

Brianne Haskell  
Lyons-Decatur Northeast  
Lyons, NE  
Malawi, Factor 5: Climate Volatility

### **Climate Volatility in Malawi**

“Food is the moral right of all who are born into this world.” This quote from Dr. Norman Borlaug, Nobel Peace Prize Laureate and World Food Prize Founder, is extremely true. Living in the United States, Canada, the United Kingdom, and other relatively developed countries, it is easy for people to remain ignorant that other people around the world are starving and struggling to simply survive. Malawi in particular has had persistent issues not only with food availability, but also education, healthcare, and poverty. It is essential to improve the way of life for these people. It is indeed their moral right.

Over 16.5 million people live in Malawi, with only 20 percent of that population living in urban areas (Major Problems Facing Malawi Today). Overcrowding is a major problem. The total land area is 118,484 square kilometers with 24,404 of those square kilometers being covered with water (Major Problems Facing Malawi Today). That leaves more than 200 people for each square kilometer (Malawi). The vast majority of Malawians live on subsistence farms in rural areas, grow crops, and raise animals just to feed themselves and their families. (Major Problems Facing Malawi Today). There are a documented 108,000 farm families (Poverty and Healthcare). By definition subsistence farming is “farming whose products are intended to provide for the basic needs of the farmer, with little to no surplus for the market”. Major exports for Malawi include coffee, peanuts, cotton, wood products, and especially tobacco that forms about 53 percent of export commodities (Major Problems Facing Malawi Today).

Typically, Malawians live with their extended families in close clustered huts. Their rural homes are traditional with mud walls and thatched roofs (Malawi: Country Overview). Large families are valued, not only because more hands means more help on the farm, but it also assures parents will be cared for as they age (Malawi: Country Overview). Water is collected from “nearby” streams or wells. Many women have to make kilometer long trips twice a day just to provide water for their families (General Information About Healthcare). As far as lunch and dinner, many children don’t know where their next meal is coming from. Nsima is a staple for Malawian diet (Malawi: Country Overview). Nsima is a ground white maize usually eaten with vegetables and, if a good crop was harvested this year, maybe fish or meat (Malawi: Country Overview). It is popular among rural farmers because of its ability to make people feel full while also using corn, a crop that grows well in the African climate (General Information About Healthcare). However, nsima can’t provide all the nutrients that people need to be healthy. In addition to not gaining access to the food they need, the healthcare system is not up to par. “For every 1 doctor, there are over 50,000 Malawians” (Malawi). Malawi is plagued by malaria, protozoal diarrhea, hepatitis A, typhoid fever, and many other diseases that are very much curable (Major Problems Facing Malawi Today). A particular threat to Malawi is the HIV/ AIDS disease. Out of all countries, “Malawi is in the top fifteen for HIV/ AIDS killing zones” (Major Problems Facing Malawi Today). Statistics show that “One of every ten people have AIDS” (Malawi: Country Overview). Thanks in large part to AIDS, the life expectancy is only forty-seven years old, almost half of the United Kingdom at eighty-two (Poverty and Healthcare). Now, with the ebola epidemic sweeping across the majority of Africa, hospitals and clinics are even more overwhelmed. “Health systems that were already lacking basic equipment and facilities, medical staff, and infrastructure” simply can’t help all of their patients (Tafirenyika, Masimba).

Malawi is a country rich in natural resources. Uranium, limestone, bauxite, coal, and hydropower is found in abundance (Major Problems Facing Malawi Today). However, Malawi remains one of the poorest countries with over 50 percent of the total population living below the poverty line (Major Problems

