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Ethiopia, dietary diseases

**The long-lasting systematic solution to dietary diseases in Ethiopia lies in its roots, food insecurity**

Healthcare inadequacy, inaccessibility, and bad food systems are all causes for dietary diseases. However, all these things lead back to one huge problem, food insecurity. Compare all those food related problems in Ethiopia to a plant, food insecurity is the main spoilt root while dietary diseases are just one of the many branches with contaminated leaves. 22.8 million people in Ethiopia are currently food insecure [Statista 2023], all these people are at risk for a dietary disease which is more likely to develop coupled with a bad habit. Most of the dietary diseases are chronic, meaning that once it’s acquired, the aftereffect follows you for life. It’s difficult to take action when you’re in the middle of the problem, which is exactly why we have to support them. All of us are humans that deserve to live with the knowledge and certainty, that there’ll be food tomorrow on the table for the family. Together we can make this work.

**Ethiopia**

The population of Ethiopia was estimated around 126.5 million people in 2023. 22.1 % is urban and the median age is 18.8 years [Worldometers]. 77% of the population is rural [World Bank]. Ethiopia is a multi-party federal democracy [Embassy of Ethiopia]. In 2020, Ethiopia had around 38.5 million hectares of cultivated land, which is over 34% of the land area of the country [Statista 2020]. The major crops include corn, wheat, sorghum, barley and millet, most of which are cereals thus [USDA]. However, the biggest export in terms of agriculture are coffee and oilseeds [ITA]. Even though they cultivate cereals, their biggest imports are wheat, palm oil and sugar [USDA]. The average farm size nationally in Ethiopia is 1.4 hectares or 3.5 acres while smaller farms are 0.78 hectares on average [FAO 2012]. Comparing this to football fields, that’s 2.6 football fields for an average farm. Ethiopia has a diverse range of climates, as it’s located in the Horn of Africa. These are divided into three zones, an alpine vegetated cool zone, a temperate zone with most of the country population, and a hot tropical and arid zone [World Bank]. Additionally, Ethiopia has a diverse range of low- and highlands too.

“Family is the most important aspect of Ethiopians lives.” [Cultural Atlas, 2012 ] The average family size in Ethiopia is 4.6 people, 5 rounded up [Stats Ethiopia]. Usually, there are three generations within one household [Cultural Atlas] and on average a woman conceives four children [Worldometers]. Most dwelling in Ethiopia are privately owned, instead of being rented, especially in the rural areas [ILO]. The homes are made from mud and wood, though approximately 70 % of them need total renewals [Habitat]. Due to the fact that refrigeration in Ethiopia is a rarity, the food they cook is spicy, in order to help preserve the food. The usual way of doing this is to use *berbere*, a special spicy paste, made by the Ethiopians themselves [Food by country]. Due to this, Ethiopian cuisine consists largely of spicy meat and vegetables dishes, along with dough bread. Many Ethiopian households cook their food inside in a kitchen, though it is cooked on an open fire stove, this can cause health issues in addition to the unsafe situations. This is an important aspect that could affect dietary diseases due to the hygienic problems. Their cooking methods might also be affecting the eaten food, as some ways of cooking are known to be healthier and more nutritious potent than others. Around 14 million (81 % of the population) households still rely on three-stone stoves [Netherlands Enterprise Agency]. There is no set minimum wage for the whole country, however, there is a public sector minimum wage [ILO]. The minimum wage for the public sector is 420 ETB/month (6,95 Euro), while the average living wage is 5055 ETB/month (83,59 Euro) [Trading Economics]. In 2022 it was estimated that there was a 56 million working population in Ethiopia [Statista 2022]. Of that, 3.4 % of them were unemployed, 63% were employed in the agriculture industry [World Bank 2022] and 14% in the mining industry [EITI]. In Ethiopia, the public education is free for the first three levels [Britannica]. Even though Ethiopia has an enrollment rate of 88.7 % in primary education, a lot don’t progress toward secondary school, only 33.1 % of the total does [UNICEF]. Just like the education system, the healthcare system of Ethiopia is divided into three levels and financed by multiple sources. 46.8% is financed by loans and donations, 16.5 % from the Ethiopian Government and 35.8% are payed by the citizens [Columbia University]. Approximately 60 million people lack access to basic drinking water in Ethiopia. Alongside this problem, water contamination is remains a critical difficulty [World Bank]. Only 7 % of the citizens have basic sanitation [UNICEF]. While 54.2 % of the total population of Ethiopia has electricity, with an immense difference between the urban and rural areas. 94.3 % of the urban population has access, yet the rural population only has 42.8% [World Bank 2021]. In Ethiopia 2022, 71.4 million citizens had a mobile cellular subscriptions [Statista] and 20.6 % of the population uses the internet [Datareportal]. Ethiopia still has a limited road infrastructure with 49km per 1000m2 and about 50% of the rural population don’t have good access to all-weather roads [Emerald Insight 2023]. Not everybody has accessible food in Ethiopia, in fact 22.8 million people suffer from food insecurity [Statista 2023]. The economy of Ethiopia has grown, however, it’s still vulnerable due to internal conflicts, droughts and price volatility [ITA 2024]. For one, the food prices increased by 31.6% in March 2024 [Trading Economics] which can block access to nutritional food for households, the inflation causing less consumption and a greater risk of malnutrition.

