

Stephanie King, Student Participant
Harding High School
St. Paul, Minnesota

Climate Change's Claim on Poverty in West Africa

A Changing Landscape

When humans first evolved in Africa, some of them decided to leave. Those who stayed behind became the Africans of today. With such a long history, why is Africa now the poorest continent? When agriculture became an important factor in human life, Africa began to fall behind. While on other continents, agricultural societies moved toward agriculturally compatible areas, in Africa, humans moved north to south, settling on several enormously different climate zones. To the severe disadvantage of the West African people, there were enormous fluctuations between periods of wet, rainforest-like weather and drought. After local farmers started planting yams and plantains, crops that grow well in humid conditions, the climate changed. Local economies suffered, yet they adapted.

Today, West Africa is one of the only regions of Africa to experience GDP growth. Unfortunately, such growth is of little benefit to the people in this region. The AIDS rate in Cote D'Ivoire is 7% as compared to 0.6% in the United States. The life expectancy in Niger is only 44 years. Over half the population in many of these countries are illiterate. West Africa is still poverty-stricken. Famine is prevalent widespread, partially because subsistence farming is the primary way of life and the land is more worn down there than in any other continent in the world. Now changes are occurring that make producing food even more difficult.

Around the world, people have begun to take notice of climate change, but have done very little to prevent it. Global temperatures are increasing. Weather patterns are changing, the ocean is rising; hurricanes are coming with more intensity; and the ice caps are melting. People in the United States want to know how they are affected. For example, will Minnesota's weather be more like Kansas' in a matter of years? How long will it take for New Orleans to be submerged? Americans say they want to change the situation, but only at their leisure. SUV's, once a staple of life, have become unaffordable because of gas prices. In other parts of the world not only ways of life lives are at stake. In West Africa, one bad crop can kill an entire family.

Political change concerning global warming needs to happen now. Poverty has driven people to degrade the land in a way that makes farming less productive. Climate change has contributed to that difficulty, by causing more severe weather patterns and drying out the land. In a land of so little, international support is needed. Hunger and poverty will continue to afflict the people of Africa--and not only Africa--until the international community understands that everyone is also at risk.

A Dire Situation: Rural Families in West Africa

In West Africa, family farming is a way of life and the climate and illnesses decide whether the crop will succeed or fail. Almost 95% of Niger's population works in agriculture or animal husbandry. Sorghum planters use the reeds of the plant as housing and firewood. AIDS runs rampant, weakening the strongest workers. Cholera comes with the annual floods, infecting the old and young. In Niger, after a bad crop, families can only eat one small meal a day, even depleting the store of seeds that they might have planted next season. These problems are occurring with greater frequency in recent years, due to climate change. Flooding and dry spells come with greater frequency now than in the past. Despite recent problems, Niger is lucky; it is one of the countries where farmers actually own the land they work. In neighboring countries, the farmers must lease land from large landowners, a form of modern-day

sharecropping, with all its economic bondage. Malnutrition is a glaring problem. Yet through it all, they must persevere.

From birth, West Africans are experienced with poverty. Babies are often weaned within the first 2 months. The ogi, pap or millet gruel used to wean the newborns often lack the nutritional value babies need. The family does not have enough money for protein-rich foods like fish and infants often have trouble weaning with chickpea mixtures. Unfortunately, West African women do not have enough time tending to their children. The average rural African woman spends 17 hours a day working and they make up 47% of the continent's agricultural workers (Onofiok). These women do not have time or resources to give their children the proper care. As a result, by 31-36 months after birth, children in Ghana, Mali and Senegal are significantly shorter than their American counterparts. In fact, in Ghana, 31-36 month olds are 2 standard deviations below the normal American child.

One would expect that the larger the family, the more difficult it is to get proper nutrition, but this is not always the case. In a community of diverse religions and cultures, it is not uncommon for a man to have multiple wives. In polygamous relationships in West Africa, it is natural to think that the children will be more malnourished than children in monogamous households because there are more children supported by only one man, but that is not always the case. Women and children are responsible for their own food. In most cases, the children of polygamous unions are no worse off than children in monogamous ones. It is the traditional role of the father to provide an education for their children, so what suffers is the children's education. So instead of the child starving, the child is illiterate.

Child rearing takes a toll on the family income. Most households only support 0-2 children in Ghana, Mali and Senegal; in Niger the average household cares for 4-5, however that does not mean that the family does not have more birth-children in the former countries. Children are often fostered by other families in order for the cost to be more bearable. "[O]n average, children spend 18 percent of their childhood years living away from their mothers in Ghana, 16 percent in Senegal, and 12 percent in Mali" (Desai). Older family members whose children have already grown up often raise these children and as a result, most of the extended family takes care of only a few children at a time.

