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Chad, Factor 11: Malnutrition

### **Chad: Ways to Create Food in a Desert Country**

Chad is a land-locked country in the heart of Africa's Sahara Desert region. This country is roughly three times the size of California, being the home to over eleven million people. Chad is named after the largest body of water within the border of the country, Lake Chad. Ranging from desert in the North to tropical in the South, Chad has a varying warm climate. The main exports of Chad are resources such as oil, gold, cotton, gum Arabic, and uranium. As a whole, the population is relatively young, with the median age for males being sixteen and females being eighteen. These children can expect to live until they are fifty years of age for males and fifty-three years of age for females. Men dominate the culture of Chad, running the military government as well as controlling the family's civic life. Along with the young median age, the mean age for women to conceive children is eighteen. Citizens speak a range of one hundred twenty languages and can be from over two hundred different races. Even with so many different races, the two main religions in Chad are Christianity and Islam (Africa: Chad).

Life in Chad is quite warm, sometimes tropical, and constantly hungry. Around seventy percent of Chad is rural area, with the biggest urban area being the capital, N'Djamena (Atlapedia Online). Many of the jobs are found in rural areas, as eighty percent of Chad's industry is in agriculture. The agriculture industry consists mainly of growing cotton, sorghum, millet, maize, peanuts, rice, potatoes, gum Arabic, and tapioca. Additionally, animals such as cattle, sheep, goats, and camels are often raised. Farming is mainly primitive in Chad, done without fancy machines or high-tech irrigations (Infoplease). Cattle are used to plow the land, and simple irrigation ditches help bring water to the land. Cotton is the main crop, employing almost two and a half million Chadians (Chad Agriculture).

Millet is a staple in the Chadian diet, along with boule, a thick porridge molded into a ball around a spicy vegetable, made from a flour ground from maize, millet, and sorghum (Our Africa). These foods are often served by families in their small homes made of mud bricks and straw roofs. In these homes, families consist of a head male and his several wives. The husband or wife's extended family can live with them in the house. Many women are married before the age of eighteen, thus cutting their years of education short when traditionally men receive nine years of schooling and females receive a little more than six years of schooling, averaging out to around seven years of school per each adult. The literacy rate is around thirty-five percent among the adult population, with a large divide between males (forty-six percent) and females (twenty-five percent) that points towards the male dominance in the country (Africa: Chad).

As described, a typical day in Chad can be difficult. The average temperature in the morning is between fifty and seventy degrees Fahrenheit, and it only goes up from there. Highs throughout the country on most days reach between ninety and one hundred degrees easily with the glaring sun. In a small, crowded, rural house, these temperatures can make everything highly uncomfortable. A family will send the younger children to a small school while the older children and adults will set off on a long day of work. Women often tend to small livestock and the garden, while also taking care of younger children and

housework. Men take the duties in the fields, completing the commercial farming (Culture of Chad). The land is constantly baked by the scorching sun with very little relief from rain because only about 340 mm (13.4 inches) fall each year (Climate Change Knowledge Portal). Receiving this limited amount of rain causes crops to dry up or not germinate in the first place. Without water, the crops produce no food for humans or the livestock, furthering the lack of food. The rudimentary farming practice of plowing the land using cattle to pull the plow is lengthy, tough work. Farmers struggle to grow and produce ample amounts of food for their families, their livestock, and/or their village.

While all members help out in some way or another with the plowing, planting, and caring for their family's livelihood, many families cannot even grow enough crops to provide for their own needs. What little excess food or goods are grown or made by the household are prepared and taken to market. Most of the income of families is earmarked for an important resource: water. Almost all water in Chad is highly contaminated with disease such as cholera. Finding clean water for drinking or cooking can either involve a terribly long walk or trip to the market to buy jars from a water vender. Since clean water is so scarce, it is usually only used for drinking or cleaning not bathing. Children may come home from school and play in dirty, shallow lakes to cool down while the adults carry water to the plants until it is time for a small evening meal and bed. This activity can lead to sickness in the children.

Sickness is a serious problem in Chad because the ratio of doctors to people is one to thirty-eight thousand and the ratio of hospital beds to people is almost half a bed to every one thousand people. With a rate like this, even if someone is extremely sick, it is hard to gain access to a doctor. Additionally, if a sick person is lucky enough to have access to a doctor's office, most facilities are quite poor and cannot provide high quality treatment. A few things really impede the care. For example, just because it is a care facility does not mean that it has more access to clean water than the average citizen. In addition, the government does not have an established budget, meaning that hospitals do not receive funds to provide treatments, buy new, sterile equipment, or obtain necessities such as medicines and bandages.

Everywhere in Chad, not only do families have to be cautious of the water and sickness, but also of the crime rate as well. Theft is an extremely common crime as most people are in severe poverty. Thieves will steal anything of the slightest value especially food (Culture of Chad). The tremendous number of people below the poverty line in Chad, eighty-seven percent, has led to an extreme need for everything (Chad). Since food is a necessity for staying alive, it is a high-priced commodity. Thieves, even neighbors, will fight and steal to obtain this vital resource in a nation where malnutrition and hunger run rampant.