**Dietary diseases and its impact**

Dietary diseases are caused by a someone’s dietary intake that doesn’t contain the right nutrients, have problems absorbing the food or are caused by a lack of exercise [Nature Portfolio]. Dietary diseases is used as an umbrella term and includes noncommunicable diseases (NCDs). While dietary diseases don’t include communicable diseases, bad diets or the wrong nutrition might influence trends such as HIV/AIDS, tuberculosis (TB) and malaria. Other dietary diseases that aren’t NCD’s involve protein-energy malnutrition (PEM) and nutrient deficiencies such as vitamin A, zinc, calcium or folate [NIH]. Studies show that one-third of all Ethiopians have an NCD, with cardiovascular diseases being the most frequent one [PMC].

“NCDs were estimated to account for 30% of total deaths”, whereas communicable diseases account for 49.2% of the deaths [NIH]. In Ethiopia the amount of deaths related to the NCDs have decreased by 9 %. In 2018, 39% of total deaths was estimated due to a NCDs, in 2023 it was 30%. For NCDs, the blood pressure, cholesterol, use of alcohol or tobacco and insufficient physical activity can cause such diseases. PEM and nutrient deficiencies are caused by a wrong or insufficient diet which can be caused by food insecurity. Several factors that influence food insecurity are low income, employment, pests and diseases that destroy crops, climate change, poor agricultural techniques and soil infertility [CORE]. Aside from the ‘physical ecology cluster’, there is also the ‘political economy cluster’ which refers to internal government policies and weak markets that can be held accountable for the food insecurity too [IDS].

Dietary diseases while apparent in whole Ethiopia, shows stark differences between rural and urban areas. This distinction is due to the differences in wealth, education and access to healthcare [Science Direct]. Everyone is vulnerable to NCDs, but women are more likely to be obese compared to men, though tobacco smoking is more common with men [PAHO]. The immune system of an elderly is more vulnerable than youngsters [NIH]. Children have a lower risk to NCDs. This is due to the limited expose children have had to the risk factors of NCDs. Research has shown that dietary diseases affect low and middle-income countries the most. Minorities, refugees and indigenous people may be therefore be even more affected than the locals. The treatments and procedure of dietary diseases happen frequently which causes an increase in the demand of supplies which in return will affect the environment. Besides that, food and diet induces change in the climate and environment as well. Waste and spoilage cause the release of carbon dioxide, as well as the waste of energy and water used in the produce [WWF].

**Food systems**

One solution is to create and implement food systems in Ethiopia in order to improve the diet of the citizens and reduce the risk of dietary diseases. “Most of the population eats too little or has a very one-sided diet.” If we can ensure a diverse diet, the percentages of NCDs, PEM, and other nutrient deficiencies will drop. By changing the very one-sided food system that focuses on quantity to a food system that also focuses on quality we can introduce nutrient rich diets that has plenty variety. To create and implement food systems that do this, the production system needs to be addressed. Instead of growing a single crop, the system should be sustainable, meaning that changes with the diversity, crop rotation and intensification will need to be made. The different farming methods would need to be implemented by the farmers, and to promote these techniques targeted advertising could be used. Including old-fashioned ways of advertising instead of only digital ways. The government could send out information packages to the farmers regarding the different techniques and systems. They could also experiment with the new techniques and use the results as proof. Most farmers will be hesitant to change from their default ways in the beginning.

**Healthcare**

Another way is to make the healthcare more accessible, especially for the low-income households. This is due to the high pricing of treatments and hospital visits combined with remote and isolated areas that don’t have good ways of transportation due to limited and inadequate roads. By reducing the costs for the citizens and increasing the healthcare insurance coverage more citizens will be able to and willing to go to hospitals and health centers. The quality of healthcare should be optimized too, this way the citizens will get affordable quality care, which is especially needed for cases involving dietary diseases.

