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Chad, Factor 11: Malnutrition
Factor 16: Education

## **Chad: The Lack of Education on Malnutrition**

Located in Sub-Saharan Africa, the landlocked, poverty-stricken country of Chad has many problems. In 2001, about 80% of the 12.83 million people living in Chad had incomes below the poverty line. Not only are there high rates of poverty, but the danger of malnutrition is skyrocketing. With both of these factors consistent in the people of Chad's lives, their life expectancy is only 48 years long compared to the United States' at 78 years ("Chad"). A large reason malnutrition is at an all-time high is because of the lack of education, especially on healthcare, and the lack of funding for healthcare. In the years 2000 to 2010, there were only 345 doctors located in the entire country. That means 0.4 doctors to 10,000 civilians ("The World Factbook"). The country of Chad is suffering severely from a lack of medical staff and it's really showing. And while there are a couple of hospitals scattered across and throughout some of the major cities of Chad, such as N'Djamena, Chari-Baguirmi, the facilities are very poor. That, for one, makes the people of Chad pay more money that they don't even have for second-rate health care. Another thing is that the people who really need the medical attention and education live in the more rural areas of Chad. Meaning they have to walk long distances just to reach a facility that might not even let them in or cure them. These are some of the biggest problems in Chad, but there are still many more. The country of Chad lacks the presence of food safety net programs, access to financing for farmers, diet diversification, and much more. Even though Chad is sitting well with urban absorption capacity and food loss, this country definitely needs serious help and attention immediately. ("Chad").

In 2009, it was recorded that the average size of a rural family in Chad is 5.2 people. Then, in 2012, it rose to 8.01 people. So, on average, the typical size of a rural family is 5 to 6 people. In this country, polygamy is a commonly used practice and grants men the chance to have more than one wife. This is one reason why the average family size ranges differently and is increasing steadily. Another common practice used in this country is early marriage, where girls are married as early as the age of 15. This links together many families, leading to large extended families of wives, close relatives, and children ("Chad").

All around this landlocked country, the people of Chad's diet range differently depending on what is available to them to either grow or collect. Most families in Chad are farmers or are nomadic pastoralists with livestock, which greatly influences their diets. In the drier regions in the northern and eastern parts of Chad, the main ingredients used for meals are dairy products and millet. A common dish created from that is *esh*, which is cooked millet flour served with some form of sauce, anything to give the millet some kind of flavor. Meanwhile, in southern agricultural areas, sorghum, millet, and maize is typically grown. Many families make *boulle* also known as a grainy porridge; with sauces of onion, tomato, beans, meats, and fish alongside it. The people of Chad also make a dish called *bouille* which is a peanut porridge and sweetened millet flavored with lemons. But still, the intensity of food deprivation is 261 kcal a person per day ("Chad"). Meanwhile in the United States its 2,640 calories a day just for men and 1,785 calories for women in just one day. This shows how drastic the intensity of food deprivation is in Chad.

Even while the government of Chad made education free and compulsory at primary levels, education is still a major problem in this country. Most of the schools suffer from a shortage of teachers, leading to crowded classes as big as 50 to 100 kids in each class. And many of these schools don't even have running water or electricity, making it a harsh environment for learning. After primary school, secondary school is offered mainly to boys, which means the girls don't receive as much of an education. The girls

are told that it's more important for them to stay at home and work for their families. Therefore, only about 40% of girls and women in Chad know how to read and write. They're told that they don't need these abilities or talents to be able to marry a man, they just need to know how to take care of a family and the home.

In Chad, access to healthcare is very rare. Spread across the country, in mainly the larger cities, there are a few hospitals open to the public. These facilities themselves are very poor and aren't in the best conditions. This would be because of how the funding for these hospitals is very little. These facilities also suffer severely from a lack of medical staff and qualified doctors. This makes the healthcare advice given to the civillians very poor, considering they don't have a lot of the proper education. In the years 2000-2010, there were only 345 doctors recorded in the entire country, out of a population of 14.5 million people.

Typically, in Chad, the average family is a rural type family. Most families farm or own livestock to grow or raise their own food. In 1986, about 83% of the 12.83 million population had an agricultural lifestyle (Collelo, Thomas). The average farm size in Chad is 1 to 2 hectares.

All throughout the country of Chad, people are partaking in many agricultural activities. Up in the northern third of the country, a lot of people are growing dates, beans, and fruits. In the middle and southern part of the country, the people tend to grow sorghum, millet, potatoes, cassava/manioe, nuts, beans, vegetables, and cotton. One problem arising with the growth of cotton is insects. They've been affecting the crops and its becoming a steadily rising problem. Another problem a lot of farmers are facing is the fact that most of the soil is infertile. They have to move their fields often and they have to switch what crops are grown many times to try and keep the little fertile soil they have. But not only do people raise crops, there are also many people who keep and tend to livestock. A common animal they raise is cattle. But in the drier areas of the country many people raise goats and camels.

Certain people of Chad are typically called pastoralists. This is because they, for one, raise livestock. Another reason for the name is because they tend to be nomadic people. This means that they don't have a solid place they call home and they move around a lot. The reason they're nomadic people is because they follow the herds to fresh feeding grounds because the conditions in Chad tend to be harsh and it's hard for the herds to stay in one place for long.