Facing Malawi Today). Primary school is free, provided by the government, since 1994 (General Information About Education in Malawi). This primary school only lasts for eight years, though. “Most are under-resourced, under-staffed, and under-funded” (General Information About Education in Malawi). In addition, uniforms, pens, notebooks, and other supplies needed for school are left up to the families to pay for (General Information About Education in Malawi). Even to buy just the pens, let alone the uniforms and other supplies, is a stretch to the budget. The literacy rate in Malawi stands at 62.7 percent, but females have a literacy rate of only 49.8 percent, which is on the low end for Africa averages (Major Problems Facing Malawi Today). Another extreme problem is the rapid and destructive weather changes that are characteristic of this African region (Malawi: Country Overview). Droughts to heavy rainfall in a matter of days isn’t uncommon (Malawi: Country Overview). As mentioned before, the vast majority of Malawians live on small subsistence farms that struggle to provide for themselves, let alone make a profit in the market. These weather changes make poor crop yields and, consequently, widespread famine (Malawi: Country Overview). Because of the over-dependence on small farms with little to no income, famine spreads without dramatic weather changes as well. Deforestation and land degradation due to overpopulation pose real problems for Malawi (Major Problems Facing Malawi Today). Sanitation systems are also lacking. Water pollution from agricultural run-offs, improper sewage management, and industrial waste disposals restrict Malawi from becoming a better and wealthier country. (Major Problems Facing Malawi Today). Other barriers to the typical family in Malawi is the health system. The life expectancy is only forty-seven years old (Poverty and Healthcare). Besides the diseases mentioned before, this leaves many orphans with close family left to care for them. “High orphan population has created an undue burden on extended families that are barely able to provide for their own children” (Malawi: Country Overview). There is always hope however. Especially with the Ebola outbreak in the last few months, African leaders have been taking a step back and really looking on the weakness in their countries. “Ebola has awakened and shaken decision-makers in a way that malaria, tuberculosis, and other epidemic diseases that claim millions of lives in Africa each year, have failed to do (Tafirenyika, Masimba).

Out of all these factors, one of the greatest that is holding Malawi back from becoming a productive, secure, and wealthy country is the climate. Malawi’s climate has never been ideal. “Malawi has a sub-tropical climate, which is relatively dry and strongly seasonal” (Climate of Malawi). The warm-wet season lasts from November to April and during this time Malawi receives 95% of its annual rainfall (Climate of Malawi). Extreme weather conditions are not uncommon. One year a terrible drought may be followed by a year with severe flooding, especially in the lower lying valleys of Malawi (Climate of Malawi). In the last few years however, things have been worse. “Rising temperatures, longer drier seasons, and more intense and concentrated rainfall” have made the subsistence farming that the majority of Malawians depend on, impossible (Magrath, John, and Elvis Sukali). The already unstable weather patterns in Malawi are being amplified by global warming. According to Mark Tadross and associates, their work ‘suggests that changes are occurring at the beginning of the season, reinforcing the evidence that the start of consistent rainfall for planting has been getting later’ (Magrath, John, and Elvis Sukali). As mentioned before, maize and nsima are staples of the Malawian harvest and diet. “For farmers who rely on maize, especially varieties that take a full three months to mature, these variables create huge problems” (Magrath, John, and Elvis Sukali). Where people before were just getting by, now are simply starving to death. When the food you put on the table is in your own backyard, and the weather wipes it out, there’s not much you can do. “Even in the best of times, many farmers only harvest enough to feed themselves and their families for some three to four months” (Magrath, John, and Elvis Sukali). And these are not the best times. Women seem to suffer the most, having to spend more time coaxing crops out of the ground and gathering increasingly scarce water and other resources (Magrath, John, and Elvis Sukali). “Women interviewed at a Bwemba village say that in previous years they would be weeding their growing crops around Christmas time, but now they might only be planting at Christmas, or later” (Magrath, John, and Elvis Sukali). People in another village claimed they used to see four major rainfall events, starting in late September and running through the beginning of August. Each rainfall signaled the

start of a specific event or farming practice. This pattern can no longer be distinguished (Magrath, John, and Elvis Sukali). What does this mean for Malawian families? Well “more than 90% of its population is predominantly engaged in subsistence-level, rain-fed agriculture and 60% of these are food insecure on a year-round basis” (Magrath, John, and Elvis Sukali). The changes in climate and extreme weather conditions, whether they be flooding or drought, means death for most Malawians.