Money is always an issue in these families. The average farmer in West Africa makes less than a dollar a day. Most of these farmers live on what they produce on less than 12-15 acres. In Niger, those products are sorghum and millet; in other places, yams and chickpeas are staple crops. They make good use of what they have, much better than what foreign experts, with the same amount of resources, can do. Despite the fact that in most West African countries less than 1/3 of the arable land is being used for farming, people fear losing their land to the government seizure. There is not much they can do in the way of advancement, they are simply too poor.

Farming Conditions Today

Farming is an inexact science. The farmer cannot predict the nuances of future weather patterns, nor can he control the forests that are harvested around his property, forests that used to protect his land from the wind. In West Africa, the subsistence farmer cannot even take the scientific approach to farming, but must rely on hard work and faith in order to reap enough just to feed his family. He does not have money for fertilizer, which has been transported so inefficiently that it costs twice as much as it does anywhere else in the world. He does not have a reserve of water that he can use if the monsoons come late. In fact, the only thing he can count on is, at the end of the day, he will have mouths to feed at home. He has no scientific certainty and can only hope that the crop will survive the year.

Today, the West African subsistence farmer must deal with harsher weather patterns than his forefathers who moved onto the property. If farmers are lucky, there will be plenty of rainfall. When the

floods come, they bring with them fertile soil and enough water to support crop growth. Unfortunately, this is the best scenario. Rainfall can also cause flash flooding that can carry away crops, cattle and topsoil. Climate change has caused these floods to become more frequent while West Africa becomes drier and drier. Since 1931, annual rainfall has decreased 20 to 40 percent. Lake Chad's capacity has been reduced over the years. Without water, the land is baked dry so plants cannot even sink their roots into the ground. Farmers need more accessible water for their plants to survive.

The change in weather patterns is a result of the changing landscape of Africa. Forests that had kept acidic dust from the farmland and shrubs that used to grace the plains with strong roots are now gone. The number of duststorms has increased significantly since 1952, as shown in Appendix 1. Years of planting on the same soil, along with erosion, leaching and salinization have taken their toll on the earth. Much of southern West Africa is severely threatened by these changes. Appendix 2 shows the varying severity of threatening desertification. In Niger, for instance, only 19% of the land is arable, and that land is highly susceptible to desertification. Livestock are overgrazing wild shrubs, which has in turn led to a more reflective ground, or land with greater albedo. The livestock do not produce enough manure to feed nutrients back into the soil, leaving a barren landscape. As a result, the land's vegetation is not replaced and the albedo becomes greater and greater. The lower temperature makes the area drier, because of the reflected radiation affecting the troposphere. The United Nations has taken notice of the desertification caused by the deforestation and overgrazing livestock around the world, but despite the recognition, regional farming does not seem to improve.

How can conditions improve when the average African must survive on a caloric intake 90% the intake of a normal healthy person? (Reich). Indian prime minister Indira Gandhi once said, "[p]overty is the greatest polluter" (Benneh) Though West Africa has experienced much more growth in recent years than the rest of the continent, these countries are still plagued by poverty. More than 73% of the people living in sub-Saharan Africa are subsistence or smallholder farmers. Many of these farmers do not own the land they plant. In Burkina Faso, the government is allowed to annex privately owned land without compensation. These people are more concerned about lasting through the year than they are about the long-term effects of their land use. Instead of traditional farming systems that are much more sustainable, farmers are overproducing on their soil, draining the nutrients out of it.

Current International Support

Even with international recognition for desertification and climate change, not much action has been taken. The United Nations have several committees and organizations dedicated to end climate change and help the hungry. Organizations like the International Meteorological Society are trying to help predict future weather patterns for farmers. The United Nations Development Program tries to lift subsistence farmers out of poverty. While these committees and organizations have been established, what is lacking is their coordination and ability to make the necessary changes.

The United Nations is too powerless and far-stretched to make a big difference. Though these attempts to aid West Africa are well intentioned, they cannot have the effect a more regionally-oriented plan has. In addition, the United Nations has no reliable economic resources of its own and as a result these programs get significantly less funding than necessary.

This is not to say that there are no success stories coming from West African aid. In Ghana, in a matter of three years, the FAO helped clean water in nine towns with only 1 million dollars. The access to clean water helped reduce the dry period, when food is scarce. In addition to the purely agricultural success, this program also helped diversify the food sources to include short lifespan livestock and fish. Yet such success is limited to only a small portion of West Africa. In order to make a region-wide difference, there needs to be much more funding and more effort.

What Now?

There are two major problems affecting food production in West Africa right now: poverty and climate change. Poverty has forced people to use the land in a way that degrades it. Poverty has driven people to take desperate action, including cut down forests, which contribute to climate change. Climate change has made it difficult to grow enough food and driven people into deeper poverty. It is a vicious cycle that cannot be cured by time. The world needs to act now if it is to make the most difference with the least amount of money.