There are a few reasons for Chad being one of the poorest and most malnourished countries in Africa. First, Chad lacks many valuable resources such as rain in most of the northern portion of the country, easy access to clean water, fuel availability, and steady amount of food sources due to rudimentary farming practices and harsh climate. The land in the north is desert and rough to farm, so most of the bountiful harvest comes from the south. The little amount of fertile land they have is being ruined by poor farming habits such as not having enough clean irrigation and ripping up fields with plows pulled by animals, leading to main nutrients being lost from the soil. Having vast land distances between larger cities, markets, or water can make travel and marketing hard. Small villages have to rely mainly on their citizens for food, labor, goods, and education because the distance to the nearest large city is too large to travel for

basic necessities. The center for industry in the country is the capital; however, industry makes up a small percent of the country's overall goods, and fuels are lacking to build up this important part of an economy. A large portion of the goods produced in Chad are agricultural, of which many go to feed the starving nation. It is hard to sell a product to other countries when your own people do not have enough of the product to survive.

Another problem blocking citizens of Chad from having a better life is a lack of communication. Since distances between villages are long without proper infrastructure, different villages often speak different languages, preventing trade or cooperation between neighbors. Besides having different languages, almost ninety percent of people in Chad are illiterate. This prevents any sort of written communication such as laws, property deeds, and newspapers impossible to have. With very few natural resources of any kind, there is nothing to export and no way to write laws on exporting or taxing goods in the country. People have no way to communicate how to stop harmful farming practices or make laws regarding how not to pollute water. Soil erosion, pollution of water, and lack of laws could be fixed if means of communication could be improved by translators or education.

As well as trying to feed and educate their own people, Chadians have to try and provide aid to refugees fleeing to Chad for help. This includes providing food, education, and housing. There are close to 425,000 refugees in Chad today, or almost 3.9% of the country's total population, who have come because of conflicts in places such as the Central African Republic and Sudan (In Southern Chad). Refugees are often given food, tents, water, and healthcare by organizations such as the World Food Programme. Specifically, the World Food Programme gives refugees coupons to buy food from local markets, which gives vendors more money but local citizens less food for their families. The World Food Programme works on a budget of USD 14.8 million per month, a budget that falls short of meeting needs by almost USD 7 million (In Southern Chad). With a hole that big in the budget, many refugees have no choice but to scour and scavenge along Chad's countryside for food and water, leaving natives without the supplies they need to stay alive.

Although oil has been found in Chad, the country is not currently obtaining the maximum amount of profit from these fields. Because many policies are new and do not cover these oil market ventures well, countries such as the United States are buying oil without paying tax or providing proper documentation to protect all parties (U.S. Relations with Chad). The southern tribes originally owned the land on which the oil was found, but were forced south by power-hunger leaders looking for wealth (Culture of Chad). The south gets more money from agriculture while the north gains more money from oil, yet most of the people all over the country are extremely poor. The government can be to blame for the lack of revenue that could be gained through a more economical method of exporting oil, as well as other issues.

During the beginning years as an independent country, this nation did not have a national government. People of the country did business as individual merchants instead of the country working as a whole to collect money from these goods. Therefore, the present-day government is facing extreme challenges laying out a budget or economic plan for the country. Also, most of Chad's national budget is composed mainly of foreign aid and can sometimes have structural deficits up to thirty percent. No money is budgeted for social aid programs such as the Red Cross and FEMA. Lack of these services means no help is offered if a national or a personal emergency occurs. Chadians are trying to set up a fair government

and are being met with resistance from other citizens to both the new president and the new policies. The government, run by all males, is overrun with corruption. Northerners do not want to lose their oil money; no one wants to lose what little power they have, and everyone is hoping to find a way to line their own pockets (Culture of Chad).

Since Chadians are trying desperately to provide everything for not only themselves but refugees as well with no help from their government, the child labor and poverty rates in the country are extremely high. Every member of the family often has to help earn a household's wages. Forty-eight percent of children between the ages of five and fourteen years old are working in either farming or manufacturing, which contributes to the high illiteracy rate (Africa: Chad). Additionally, of the people living in rural areas of Chad, eighty-seven percent of people live below the poverty line (Chad). Together, these may be the main cause of the country's main issue: malnutrition.