Climate volatility does not just affect food availability and a good harvest. It contributes to other major issues plaguing this small country. Malawi is a country in poverty. “Twenty-nine percent of the people live in extreme poverty” (Magrath, John, and Elvis Sukali). “Extreme climate events influence poverty by affecting agricultural productivity and raising prices of staple foods that are important to poor households in developing countries” (Ahmed, Syud). When people have no money and their food gets destroyed because of the weather, how can they receive food? For many they resort to prostitution just to put food on the table. “An estimated one million people in Malawi are living with HIV and over 70,000 AIDS related deaths were recorded in 2007 alone” (Magrath, John, and Elvis Sukali). The disease is directly related to climate shock. “In Bwemba, the women estimate in between five and seven out of every ten households the women resort to selling sex for food during the critical months of December to February” (Magrath, John, and Elvis Sukali). The climate changes that kill the crops, lead to killings of people through these diseases. Especially during a bad crop, girls are used to generating income. When they cannot because the crops are all dead, pressure from peers and needy family members force many women and girls into terrible situations (Magrath, John, and Elvis Sukali). “These actions just feed the growth of HIV and AIDS. The spread of HIV in turn leads to further poverty and a greater need to resort to desperate measures” (Magrath, John, and Elvis Sukali). HIV isn’t the only disease that worsens as the climate does. “Human health in general is directly affected by changes in the climate, especially infant malnutrition and chronic ailments associated with Malaria. For example, Malaria is expected to increase and spread to previous cool zones as temperatures increase due to global warming” (Magrath, John, and Elvis Sukali). As one can see, diseases become more prevalent as there’s a greater shift in climate. Also, when people are ill or contract a disease, money becomes an issue. That person needs serious medical help in many cases, however that help may be miles and miles away. Malawian families don’t have the resources to make that kind of journey. Let’s just say that a hospital or clinic is relatively close by (which would be very rare). These families would still have trouble coming up with enough money to pay for the treatments and medicines prescribed. This is yet another way climate volatility encourages poverty.

Expanding even more on the problems of an unstable climate, it brings about destruction of the environment and all crops. It also raises the number of diseases, increases poverty levels, and makes water harder to find. Climate is a huge factor. Malawi is not some dry, barren land. It has many resources that are just waiting to be tapped into their potential. Many times the unpredictable weather gets in the way. Malawi has a bright future if we look into this issue. Adapting agricultural practices and supporting ecological resilience to erratic weather can make a world of difference. Small steps in the way crops are planted and planning for terrible weather in advance can increase crop production. With more crops comes more food on the table. When there’s more food on the table, sexually transmitted diseases aren’t near as likely to spread because people won’t have to sell their bodies as a way of income. An unsteady climate is the biggest link directly affecting food availability.

So how does one combat the climate? One solution that some communities in Malawi are already taking part in is planting trees. “Planting trees in Malawi will not solve the global problem, but as part of a suite of adaptation practices, it will certainly help people to cope with climate change up to a point” (Magrath, John, and Elvis Sukali). Increasing tree cover can reduce sudden flooding and soil erosion, helping crops that are food sources to stay healthy. Trees may also reduce evaporation from the soil, act as windbreaks, and obviously increase access to timber (Magrath, John, and Elvis Sukali). However, the principal cause of climate change is global warming because of greenhouse gas emissions released in excess amounts

