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Niger, Water and Sanitation

Niger: Where Water Insecurity Leads to Malnutrition

In Niger, thousands of refugees gather in camps, sheltering themselves against the torrid sun in tents. Mothers anxiously give their children the only water available to them; dirty and contaminated, this water costs thousands of children their lives every year. Where poor water quality and sanitation practices prevail, waterborne diseases thrive, intensifying malnutrition. Niger, located in the Lake Chad Region of Sub-Saharan Africa has 23.2 million citizens, 1.4 million of which face chronic hunger (World Food Programme). After the Lake Chad Region erupted into conflict in 2009, headed by the terrorist group Boko Haram, southeast Niger became home to thousands of refugees. The Boko Haram insurgency destroyed crops, looted homes, increased staple food prices, and crashed markets, creating a widespread critical level of food insecurity (World Bank Water and Sanitation Program, & Swedish International Development Cooperation Agency). Additionally, more than 60,000 refugees fled violence in Mali to Niger since 2012 (Central Intelligence Agency). While Niger is a relatively stable country when compared to the violence of its neighbors, the added stresses of refugees on an already impoverished country strained the limited infrastructure available. Just over 50 percent of the population has access to improved water sources, while only 10 percent have access to adequate sanitation (World Bank Water and Sanitation Program, & Swedish International Development Cooperation Agency). Today, Niger faces the challenge of providing safe water and sanitation to every region of the country, not only supporting its citizens, but also the refugees who find a haven in the deserts of Niger.

Niger is split into two distinct regions; the north characterized by the vast Sahara Desert and nomadic lifestyles, and the south characterized by cities and crop agriculture. The northern nomadic tribes live in tents made of animal hide and grass or within adobe mud huts, depending on the degree of sedentarism the tribe displays. The goats, sheep, camel, and cattle the nomads care for are integral to the economy as they account for 15 percent of the GDP and support 29 percent of the population (“Country Profile – Niger”). The south receives more rainfall than the north, making it more suited for agriculture, including the food crops sorghum, millet, and beans. A typical meal for a Nigerien family often consists of millet made into a thick porridge topped with a vegetable sauce that may contain some meat (“Niger”).

Niger’s extreme and unyielding climate leads to poverty for many Nigeriens. On top of blistering desert conditions most of the country experiences, Niger also suffers from desertification, low and viable rainfalls, land degradation, and deforestation. Just 12.3 percent of Niger’s land is arable, and the success of crops within the country is largely dependent on inconsistent annual rainfall. (Central Intelligence Agency). In the past efforts have been made to make Niger food independent, however, Niger’s vulnerability to climate shocks makes this reality impossible. The extreme climate of Niger is one reason why it consistently ranks as one of the poorest countries in the world. While the percent of the population in poverty has improved over the last two decades, with a decrease of 9 percent since 2003, the overall number of poor within the country has increased by 1.8 million, due to population growth (World Bank

Water and Sanitation Program, & Swedish International Development Cooperation Agency). Chronic poverty can especially be seen by the sheer number of poor children. About 48 percent of children in Niger live under the monetary poverty line, and 75 percent of children do not have access to at least three or more essential social services (“Children in Niger”). Extreme poverty for a growing child can have lasting effects, as chronic malnourishment, coupled with stunting and a high prevalence of disease makes childhood in Niger an extremely dangerous endeavor; Niger has the 11th highest mortality rate in the world for children under 5 years old. (“Children in Niger”). One of the leading causes of Niger’s high child mortality rate, according to UNICEF, is poor sanitation practices and water-related diseases (“Water, Sanitation and Hygiene”).

Food insecurity can be fought through many facets, and often one of the most neglected is proper water access, treatment, use, and sanitation practices. Clean water access, close to the home can severely reduce both prevalence of water-borne disease and time spent fetching water, leading to healthier and more productive citizens. Breadwinners would be able to spend less time sick, giving families more security in their income. Children will not have to forgo their education to transport water for their families. Young children would not have to suffer through malaria or severe diarrhea, which intensifies malnutrition and can even lead to death. Having access to basic sanitation facilities gives citizens the ability to lead healthier lives. Simply having a mother wash their hands before handling their newborn reduces the risk of death by 44 percent for the infant (“Soap, Toilets, and Taps: A Foundation for Healthy Children”). Protecting the fragile immune system of a child during its first years of life insures proper development of the child’s brain and body. Access to clean water and sanitation facilities have proven to be pivotal in the development of a county; as Dr. Oleg Blinikov said in “Safe Water is Out of Reach for Many in Niger” by Cristina Estrada, “Though water and sanitation projects are often considered too expensive, they are nevertheless the first alternative, together with hygiene awareness programmes, to reduce poverty and malnutrition on a sustainable and long term basis.”

