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Kenya, Malnutrition

### **Kenya: Micronutrient Fortification in Kenya**

There are approximately 54 countries on the continent of Africa; however, one stands out. There is a country that lies on the most eastern edge of Africa, and it's called Kenya. The capital of Kenya is Nairobi, and it also happens to be Kenya's largest city. Kenya's population is roughly 44 million people, 74.2% of which, live in rural areas. Kenya's government is a republic and their president's name is Uhuru Kenyaha. Only 10.7% of all land in Kenya is actually cultivated. The population density is so high that in areas with a high potential for agriculture, it is about 6 times higher than the country's average of 55 people per square kilometre(answersafrica.com). In the north, the land is arid, the southwest corner is in the fertile Lake Victoria Basin, and a length of the eastern depression of the Great Rift valley separates western highlands from those that rise from the lowland coastal strip (Sandbox Network Inc.).

The typical family size varies, Kenyans that are considered poor have an average of four to six kids per household, while the rich have one or two kids(answersafrica). Kenyans in urban areas have houses with more than one room and indoor plumbing; rural Kenyans' only have one room "slums" with no electricity, no running water or sanitation of any kind. Most slums are made of mud with logs for support beams. There are no windows and no doors. There are pieces of cloth for covers over the doors and windows. In rural areas, Kenyans typically eat a stiff cornmeal porridge called "Ugali," and they often use wood-powered stoves; other ways are being introduced to reduce deforestation(Food and Daily Life-Kenya). The definition of deforestation from The Free Dictionary is the clearing of a wide area of trees. The only way they get food is by farming themselves or by local markets. Seventy-five percent of all jobs in Kenya are agriculture-related. With an urban Kenyan employ only making 4,600 shillings a month(60 U.S. dollars). It's even worse for a rural Kenyan worker. Somewhere between one quarter and half of the population earn less than \$1 US each day(kenya-advisor.com). Only 20% of all of Kenya has health care. Although the health care percentage is low, Kenya's literacy percentage rate in sub-Saharan Africa is surprisingly high, with 85 percent of the population over 15 years old able to read and write(answersafrica.com).

Kenya is one of the top countries in the world for malnutrition. The definition of malnutrition from The Free Dictionary is the condition that develops when the body does not get the right amount of vitamins, minerals, and other nutrients it needs to maintain healthy tissues and organ function. Recently droughts in Kenya have caused starvation rates to reach record numbers. The Kenyan government has yet to intervene, forcing residents to move to other countries in search of food(Andrew Wasike author of Hundreds of Thousands face hunger in Kenya).

Droughts in Kenya make it hard to get crops to the market, much less the dinner table. This is due to the

droughts killing the crops before harvest. Climate change is also a large factor in Kenya's drought disaster. Also, the government not intervening is causing the rural population to be affected more than the urban population. Because droughts affect agriculture-related occupations more than occupations not including crops or other agricultural employment outlooks, and urban areas are less agriculturally involved. With droughts, climate change, and the government not helping with these natural disasters, it is causing people to be considered in poverty. Forty-two percent of Kenya's population of 44 million, live below the poverty line(unicef.org).

Malnutrition affects men and women differently. In women, caring for a child it could cause her to possibly lose her child, and in men, it could make them so ill that they could die(Micronutrient Fortification and Biofortification Challenge). Approximately 30% of Kenyan children are classified as undernourished with widespread micronutrient deficiencies(hungerfree.org).

There are several ways to help solve malnutrition, but the best way to fix it, in my opinion, is micronutrient fortification. Micronutrient fortification is the process of adding nutrients to food. Eighty percent of pre-school children have vitamin A deficiencies. Micronutrient fortification is quite a bit cheaper compared to micronutrient supplementation. Costing the U.S. a whopping \$353 million dollars less than micronutrient supplementation, micronutrient fortification just seems like the best way to go. Micronutrient fortification costs \$347 million a year, whereas micronutrient supplementation costs \$700 million per year.

Another reason micronutrient fortification is the best solution is that not only are the people that are considered malnourished getting nutrients, they are also getting food to help them gain weight and become healthier. People that take supplements don't like to take them because they don't taste good, but micronutrient fortification combines both, nutrients and good tasting food.

Considering the fact that the U.S. debt is reaching an all-time high right now at \$20.64 trillion and counting, we need to be finding better, yet affordable ways to help out a country that the U.S. has worked alongside with since the start of what is now referred to as Kenya. There is already a United States agency called The United States Agency for International Development (USAID) working alongside Kenya's Ministry of Health to fix vitamin A deficiencies using vitamin A supplements. I think that if we show the USAID how much money they could be saving then they would highly consider switching from supplements to fortification.

The difference between micronutrient fortification and micronutrient supplementation is micronutrient fortification puts vitamins in foods already containing high levels of that vitamin, and micronutrient supplementation is only giving vitamins to the people. I feel like if people are trying to solve the problem of malnutrition in Kenya; shouldn't feeding the people while getting them the vitamins they desperately need also be a way to go about solving malnutrition? This project could be funded by the USAID, since

they already have money going towards micronutrient supplementation in Kenya switching it to micronutrient fortification would actually save the USAID money. In 2016, 2.8 million Kenyan children received vitamin A from USAID-supported programs(Kenya\_2016\_Annual\_Report). They could also manage and lead this project to where more than just 2.8 million children receive vitamin A. I would hope to reach as many as 3 million children and at least 65% of all pregnant women by using micronutrient fortification for vitamin A. The USAID needs to keep educating families on the benefits of vitamin A. By using micronutrient fortification health care spending is also reduced.