from industrialized countries. To combat climate change first the people of Malawi need to be informed. They need to be educated on different agricultural practices that have worked for different countries in the past. For example, one farmer in Malawi decided to plant his maize in the furrows rather than on the ridges, as everyone else is accustomed to doing (Magrath, John, and Elvis Sukali). This practice helped conserve moisture during some of those long droughts. It is essential that fellow Malawians get together and communicate and advance to conferences about these practices. Communication among the Malawians who know what works the best will improve the overall productivity of the country. Setting up conferences for Malawian farmers would work very well. However, there would have to be much planning around transporting all the farmers there and also getting some expert agronomists to contribute to the conversations. These agronomists need to be aware of Malawian culture and either bring a trusted translator or learn to speak with the people themselves. Before big conferences may be assembled, which is the goal, these agronomists may need to meet with the farmers in smaller groups to gain understanding and trust between the two. This would make the sharing of information and ideas much smoother in the future for the bigger assemblies. For this to work, foreign countries as well as early adopters need to stress the importance of the conferences so that Malawians know just how life saving the ideas can be. Using alternative farming practices is an appropriate method to help Malawi because changing the way they plant crops, should change the productivity for the better as well. Also, many universities and colleges offer extension services meant to further the education of their students. Why not set up some of these extension offices over in Africa, creating the experience of a lifetime for some students? They would have the chance to witness Malawian suffering first-hand but also have the change to improve it through agriculture and teaching. It would be advantageous for both sides to set up an outreach program similar to that. Planting in a different way, however, is just the second step. The last is actually changing what Malawians are putting into the ground. There are improved varieties of maize and nsima that are more hardy, in harsh environmental conditions. If Malawians could simply have access to some of these hybrid plants, food would come with less stress and less toil. Through the use of these practices Malawians should experience a higher income. With this higher income, drip irrigation may become a beneficial option for the Malawi people. It is “arguably the most efficient method of providing water to trees, crops, gardens, and landscapes. The efficiency of a well-designed drip irrigation system can reach nearly 100 percent” (Drip and Micro-Spray Irrigation Introduction). Some other benefits include that it is the best type of irrigation in windy conditions, reduces pollution from runoff, and it can be well adapted to different soil types and terrains (Drip and Micro-Spray Irrigation Introduction). This type of irrigation can yet again increase crop productivity and yield leading to more food on the table and maybe even a little extra income. The Malawian government could help the funding of this irrigation as well or with hybrid seeds through micro loans. These loans could be given one acre at a time, slowly until farmers are producing a more steady income for themselves and their families. Non-government organizations would also be an option as a financier in these endeavors, especially if in some eyes the government may not seem the most trustworthy. Families given the opportunity to take these loans would then be required to attend the conferences with other Malawians and the agronomists mentioned before. The conferences wouldn't have to be all lectures and debates either. More of a hands-on approach may be incorporated so that farmers may take more back to their actual farms and share all the progress made. Each meeting would cover very small issues at a time (take baby steps) in order to move Malawi forward. Financing of these loans could be done through sustainably leveraging their considerable natural resources to fund the microloan program. Care must be taken to not ravage the environmental resources, and assure the money reaches the intended farmers, so this may not be the best option until trust is restored and the mechanics of the program are settled.

What can we, as Americans, do? In communities everywhere have fundraisers to be able to send over the hybrid seeds to the people in need. Even more important is to raise money for not only the seeds, but to send over teachers. Educators that can show Malawians how to plant and where to plant these improved species are essential for the growth of the country. Many Americans may argue that the U.S. needs to focus on the problems seen here at home before spending more money on some country halfway across

the world. Those people have a valid point that there is hunger, among other issues, in the United States still. However, the vast majority of us aren't starving. The vast majority of us have plenty of clothes and fresh water. The vast majority of us go to school (and sometimes grumble about it). Yes there are issues in the United States but Malawi is suffering in a way a majority of Americans can't even imagine and it is our ethical duty to provide help to these people. What may seem like small donations make a world of a difference when people all work together. Another, less financially complicated solution, is to try and create a "low-carbon society" (Skea, Jim, and Shizo Nishioka). This requires no financial obligation however it does require a commitment not only to the Malawians in need, but to mother Earth as well. "A low-carbon society should: take actions that are compatible with the principles of sustainable development, make an equitable contribution towards the global effort to stabilize the atmospheric concentration of CO<sub>2</sub>, demonstrate a high level of energy efficiency, and adopt patterns of consumption and behavior that is consistent with low levels of greenhouse gas emissions" (Skea, Jim, and Shizo Nishioka). This is a long-term answer for not only food insecurity but also to save the planet from destruction and pollution. Start at the school level and people can work their way up to their communities, counties, areas, states, regions of America and eventually the whole country. In this plan, everyone would have a certain amount of gas they are allowed to use during the week. This would take much commitment from the communities. However, the plan would start small and eventually keep cutting back on how much gas people use per week. This would greatly influence the amount of excess CO<sub>2</sub> that is currently being put into the air and disrupting climates. This plan can be put into effect immediately with a little heart and determination. I strongly believe that after a couple months with the regulated gas schedules, people would become accustomed to it in their daily lives and realize this isn't just for people who are struggling thousands of miles away, but that this change is also helping there be a beautiful, natural world for our great grandchildren.

