another concept that was taught to the lead farmers was the practice of pit planting. Farmers normally plant their crops on higher ridges, but with this new technique they are planting their crops in holes that are about 30 centimeters deep and 45 to 55 centimeters wide. This practice enables water to be held more efficiently by locking in the moisture, and it helps fight the dry season and makes up for the shortened rainy season (“Showing”). The effectiveness in the lead farmer program continues to show potential. Grace Malindi, Director of Agricultural Extension Services in Malawi states “So far we have been training our lead farmers as well as staff on the concept.....we are seeing that the farmers are getting empowered. The farmers themselves are testifying that it is helping out wherever we do not have extension staff available to promote our technologies” (“Lead”). The program has expanded and there are now 10,000 lead farmers (“In Malawi”).

My recommendation would be to build a partnership program that engages extension workers, lead farmers, and village schools. Extension workers could train lead farmers on the latest agricultural practices that are appropriate in their community. After completion of training, lead farmers would give instruction and supervised agriculture experiences to students through establishing school farm plots in their village. Students would get hands on experience with low cost input farming strategies. First year school plots could explore crop diversity to address nutritional needs as well as demonstration plots using legume crops to enhance soil fertility, pit planting, and composting to improve yields and food security. The students’ experiences could be shared at home, and school field days could be set aside for families and communities to see the results of the students’ farming plots. Thus the students would serve as catalysts or the social network necessary to see the adoption and implementation of new practices by farmers. In particular, mothers may be more receptive to adopting these new practices because of her children’s’ involvement.

In determining the next steps for this program, it would be beneficial to have an evaluation completed by a Borlaug Institute economist or international agriculture development advisor. A deeper understanding of the specific needs with each region would be necessary. Facilitated discussions with Malawi’s Department of Agricultural Extension Services of the Ministry of Agriculture and the Ministry of Education could determine the integration process and develop funding for the program, prioritize projects that would have the most potential to increase yield and provide food security for the community, and select pilot schools with available land. In addition, lead farmers could be provided additional resources through USAID, National FFA, and National 4-H to assist in teaching and demonstrating new methods to the students.

Community donations, such as seeds, tools, and manure, could be solicited from the students’ families and villagers. Produce raised from the plots could be utilized for a school meal program. The success of the World Food Program’s Purchase For Progress and school meal programs adds the possibility of another benefit from this partnership recommendation. These programs are providing hungry, malnourished children with much needed nourishment and assisted keeping children in school. In some

areas, enrollment has doubled, and parents are willing to send their children to school for a healthy meal ("School").

Sharing the results of the school's research plots could be a challenge because of the high illiteracy rate among adults and because of a lack in communication technology. However, the story of William Kamkwamba demonstrates the power of pictures. *Msila*, "crazy", was what the villagers called the 14 year old Malawian boy. Just two percent of Malawians had the luxury of electricity and running water, and William was determined to change this. He had an idea, a dream; he would build a windmill. No one thought he could. Science was foreign to his people, but William had read about windmills, and he wanted to bring their power to his village. He studied the pictures in science books despite not having formal instruction, and with scrap metal and bits and pieces of tractors and bicycles William built a windmill. His achievement is an example of the ingenuity of a young boy in dire circumstances ("William")("William's"). Utilizing the power of pictures approach, lead farmers could capture pictures of students setting up trials in the beginning of the season, evaluating progress in mid-season, and measuring success at harvest. Three disposable cameras and pre-addressed, postage paid envelopes would be appropriate for this task. Following each stage, the camera could be sent to the sister FFA chapters or 4-H clubs with pre-addressed, postage paid envelopes. Those students would develop the photographs and upload to the Malawi extension website where extension workers could quickly observe progress. The FFA chapters and 4-H clubs could print handouts with the pictures and return to schools to be sent home with the students to share with their families. This process may speed the sharing of knowledge and research progress where manpower, transportation, electricity and resources are so limited. Success could be measured by the number of farmers who adopt the school's agricultural practices. If results are positive, additional schools could be brought into the program.

The people of Malawi battle hunger, poverty, and disease, but they continue to make progress. By strengthening partnerships between extension workers, lead farmers, and youth, advancements in food security may reach even the smallest rural farmers. "You can chain me, you can torture me, you can even destroy this body, but you will never imprison my mind," said Gandhi. Malawians are chained to the ineffective ways of practicing agriculture, they are tortured by hunger and their bodies are being destroyed by malaria, HIV/AIDS and malnutrition; however their minds are not imprisoned. We have a human obligation to enlighten their minds to the promise of sound agriculture.

