

Charlotte Sieren
Mid-Prairie High School
Wellman, Iowa, United States
Chad, Malnutrition

Chad: Mortal Malnourishment

Chad is a land-locked country in north-central Africa. Chad is the fifth largest country on the continent. Chad has a population of just under 16.5 million and they house a lot of refugees. Out of that 76.5% live in rural areas, meaning only 23.5% live in urban areas. Chad has a republic government and their leader serves a five-year term, on a two-round system. Eighty-five of Chadian people work jobs in agriculture. They mostly export gum arabic, cattle, sesame, and cotton. They produce many crops for domestic consumption. Chad's terrain is very different depending on the region of the country. The northern area is desert, although in the northwest there are mountains. In the central area of Chad, there are arid plains, and towards the south there are lowlands. Chad is primarily flat except for the Tibesti Mountain range in the northernmost area.

The average family in Chad consists of 8-9 members. Most families live in the southern region of Chad. They live in round homes that are a little over 4.5 feet tall. They are made of dried clay, adobe bricks, and straw. The culture in Chad is primarily French, but there are 200 ethnic groups still in the area. More than 100 languages are spoken in Chad, but French and Arabic are most prevalent. Most of the population is Muslim, followed by Protestantism, then catholicism. The Chadian people typically eat grains, vegetables, and fruits. Although in the south they are more likely to get meat.

Only 50% of school-aged children attend school. Family access to basic health care is very limited and many people die of disease, malaria, and malnutrition. Overall in Chad 52% of people have access to safe drinking water. Although 69% of people practice open defecation. They have very limited amounts of electricity and only about 10% is reliable. Chad has very poor infrastructure and slim access to markets. Many families live in rural areas making it difficult for them to get basic necessities. 47% of people live in poverty and 87% of children suffer from malnourishment. In rural areas, 209 out of 1000 children die because of sickness. The life expectancy in Chad is just over 54 years old. This number is one of the lowest in the world. Additionally there is bad health care and many mothers die as well as their infants. Approximately 40% of children under five have stunted growth.

There are many issues facing Chad. Although they have a stable government, countries around them posed a threat. Unstable countries surrounding them and terrorist groups threaten Chad's security. They also have had many issues growing food. Chad's climate has become so unpredictable it is hard for farmers to know when to plant anything. Often there are severe droughts. They have sufficient amounts of water and could irrigate five million hectares, but only 7,000 hectares are irrigated. If they had the correct infrastructure, half of their land could be used for production. Not only is it a problem that they don't have enough food, but people also can't access it. Chad's poor infrastructure makes it difficult for people to get to markets. The issue of growing and transporting food causes other problems.

Many people suffer from malnourishment which causes their life expectancy to be very low. Children have stunted growth and that can later cause different health conditions as an adult. Although malnourishment is not their only concern. Extremely low amounts of healthcare, especially in rural areas, causes many people to die.

Unsanitary conditions are prevalent due to the fact that most of the population defecates openly. This contributes to the amount of disease which spreads. Many people in Chad receive very slim amounts of

education making their career opportunities very small. This increases their chances of ending up in the unstable agriculture market. As a Chadian born into poverty, it is estimated that only 30% of that will ever make it into the middle class. This is an extreme problem for Chad considering that 47% of their population lives in poverty. Chad's main problem is that they are unable to grow and receive food sufficiently. This issue causes a slew of other problems like malnourishment, stunting, and death.

Now, many organizations and countries such as the European Union and Action Against Hunger have tried to help Chad, but they still need assistance. They need short-term solutions as well as sustainable long-term solutions. The European Union and other organizations' funding is very helpful. Chad has tried to help themselves. In the past, Chad has prioritized boosting exports of agricultural goods to reduce dependence on oil production. This doesn't help the food insecurity in their country. Chadians have wished to improve their agriculture industry and modernize it, but they lack the funds. The simple solution would be to give them money, but that is not sustainable. Allowing others to pay for everything the Chadians might not be able to keep up maintenance on what they have. This would ultimately be a waste of money.

The three solutions that are possible for Chad are the use of irrigation systems, farming crickets, and countries donating their surplus of food. These ideas are sustainable and very realistic options for Chad. Though irrigation systems and cricket farming may cost money, their positive effects on the country make it worth it. Irrigation systems and farming crickets are long-term solutions for Chad, surplus donating is short-term. Eventually, Chad could be weaned off needing the surplus from other countries which would be the goal.

Irrigation systems could be very useful to Chad. They have enough water to irrigate five million hectares, and right now they only utilize 7000. This would increase the number of hectares that they are able to farm. Chad experiences frequent drought and this would be a solution to that problem. Irrigation systems can also be turned on and off which is very beneficial to them. If the area receives an adequate amount of rainfall, they can stop irrigating, but if they need moisture, they can turn it on. Irrigation systems are expensive although they are needed in this area. The positive effects of irrigation outweigh the negative factor of spending money. It would increase the number of crops grown. This would decrease the number of malnourished people and increase the amount of food. It would create more job opportunities for the people in Chad to work as irrigation mechanics, operators, and builders. This is another reason why the money is worth spending. These systems would add stability to the unstable climate of Chad, making it farmable. The European Union as well as many other places give Chad funding and they could put some amount of money into this every year.

Additional irrigation would increase the number of crops produced annually leaving the people of Chad with more to eat. They would want to produce a food that is high in nutrients, easy to grow again, and easy to transport. Potatoes would be a valid new crop option. Potatoes are high in many nutrients like carbohydrates, fiber, and different vitamins. After the first crop around 25% of the potatoes could be kept back to use as seed potatoes for the next crop. Each potato can produce about three to four other potatoes. They also are easy to keep for long periods of time. This is necessary to transport the potatoes all over the country of Chad. All parts of a potato are edible which means there will be no waste from them. Potatoes can be eaten raw which would mean if people are unable to cook it for any reason, it is still edible. They are already a food eaten in Southern Chad, so it would make it easier to introduce to new areas.