The government plays a big role in implementing micronutrient fortification in Kenya. Since they haven't been intervening about their people going into starvation due to droughts; they need to be convinced that micronutrient fortification is a good solution to the biggest problem they are facing today, malnutrition. Bribes, fraud and tribal favoritism are common within the all levels of government, which hampers any attempt to improve conditions across the country(kenya-advisor.com).Once they start understanding how helpful this solution is the entire Kenyan government should be on board with implementing the new solution. They could also learn how to make and supply micronutrients through fortification, so the people from different countries wouldn't have to be there as long to assist them. Some of the barriers that would make it difficult for the Kenyan government to help would be; lack of money on their side of things, or no hope, or maybe even no will to try and solve malnutrition. Citizens as a whole should peaceful protest the pros of switching to micronutrient fortification to try and help convince their government to help the people.

Though the economy at home is tough at the moment, I think Americans can play a huge role in showing the U.S. government and the American public that foreign aid is a priority. People of America needs to be educated about foreign aid and how it helps not only Kenya but America as well. I understand some people may argue that the U.S. needs to solve our own problems before trying to solve any other countries. And yes, that is true, but we already are helping Kenya try and solve malnutrition. So why would we pull out now and leave them stranded? I see it as if we are already invested in something, why not go all the way in.

The foreign aid I would suggest to use would be a type of foreign aid called mulilateral aid. Multilateral aid is like bilateral aid, except it is provided by many governments instead of one. A single international organization, such as the World Bank, often pools funds from various contributing nations and executes the delivery of the aid. Multilateral assistance is a small part of the U.S. Agency of International Development's foreign aid programs(What Are the Different Types of Foreign Aid?-Investopedia) . By using this type of foreign aid we would need other countries to help with the cost of the micronutrient fortification, and dispersion of the fortification while in Kenya. If other countries need to be convinced to help with the multilateral aid we could tell them of all the benefits Kenya would receive with the help of the other countries. Otherwise, we could use bilateral aid, which is just one country getting all of the funds.

The lives of the Kenyan people would hopefully change drastically. There would be more jobs available

for the people learning to make, sell, and distribute all of the vitamin A micronutrient fortification to all of the country. Not only would I hope to create more jobs I hope to decrease the malnutrition percentage. It might not start out at a high rate of decreasing but hopefully it will decrease at a high rate once it is implemented.

The only policies I think would need implementing would be how much vitamin A fortification per family and how much it is going to cost. If the Kenya Ministry of Health and the USAID want to make people pay for it, which I don't think they should, how can they determine that kind of cost? I do think, however, that once everything gets established that if people wanted more than their allotted amount of micronutrients they would have to pay extra for however much more they want. I think with enough knowledge about vitamin A and what Kenyans can farm with the highest amount of vitamin A; the USAID could one day not be needed to provide micronutrients to Kenyans.

Though, micronutrient fortification is the best option, micronutrient supplementation is the ulterior option in this case. Micronutrient supplementation is already used in Kenya, however, if the USAID would broaden their audience to more than the people they are reaching now, more and more Kenyans would be helped. Therefore, the percent of malnutrition would decrease greatly. The reason that supplementation is the second option instead of my first option is because supplementation isn't as effective as fortification.

A big reason being that supplementation is not as effective is that it does not taste as good, so the people taking the supplements may not want to take them even if it will help them. Also, supplementation is much more expensive than fortification, which means by implementing fortification instead would be much cheaper.

The people getting the micronutrients would need to be very educated on the proper way to use them, but that is what missionaries are for. I feel like this could be sustainable by hands-on education about nutrition, the USAID is actually educating Kenyans about nutrition today. Once Kenya has a good grasp on how to fix malnutrition and how to properly use micronutrient fortification, I feel like it could be sustainable all on its own. Malnutrition in Kenya can and will be fixed one day, be it today or tomorrow. Micronutrient fortification is just a small step in solving a big problem, but I think this first small step will help starvation and malnutrition as a whole in Kenya.

#### Sources:

“Micronutrient Fortification and Biofortification Challenge.” *Micronutrient Fortification and Biofortification Challenge* | Copenhagen Consensus Center, [www.copenhagenconsensus.com/guide-](http://www.copenhagenconsensus.com/guide-)

giving/gtg-micronutrient-fortification-and-biofortification-challenge.  
(www.dw.com), Deutsche Welle. "Hundreds of Thousands Face Hunger in Kenya | Africa | DW | 21.06.2016." *DW.COM*, www.dw.com/en/hundreds-of-thousands-face-hunger-in-kenya/a-19345933.  
"Get the Facts on Hunger in Kenya & South Sudan." *Hunger Free*, 4 Nov. 2015, www.hungerfree.org/fast-facts/.  
"Food & Daily Life." *Our Africa*, www.our-africa.org/kenya/food-daily-life.  
"5 Ways to End Malnutrition." *Global Alliance for Improved Nutrition*, 14 Oct. 2014, www.gainhealth.org/knowledge-centre/five-ways-can-help-end-malnutrition-3  
"Overview." *UNICEF*, www.unicef.org/kenya/overview\_4616.html.  
"What Are the Different Types of Foreign Aid." *Investopedia*.  
"Causes Of Poverty In Kenya." *Kenya Advisor – The Independent Kenya Travel Guide*, www.kenya-advisor.com/poverty-in-kenya.html.  
"Poverty in Kenya: Statistics, Rate and Facts You Should Know." *Answers Africa*, Answers Africa, 18 Apr. 2018, answersafrica.com/poverty-kenya.html.