What West Africa really needs right now are more accessible natural and safe chemical fertilizers, farming equipment and GMOs. While farmers in these countries are asking simply for food, which is their immediate need, however, aid in this form does nothing to change the conditions these people are in. In order to end the cycle, several improvements need to be made at the same time: giving farmers better access to water, diversifying the economic structure of the region, and implementing literacy programs. 'The best defense is a great offense'. What West Africa needs is an ambitious strategy that will eliminate the weaknesses that have contributed to climate change in the region.

Microfinancing would be a great way to make farms effective and create new industries. Microfinancing would allow farmers to build up their farms, enhance the soil, buy better plows, allow them to own their own land and give them enough money to start using more weather resistant varieties of crops. Women in similar situations around Africa have used microfinancing to build their own light industries. These women would be able to create a light textile industry with money for the start-up costs. By injecting a little bit of money into West Africa, its people would be able to increase agricultural productivity and economic diversity. However, microfinancing requires a literate and money-wise person in order to be successful.

Without education in basic economics and literacy skills, microfinancing would be less effective. The difficulty is that the people of West Africa are so poor that they have no time or energy to get an effective education. What aid agencies need to do is pay for children to go to school. While children in the United States care more about their video games than school, children in Africa are thrilled to learn. As a result of their education, these children would be able to expand the industrial workforce and bring the region into the modern age.

Some people might ask: what does diversifying into industry have to do with feeding the poor? Well, one need not look farther than the United States or China for the answer. The United States is one of the most industrialized nations in the world and food production is at a surplus. In China, before the recent major modernization, there was severe famine across the nation. Now China is able to feed all of its 1.3 billion people using the same land used before the reform. Industrialization gives farmers more technology that enhances production. GMOs, new irrigation techniques and fertilizers become more predominant in farming after industrialization. More importantly though, industrialization of West Africa would help fund research better desalinization methods that would help during late rains.

Industrialization in West Africa seems a ways off and large-scale projects that would build the base of it are unlikely to get enough funding. Meanwhile, the best thing organizations can do to help West African farmers is to give them better access to cholera and salt-free water. In many parts of the region, water is the limiting resource in farming. Attainable water would increase the chances of a good crop, especially in years of drought. Programs like the West African Water Initiative can be expanded to include clean water for crops and rural household needs. Clean water would help reduce soil degradation and maximize crop production.

Time for a Change

Poverty is a plague that West Africa cannot cure alone. Food shortages caused by infertile soil and unpredictable harsh weather are pushing the West African people further and further into despair. Without help, poverty is inescapable for the people who work on subsistence farms in the region. Years of farming on the same land are wearing it down. People are letting their livestock degrade the land damaging the natural condition. Climate change has made weather more tempestuous, making it difficult for farmers to maintain their crops when drought strikes. It is obvious that international intervention is needed to stop the never-ending cycle of poverty and climate change. In order to do that, programs need to be implemented to attack poverty and promote conservation and these programs need to be implemented quickly. Now is time to end famine and poverty in West Africa.

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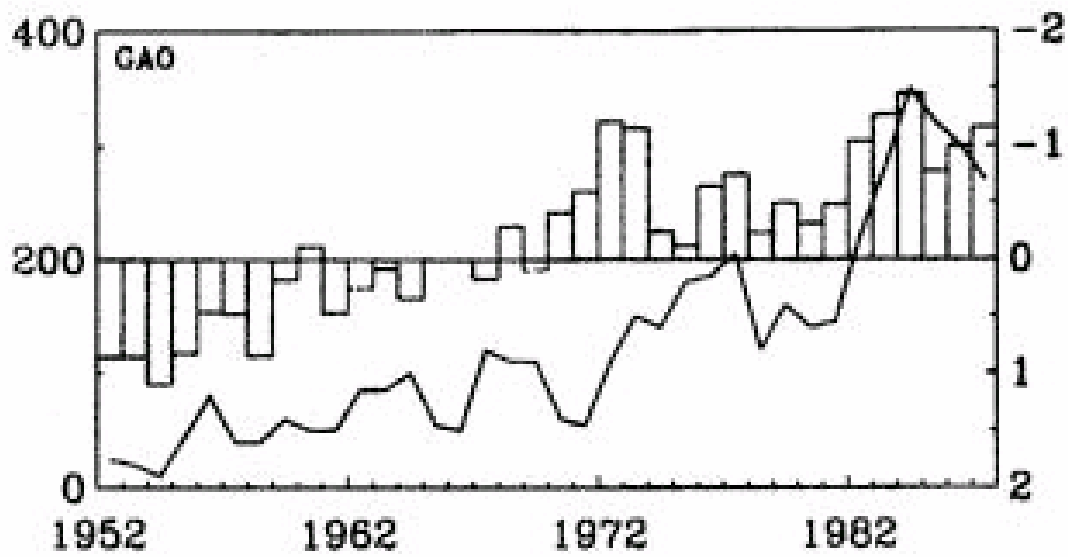
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Appendix 1