## Works Cited

- “Africa::Malawi.” *Cia*. 2011. Central Development Agency. Web. 11 Sept. 2011.
- Africa World Edition Volume Three 2008 Culture Grams*. ProQuest-CSA LLC and Brigham University: Utah, 2007. Print. (119-120)
- Appiah, Kwame Anthony and Henry Louis Gates, Jr. *Africana Volume Three 2<sup>nd</sup> Edition: The Encyclopedia of the African and African American Experience*. Oxford University Press: New York, 2005. Print. (704)
- Chibwana, Christopher and Monica Fisher. “The impacts of agricultural input subsidies in Malawi.” *Ifpri*. 2011. International Food Policy Research Institute. Web. 11 Sept. 2011.
- “Favorite Malawian Recipes.” *Friendsofmalawi*. 2004. Friends of Malawi. Web. 11 Sept. 2011.
- “Help Battling Malaria in Malawi.” *Raisingmalawi*. 2009-2011. Raising Malawi. Web. 11 Sept. 2011.
- “HIV and AIDS in Malawi.” *Avert*. 2011. Avert. Web. 11 Sept. 2011.
- “In Malawi, Where Some Farmers Lead Others Follow.” *Faceofmalawi*. 2011. Face of Malawi. Web. 16 Sept. 2011.
- “Land Statistics.” *Ruralpovertyportal*. 2007. International Fund for Agricultural Development. Web. 20 Sept. 2011.
- “Lead farmers - spreading technology in Malawi.” *Agfax*. 2011. WRENmedia. Web. 17 Sept. 2011.
- “Making Fertiliser Subsidies Work in Malawi.” *Africareresearchinstitute*. 2007. Africa Research Institute. Web. 16 Sept. 11.
- “Malawi.” *Everyculture*. 2011. Advameg. Web. 11 Sept. 2011.
- “Malawi.” *Mmint*. 2011. Medical Ministry International. Web. 11 Sept. 2011.
- “Malawi.” *Wfp*. 2010. World Food Programme. Web. 11 Sept. 2011.
- “Malawi Summary.” *Fao*. 2010. FAO. Web. 11 Sept. 2011.
- Marmion, Suzanne. “Living on a Dollar a Day in Malawi.” *Npr*. 2006. NPR. Web. 16 Sept. 2011.
- Mobarak, Mushfiq A.. “Using Social Networks to Improve Agricultural Extension Services.” *Mcc*. 2011. MCC. Web. 16 Sept. 2011.
- Nations of the World Tenth Edition 2011*. Grey House Publishing: New York, 2010. Print. (1020-1021).
- Ndipita, Mark. “Malawi: Young farmer succeeds through compost making.” *Farmradio*. 2011. Farm Radio International. Web. 16 Sept. 2011.
- Ngozo, Claire. “Richer Soil First Defense Against Climate Change.” *Cdkn*. 2010. Climate &

- Development Knowledge Network. Web. 16 Sept. 2011.
- P. Scott, Malawi Missionary, personal communication, September 17, 2011.
- “President’s Malaria Initiative.” *Fightingmalaria*. 2011. USAID. Web. 16 Sept. 2011.
- “School Meals.” *Wfp*. 2011. World Food Programme. Web. 17 Sept. 2011.
- “Showing the Way to Success – Lead Farmers.” *Find-Your-Feet*. 2011. Find Your Feet. Web. 11 Sept. 2011
- “Statement by Dr Jeffrey Luhanga, Controller of Agricultural extension and Technical Services, Malawi on the occasion of the 34th session of Governing Council of IFAD.” *Ifad*. 2011. International Fund for Agricultural Development. Web. 21 Sept. 2011.
- “Support for Agricultural Extension Training and Services programme – Malawi.” *Fica*. 2009-2011. FICA. Web. 16 Sept. 2011.
- T. McKnight, Borlaug Institute Economist, personal communication, September 17, 2011.
- “The Impacts of AIDS on Agricultural Extension Service Delivery in Malawi.” *Slideshare*. 2010. Slideshare Inc. Web. 16 Sept. 2011.
- “The Patients Per Doctor Map of the World.” *Bigthink*. 2007. Big Think Inc. Web. 16 Sept. 2011.
- “The role of family planning in human capital accumulation in rural Malawi.” *Ishtm*. 2011. London School of Hygiene & Tropical Medicine. Web. 11 Sept. 2011.
- Vandermoortele, Milo and Kate Bird. “Malawi’s Story: Improved economic conditions in Malawi: Progress from a low base.” *Developmentprogress*. 2011. Overseas Development Institute. Web. 11 Sept. 2011.
- “William Kamkwamba: How I Harnessed the Wind.” *Ted*. 2009. Ted Conferences. Web. 17 Sept. 2011.
- “William’s Story.” *Movingwindmills*. 2011. Moving Windmills Project. Web. 17 Sept. 2011