The national government would have to back this low-carbon society. Besides the local people being upset at first, the gas companies may not enjoy losing profits. However, if the government requires this cutback, they have to listen. It is essential that when the time comes for the regulation of gas intake and output that the government passes a bill fully supporting the change. Ordinary citizens need to be informed by foreign countries, like the United States, how influential the laws can be in improving their way of life. Then, these ordinary citizens need to push the government to become more involved. Showing their support for a low-carbon society, however challenging it may be at first, will give the government the go ahead to take action. The Millennium Development goal number seven, to ensure environmental stability, would go right along with the proposed measures (Goal 7: Ensure Environmental Stability). In fact the specific part that states "to integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources" is exactly what a low-carbon society would target (Goal 7: Ensure Environmental Stability). The national government teamed up with the United Nations and also people willing to commit themselves to feeding the hungry and saving the Earth, is a recipe for success.

In conclusion, Malawi and many other third world countries are suffering. Lack of education, medical facilities, and resources are holding them back from becoming productive societies. It is a never-ending cycle that feeds off of one negative factor and creates another. Climate volatility in Malawi really stood out as a large issue, but if people can help, or even control, this problem then the cycle can be broken. A steadier climate means more crops, which means more food. Through increased tree planting, improving agricultural education of the farmers, implementing incremental advances in agricultural methods and technology combined with assistance, the conditions in Malawi can steadily increase. These steps lead to long term solutions and a betterment for all and a more stable country. Americans have all the means to help these fellow humans who are suffering. We just have to find it in ourselves to not just sympathize for them, but also take action. After all as a great man once said, "Food is the moral right to all who are born into this world."

## Works Cited

- Ahmed, Syud. "Climate Volatility Deepens Poverty Vulnerability in Developing Countries." *IOPScience*. 1 Aug. 2009. Web. 8 May 2015.
- "Climate of Malawi." Department of Climate Change and Meteorological Services. Malawi Meteorological Services, 2006. Web. 6 May 2015.
- "Drip and Micro-Spray Irrigation Introduction." Alliance for Water Efficiency. Web. 18 Sept. 2015
- "General Information About Education in Malawi." *Ripple Africa*. Web. 5 Dec. 2014.
- "General Information About Healthcare in Malawi." *Ripple Africa*. Web. 9 Dec. 2014.
- "Goal 7: Ensure Environmental Stability." United Nations: We Can End Poverty. Web. 12 May 2015.
- Magrath, John, and Elvis Sukali. "The Winds of Change: Climate Change, Poverty, and the Environment in Malawi." 1 June 2009. Print.
- "Major Problems Facing Malawi Today." *AfricaW: Africa And The World*. Web. 1 Dec. 2014.
- "Malawi: Country Overview." *Children of the Nations*. Web. 9 Dec. 2014.
- "Malawi Profile." *BBC News Africa*. 1 June 2014. Web. 9 Dec. 2014.
- "Malawi." *World Health Organization*. Web. 9 Dec. 2014.
- "Poverty and Healthcare." *Our Africa*. Web. 15 Dec. 2014.
- Skea, Jim, and Shizo Nishioka. "Policies and Practices for a Low-carbon Society." *Climate Policy*. Climate Policy. Web. 12 May 2015.
- Tafirenyika, Masimba. "Ebola: A Wake-up Call for Leaders." *Africa Renewal*. 1 Dec. 2014. Web. 8 Dec. 2014.
- [http://www.fao.org/fileadmin/user\\_upload/rome2007/docs/Policies%20and%20practices%20for%20a%20low-carbon%20society.pdf](http://www.fao.org/fileadmin/user_upload/rome2007/docs/Policies%20and%20practices%20for%20a%20low-carbon%20society.pdf).