Average
Rainfall
Anomalies
(average
departure from
the long-term
mean divided
by the
standard

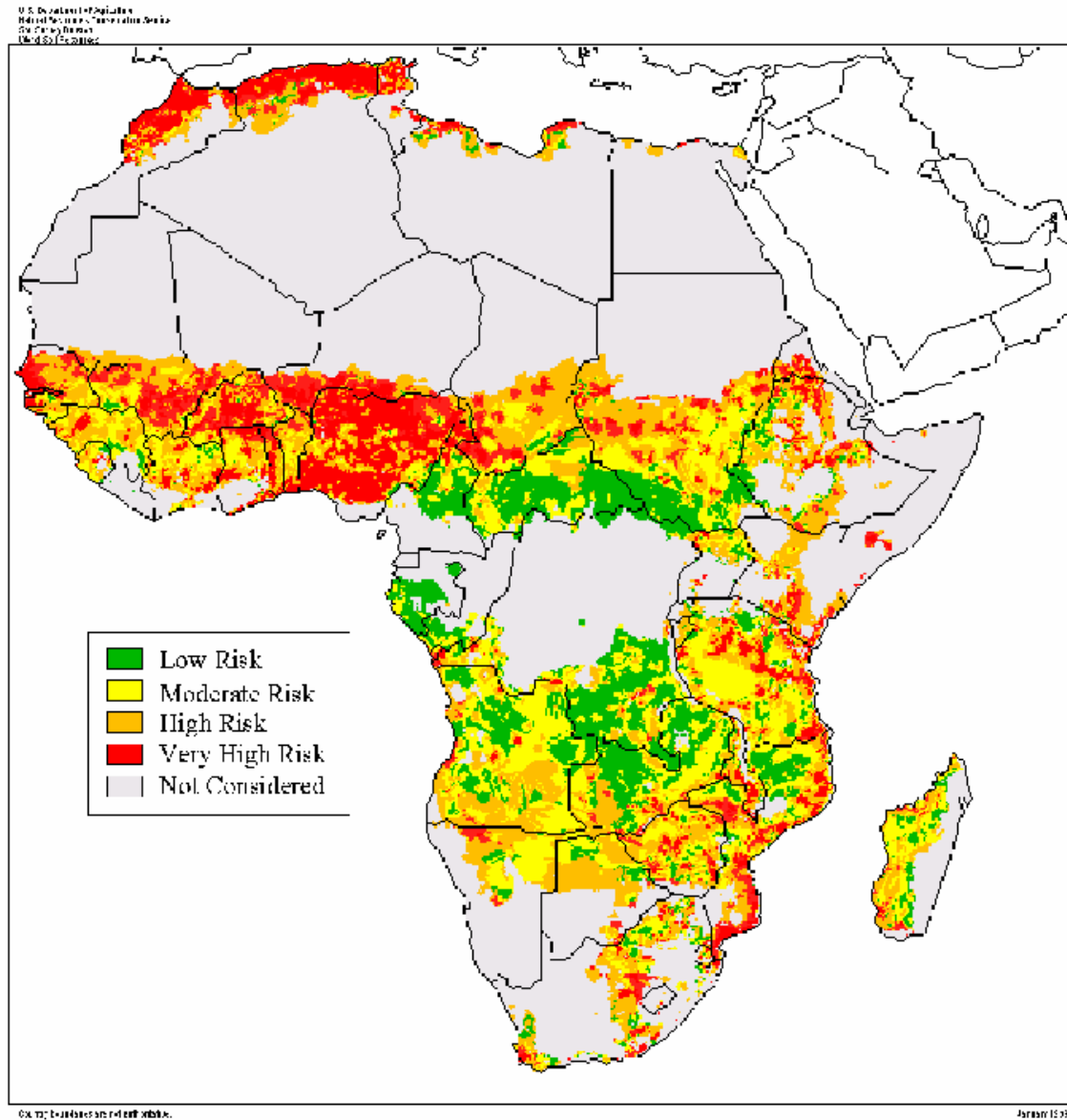
Average
frequency of
dust storms



Frequency of dust storms on Gao compared to rainfall anomalies

Linacre, E. and B. Geerts. *Desertification*. <http://www-das.uwyo.edu/%Egeerts/cwx/notes/chap10/desertification.html>. September 1, 2008.

Appendix 2



Areas at risk of desertification because of human interference

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