Malnutrition is a large scale issue around the world. Every year, malnutrition takes the lives of three hundred-thousand children under the age of five around the world (Shashidhar). Chad ranks extremely high on the list of countries malnutrition rate; one hundred eighty-fourth out of one hundred eighty-seven countries, according to the 2012 UNDP Human Development Index (Chad). By the technical definition according to Merriam-Webster, malnutrition is "the unhealthy condition that results from not eating enough food or not eating enough healthy food" (Malnutrition). Being malnourished is a cruel and inhumane way to live. Constantly being hungry and not knowing where or when the next meal will come from can make the days long and worrisome. Not having enough healthy food can lead to serious medical problems such as anemia, blindness, brittle bones, and vitamin deficiencies that lead to stunted growth, dry skin, and brittle hair (Shashidhar). Acute malnutrition can weaken resistance to fatal diseases and even death.

International concerns for child health are extremely high in Chad because of the elevated malnutrition rate. Estimations for this year state that over one hundred eighty thousand children will need to be treated for severe acute malnutrition, a number that is increasing greatly over time. These numbers are increasing rapidly in Chad's Sahel region, which includes the capital, N'Djamena, and most of the Southern central part of the country. This region is split into eleven sections, five of which have emergency malnutrition rates above fifteen percent and another four which have rates above ten percent (UNICEF).

As serious as Chad's problems are, there are many possible solutions to these problems. Chad's beautiful, rugged mountains and beach areas along Lake Chad would make excellent tourist areas. These areas are currently being wasted; however, because there are no facilities set up to accommodate any sort of tourism needs. The government of Chad could utilize additional funds from adding tax and proper documentation to oil exports to improve amenities crucial to tourism. Revenue earned from the tourism industry would be enough to pay back the initial investment, as well as enhance the future of the tourism industry and support international embassy facilities.

Chad has within its borders seventeen embassies representing seventeen different countries (Embassies). If facilities for these officials were improved and tied in with the tourist areas, it would draw in larger crowds from their respected countries. This would help bring money from their countries as well as a willingness to support a country with modern facilities for government officials. By drawing in new

customers every year from many different ethnic regions, new jobs for people with an array of skills would open up. People always need places to stay, eat, and find entertainment while on vacation. This requires more construction workers to build new structures, police officers to keep tourist safe, vendors to offer fresh local foods, and small business owners to open restaurants and shops. Families in Chad who currently cannot earn enough to support themselves would have more job opportunities. The need for new hotels, restaurants, art galleries, and other businesses would create numerous new jobs for all kinds of people, providing an employment opportunity not offered before.

Tourism alone is not going to fix a problem as big as Chad has by itself. New ways to grow more food need to be introduced to the local farmers. Crops that are more resistant to heat and drought need to be brought in such as corn, beans, and summer squash. These could grow better in the dry, hot climate of northern Chad than the crops growing there now, thus producing more food for families. Maximizing harvests by building irrigation ditches and pipelines stemming from Lake Chad and creating new, easier ways to plow the land could create significantly more food for the people of Chad and all the refugees as well. Funding for these projects could come from the World Health Organization or the United Nations as it would be a project to help the health and well-being of humans. As better farming practices are established throughout the country, new taxes and documentation could be drawn up to export surpluses to neighboring countries. Students from agriculture colleges could teach the new farming lifestyles while studying abroad, which is already paid for in their college tuition. This would provide a great learning experience for the students and citizens of the country as they would both improve their skills.

Unifying the government by representing the citizens' values would help all of these solutions tremendously. A strong, central government would offer a place for aid to be sent without fear of tyrants and terrorists coming in and stealing aid needed for Chad's citizens. If the members of Chad are really hoping to create a democracy, then the government has to be built on fairness and the best interests of the country. By sending politicians from Chad to countries with successful, stable governments, Chadians can learn how to set up their own stable, thriving government. Ordinary citizens, as well as leaders, could visit districts such as Washington D.C. through an exchange program to learn the ways of politics and different ways countries are run. This would ensure knowledge of the government through all people in Chad, creating less corruption and more facts to fix crucial problems. Districts should be drawn up according to current region boundaries, so every citizen has a fair say in what the government does and who their politicians will be. Elections should be held on a set schedule, decided on by district leaders to provide stability. Balancing the budget should be a task completed each year by the new government to continue having economical growth. A portion of this budget should go towards food security. This includes aid for farmers to purchase new pumps and wells to irrigate their crops or new equipment to help produce a more bountiful harvest.

Fixing the chronic problems Chad faces will take many years. Reaching a state where it will have a fully functioning government with a balanced budget and new practices of infrastructure takes cooperation of citizens and large amounts of money. However, when this state is reached, Chad will be less focused on survival and can focus more on creating new technologies that will create the opportunity to strengthen their country's reputation and decrease poverty and malnutrition.

By introducing additional sources of revenue through new oil exporting policies, better farming practices, and a more stable system of government, Chad could grow to become a very healthy nation without a malnutrition problem. Inviting people to Chad through tourism can bring new jobs and new ideas on how to improve the country, not to mention add new revenue to the budget. Additionally, these funds can help import more sustainable methods of providing food sources and send ordinary citizens to receive training in pushing Chad to become an industrialized nation. This three-pronged approach will provide Chad the tools to combat the serious issue of malnutrition.

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