Irrigating crops and introducing potato production in more areas of Chad should be sustainable as a two prong approach to solving the problem of malnutrition in Chad. Since potatoes can reproduce from the previous crop, seed potatoes would only have to be purchased once. In the following years, they would

just need to retain some of the potatoes back for planting the following year. After potatoes are harvested they could be sent all over Chad to be given to those in need.

Farming crickets is also an optimal food supply idea for the Chadians. Eating crickets and other insects has become increasingly popular around the world. This is because they are a sustainable option for protein. Crickets can take the food humans cannot eat and turn it into a protein source for humans. For example, crickets eat leaves, insect larvae, and flower parts humans normally wouldn't eat. Humans would then be able to eat the crickets. Crickets live best in environments that are moist, dark, and above 60 degrees. Although Chad's weather is relatively warm the crickets would need to be placed in controlled environments to protect them from the cold nights. Starting the cricket farms would cost money, but Chad receives funding from other sources.

Chad has very limited amounts of electricity available. Electricity would be needed to keep the crickets warm at night. A way around this problem would be to use solar panels on each cricket growing unit. The collected energy would be used to provide electricity to control the building's temperature. The average person can also raise crickets by having a box with holes in it. They are easy to reproduce and take minimal care to raise. Crickets also provide many nutritional benefits to people and do not die easily so they could be shipped all across Chad. Once crickets are initially purchased, new crickets would not have to be purchased again, since they reproduce. One female cricket can lay up to 100 eggs a day. Enough crickets would need to be left after harvest so that they are still able to reproduce efficiently. After the crickets are processed, it would be very easy to transport them to various locations in Chad. Similarly, this would create income for those raising the crickets, building facilities, and transporting the crickets. Crickets are nutritious and a very sustainable option for Chadian people to eat. Since crickets produce in such high numbers it would be easy to grow massive numbers of crickets to feed their people. Crickets could be provided to those who are malnourished to provide needed protein.

Distribution of donated foodstuffs is an additional idea which could assist the people of Chad. A large problem is access to food. Food distribution is a problem if those who need it cannot get to it. Distribution centers could be set up in areas with high needs. The locations wouldn't need to be large or fancy. The buildings could be much like their homes but stocked with food. There would need to be people or groups assigned to each location making sure that everyone gets a fair amount. Fair doesn't mean equal, fair means the right amount, the number in each family and the age of each person. This type of distribution center could distribute excess potatoes or crickets discussed previously. Distributing donated foodstuffs from other countries is not a long-term solution because they need something to hold the country over while long-term solutions are being started. This solution would help sustain the people of Chad until they could get all other facilities built and running. Over time the people of Chad could have a slow transition off of the donated foodstuffs. This solution is very important because it would ensure that relief aid from foodstuffs could get to the people quickly and sustain them until their other plans were functioning.

Each solution is unique but works cohesively with the others. Chad needs food and access to it, which these plans accomplish together. Having a location to get food, and having the people producing it is very important for them to end up being self-sufficient. With the funding Chad is given from different countries and organizations, it could be used to complete tasks like purchasing an irrigation system or locations to set up cricket farms. Asking countries to provide the people of Chad with their surpluses takes little money and would be a good place for Chad to start. Chad needs long-term sustainable solutions to deal with the issue of malnutrition. The people of Chad deserve solutions quickly, as their lives depend on it.

The people of Chad have suffered for many years. Lack of food, work, and access to supplies has made life very difficult for them. Almost half of their population lives in poverty. Their unpredictable climate

has created a challenge for raising crops. They already have minimal land to grow crops on. They need to utilize new technologies to grow crops and come up with alternative food solutions. Chadians' life expectancy is low, although providing children with the food they need to start life with would put them on a successful path for healthier lives. Not only children need help, as their mothers, fathers, and extended family members are suffering also. No one should have to suffer from malnutrition with the technology and capabilities available today. As a global society, the people of Chad need us to come together and support the areas being affected by malnutrition.

Works Cited

- Jones, Douglas H, and Alfred T Grove. "Climate of Chad." Encyclopædia Britannica, Encyclopædia Britannica, Inc., 1999, www.britannica.com/place/Chad/Climate.
- Reports, Country. "Chad Geography." CountryReports, 1997, www.countryreports.org/country/Chad/geography.htm.
- N/A, N/A. "The Party System and Conditions of ... - Tsep.africa.ufl.edu." The Electoral System- Chad, n.d., tsep.africa.ufl.edu/the-party-system-and-conditions-of-candidacy/.
- N/A, N/A. "Chad - Political Environmentchad - Political Environment." Chad - Political Environment | Privacy Shield, n.d., <https://www.privacyshield.gov/article?id=Chad-Political-Environment>.
- Aid, US. "Chad." LandLinks, 14 June 2018, <https://www.land-links.org/country-profile/chad/>.
- N/A, N/A. "Chad - Agricultural Sectors." International Trade Administration | Trade.gov, 2020, <https://www.trade.gov/country-commercial-guides/chad-agricultural-sectors>.
- Commission , European. "Chad." European Civil Protection and Humanitarian Aid Operations, n.d., https://ec.europa.eu/echo/where/africa/chad_en.
- Twilley, Nicola, and Cynthia Graber. "How the U.S. Became the World's Largest Food-Aid Donor." The Atlantic, Atlantic Media Company, 23 May 2018, <https://www.theatlantic.com/health/archive/2018/05/how-the-us-became-the-worlds-largest-food-aid-donor/560951/?scrllybrkr=52cc115a>.