**Food based dietary guidelines**

A third solution could be the food based dietary guidelines (FBDG) made for Ethiopia. The FBDG need to be evidence-based, and this research has analyzed everything thoroughly from different perspectives. It has also taken the different factors in consideration such as the social, economic, agricultural and environmental aspects of Ethiopia. Furthermore, they ensured the FBDG is acceptable, comprehensible, appropriate and applicable for citizens. Dietary guidelines are generally important since they establish the footing of nutritious food, and health. In Ethiopia, FBDG are the key to fixing their food system to produce sustainable nutrient dense food. These guidelines are especially important in Ethiopia, since common diseases line NCDs and nutritional deficiencies often reflect the subjects diet. By implementing the FBDG for Ethiopia, in addition to quality food and diet, the health, agriculture and education will improve as well.

**The master solution**

The common disadvantage that all three solutions have is that it needs investment and that they’re all incredible ambitious plans. All these solutions will help Ethiopia with their problem, but each project needs separate costs and guidelines. My recommendation is to tie these three solutions into a big solution, to tackle the whole problem at once. Starting at the root, food insecurity. The humongous project remain the need of large investments and ambition, but this resulting systematic solution would only need to be started once, to wipe out of the rotten parts of the plant.

Take this metaphor, the food insecurity problem in Ethiopia is a plant, and dietary diseases is one of the branches. By tackling the root of the problem, the whole plant becomes decontaminated, not just the leaves. If we just keep cutting of dead leaves, new ones will take its place, but through removing the root the whole plant is purged. When this method is applied to Ethiopia, the speed will increase if we cut the already dead or rotten leaves simultaneously. Ways to cut off the root are reducing food waste and creating a diverse diet. These are direct solutions and will work faster and effectively, even shortly after implementation. The solution is to diversify the diets of citizens, this new diet should follow the results and aims of the FBDG, to ensure the healthiest diet possible for Ethiopia. The different climates in Ethiopia should be used efficiently, and agricultural techniques need to be improved. The citizens need access to nutritional and varied diets which reduces food insecurity, and the number of dietary diseases. To further enhance their diets, citizens should also taught about the cooking techniques and ways to preserve or even enhance the foods nutrition. The kitchen and cooking techniques are often underestimated while they actually can have enormous effects. Now the root of the problem has been tackled, there are still a bunch of rotten leaves that need to be removed. We can accomplish this by improving the healthcare facilities and insurance policies in Ethiopia. That’ll make healthcare accessible to a wider audience that might just be saved from an early death. To avoid new rotten leaves from growing, the root was cut off, but while the root heals, we need to ensure healthy leaves don’t become rotten. Increasing the knowledge and education about dietary diseases and food insecurity among with activism and volunteering are the ways to approach this. This undertaking will cut off anything rotten in the plant, from multiple directions, ensuring a new healthy sustainable plant. All these things together create the perfect solution to solving dietary diseases.

This solution meets all the needs of the country, since everyone will benefit from this. The biggest profiteers of this solution would be of course the citizens and locals, but farmers, economists and politicians will definitely benefit from this too. This humongous project would have to be mainly led by Ethiopia’s government. Though the United Nations and non-profits can definitely help. World Bank and the WHO can provide unbiased results and statistics, and based on that the government has to act to improve the approach. The investment into this project can definitely be earned back, just like how investing in NCD intervention packets will return billions on investment [UNDP, WHO, Federal Ministry of Health]. With the right campaigns money can be raised in the extremely developed countries around the world. The Ethiopian government will have to lead this project and keep overview. The citizens would be the ones to actually taking actions by changing the farming techniques, improving the healthcare and more. New farming methods will need to be applied, ensuring actual diversity and nutrition in the new diet. Healthcare policies and insurances also have to be set up, this needs to be for all citizens equally. The younger generation will be educated on this problem. The cultural norms and traditions will be taken into account to make sure the citizens this project affects can accept the change. Cultural norms such as cooking and agriculture should be changed at a gradual pace, in a soothing manner, to avoid unrest in the citizens due to the change. To make this project sustainable, yearly funds will have to be set up until this project is self-sufficient. Periodical statistics will need to be measured and analyzed to create new maximum beneficial changes and adjustments by unbiased organizations.

If this master solution is implemented, the millions of people that suffer from dietary diseases in Ethiopia will potentially be saved. Since this problem of dietary diseases is broad and multifaceted, including all perspectives into the master solution is necessary for it to be effectively functional. Due to the fact that dietary diseases are largely caused by food insecurity, the solutions should focus on the root while simultaneously helping the already existing cases. Tackling the problem so thoroughly from all sides will have a bigger affect than those solutions individually, which is why it’ll be so efficient together. By changing to sustainable food systems, healthcare accessibility, and using the FBDG correctly and together, the problem of food insecurity can be solved. It’s imperative to start taking action now, as our small actions can save a life or give them a better future.

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