There are many problems a typical family of Chad face. In the agricultural field alone, they have to deal with the varying seasons. The length of the rainy season varies a lot, sometimes as much as 30%. And some years the dry years alternate with the wet years, which makes it hard to track and plan ahead for crops.

There's a lot to be said about the employment and wages of a typical family in Chad. At least 80% of the population is involved with some form of agricultural activity, and they have many problems, as stated before, with the seasons. Meanwhile, an average family alone earns about \$783.40 per year, last recorded in 2012. That would make their hourly wage about \$1.04 an hour (2012). More recently recorded in 2014, it was said that the average family earned \$120 per month.

A large barrier facing the typical family is gaining access to food markets and receiving adequate nutrition. A large problem is created from this: malnutrition. Alongside of malnutrition is iron deficiencies and a lack of vitamin A. A big reason for these problems is because there's not a lot of micronutrient foods, which would be animals, fruits, and vegetables. At least one third of the entire population is undernourished. "We estimate that between 30,000 and 40,000 severely malnourished children will need to be supported during 2016. This will require a capacity of nearly 300 beds in the capital"—Dr. Kinda ("Malnutrition in Chad...").

The factor malnutrition affects the agricultural productivity by making it so the farmers are wearier and can't stand to work out in the harsh conditions because of the lack of nutrients in their bodies. The factor of education affects the agricultural productivity because while 80% of the population are farmers, not all of them actually know how to farm. Its poor farming practices that usually cause crops to fail or to turn out badly. Education in Chad affects the household income because a person with more of an education is needed a lot more than someone without one. Someone with a better education is more likely to get a better job with a higher pay than someone without an education.

With both of the factors education and malnutrition playing a role in a typical family's life, problems tend to pop up. If the people of Chad get a better education, they have a better chance of getting a more important job with a higher pay. That greatly affects how easy or hard it is for the average family to be able to purchase food. And currently, with the lack of education most people in Chad receive, they aren't gaining access to adequate nutrition. They aren't taught how to properly feed themselves and how to keep healthy. Therefore, malnutrition is a huge problem in this country.

Considering just the factor of malnutrition, it's a pretty severe situation. The average life span in Chad is about 48 years long. Another shocking figure is that about one in five children don't live to see their 5<sup>th</sup> birthday ("Chad"). The factor education comes into play by how the people of Chad are degrading their environment. The lack of education on farming has made it so that the little fertile soil the people are planting on is slowly becoming infertile because they don't know how to properly farm and rotate crops. The severity of the factor of education is alarming. As previously stated, women in this country are greatly affected by this factor considering half of them don't receive a proper education.

For both of these factors, all trends are measured by statistics. These measurements do show change throughout the years, by slowly worsening but mainly staying the same. Because of the changes over time and how things are still going downhill, all rural and urban families are being affected. With poverty and malnutrition hitting the country of Chad hard, all families are feeling it by the lack of properly paying jobs and by crops that are failing.

By improving on the factors of malnutrition and education, it should be increasing the amount and quality of food and income available to all families. With better educations, farming should run a lot smoother and larger, better crops will be produced. This would give more people jobs in the agriculture business and jobs that will actually succeed. With work on education in the country of Chad, there should be a poverty reduction. Because, again, a better education leads to better jobs, which would in the long run improve the entire country because of better products being exported out of Chad.

Just in general, there are common problems circulating around Chad. First off, population growth is a big problem. With the average family size being 5 to 6 people, the population is rising steadily. This means that the small amount of food produced has to be split between even more people. Another problem is pollution. Pollution in the water damages crops and the people health. They aren't drinking or bathing in sanitary water. Therefore people are being affected by it.

The country of Chad desperately needs medical staff, a proper education for everyone, and a safe food network. I recommend setting up a volunteer program for people to go to Chad and set up health centers for the people to come in and get a check up. This can lead to the food network where the people of Chad are taught about a proper, nutritious diet and are set on the path of obtaining one. That would then lead to getting an education on not only proper dieting skills, but just an education in general. It would be offered to everyone, not only men.

Local projects that would be successful in Chad would be, again, health stations set up around the entire country, even the rural areas. And another would be schooling. Many local people who received an education could help volunteer and many people outside of Chad could also come in and volunteer. Some volunteers from Dartmouth-Hitchcock are already working on implementing children's hospitals in Chad.

The rural and urban families of Chad should be involved in implementing all of these recommendations. This is all for their benefit, so it's only logical that they know what's going on and if they agree with the decisions being made. The government can play a role in encouraging the people of Chad to play an active role in solving the problems with malnutrition and education. They can do this by announcing the opening care centers and working with the volunteers to figure out where to place the facilities. They can advertise the announcement much easier. They can also positively enforce people to attend the informative meetings and see if the people of Chad even agree with the new ideas. The government can also help with funding for the projects. The only barrier of having the volunteers and the people of Chad work together would be clear communication. There would be some language differences. This can be overcome by the volunteers learning to speak a new language. It can also be overcome by having the teachers that come to Chad or that already live in Chad begin teaching English. There is also the idea of having a translator for the larger meetings and by having a translator be integral in all things. The translators could be an outside volunteer or a person from Chad.

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