Today, Nigeriens access to safe water and sanitation facilities is limited, only 56 percent of the population has access to drinking water, and 22.7 percent of schools have access (“Water, Sanitation and Hygiene”). Even those who do have access to water, it is often over 30 minutes away from their homes. In a rural family of 10, this means up to 6 hours per day is spent fetching water. Additionally, the water may be dangerous. One study found that out of 19 water treatment centers in Niger, 18 of them did not have a chlorination system and 4 of them were found to have poor water quality. Another study found a high level of contamination of disease and oxidizable nitrogen in the countries groundwater supply, making the water unfit for human consumption. Access to sanitation is especially dire. Only 10 percent of the population has access to proper sanitation facilities, and over 70 percent of the population practices open defecation (World Bank Water and Sanitation Program, & Swedish International Development Cooperation Agency). Latrines in rural Niger are of low quality, with most being simply a hole in the ground with a wooden shack over them, known as pit latrines. The latrines were often found to be dirty, and lacking handwashing facilities as well as menstrual product bins. Even if the citizens attempted to clean the latrine, they had little access to the correct cleaning supplies and instead opted for water, or even motor oil and battery acid in some cases (UN Women, & WSSCC). Additionally, young women do not have adequate access to menstrual products (“Water, Sanitation and Hygiene”), and many rural women end up using fabric instead of pads or tampons (UN Women, & WSSCC). In almost every case, water access and sanitation for rural citizens are found to be significantly worse than their urban counterparts. The true scale of the water and sanitation situation in Niger is shown through using the Millennium Development Goals. Considering the current conditions, by 2030, 15 million Nigeriens will need access

to improved water supplies and 32 million will need access to improved sanitation (World Bank Water and Sanitation Program, & Swedish International Development Cooperation Agency)

First and foremost is providing access to safe water for all Nigeriens. Due to water infrastructure being extraordinarily expensive, rural communities often are neglected. Rural communities could greatly increase their access to clean water by practicing rainwater harvesting. Rainwater harvesting is simply collecting rainwater during the wet season, to be utilized later during the dry season. A series of rain barrels or cisterns are hooked to a gutter system on the top of a building. Once this system is installed it is easy and cheap to maintain, and rainwater has been widely deemed to be potable. Rainwater harvesting has already seen success in other dry climates such as Mexico City and Kenya (Kucharshi, M., Daniel, A.). To help with the initial cost, the Nigerien government could offer incentives for installing rainwater harvesting systems. After the initial investment, rainwater water harvesting provides a clean and free source of water near the home and decreases the citizen's reliance on centralized water and sewer systems.

Providing water access points and toilets within schools would mitigate the effects poor water access has on school children and families. Senegal's "Building For Life" program provides every school with private, gendered latrines, along with a water access point. This provides safe, clean facilities for the school children, and after school hours, the community. By locating the access point near the school, children are more likely to attend classes. The schools teach hygiene curriculum and give students a space to learn good lifelong hygiene habits. Instituting a similar program in Niger would provide every community with at least one access point to clean water, help combat open defecation, and give more children a chance to attend school.

For those who already have access to a water source, but it is not considered clean, point-of-source filtering may offer protection against diseases. In-home water treatment, such as the use of water filters, has been shown to reduce the occurrence of diarrhea by 39 percent ("Soap, Toilets, and Taps: A Foundation for Healthy Children"). Just One Africa is a company that works within Kenya to supply life-saving water filters. The gravity-fed water filters can filter 5 gallons of water in around 30 minutes and filter out debris and harmful pathogens ("Water is Life"). By filtering the water, citizens can skip the energy-intensive and resource-wasting step of boiling water. Reduction in waterborne diseases through clean water could radically improve the infant mortality rate within Niger.

Building high quality and easy to clean latrines is integral to increase access to improved sanitation in Niger. Researchers at Seoul University have purposed a new type of toilet, specifically for Sub-Saharan Africa. It is a waterless toilet that separates the solid water products from the liquid waste products, allowing the solid waste to be turned into fertilizer. Waterless toilets are safer than pit latrines, as they do not attract flies which can transfer pathogens from the waste to food (Han, M., & Hashemi, S.). While these toilets would be more expensive, the reduction in water use and treatment, and the possible income from fertilizer, as well as improved sanitation for Nigeriens outweigh the costs. These toilets would be best utilized in urban settings, such as the capital city Niamey, due to the need for sewer systems. The next challenge with latrines is giving Nigeriens a low cost, hygienic way to keep them clean. Luckily through corporate partnerships, this can be achieved. Unilever works around the world to improve access to sanitation facilities. In addition to building latrines throughout in need areas through the "Cleaner Toilets, Better Futures" program, Unilever, through its brand Domestos has created low cost powdered toilet cleaner, specifically for those living in rural areas (Unilever). Working in conjunction with big

companies could allow Niger access to products that specifically fits the needs of the people, as well as benefit from altruistic programs such as “Cleaner Toilets, Better Futures”.

Within Niger, the topic of menstruation is extremely taboo. Many girls opt to stay home from school and may not be in the company of men because they are considered unclean during their menstrual cycle. Most cannot afford period products, and instead, use whatever fabric they have access too. Additionally, all period products must be washed and dried in private, often leading to the girls not being able to properly clean their period product (UN Women, & WSSCC). Days for Girls is an organization that provides period kits to girls in need around the world. These kits contain fabric pads, underwear, and waterproof liners all in a drawstring bag. All the products may be used for up to three years. The pads and waterproof liners are specifically designed to look like washcloths, so that they may be washed and dried outside without fear of embarrassment. In addition to distributing the kits, Days for Girls sponsors education programs for both men and women that fight the stigma surrounding menstruation and give proper hygiene information (Days for Girls). Having a program like Days for Girls within Niger would help to increase feminine hygiene, as wells as help young women stay in school.

Finally, increasing awareness in the general public regarding healthy sanitation practices is paramount for increasing the health of the population. Just because the physical facilities are built, does not mean they will be used. Global events such as Global Handwashing Day or World Toilet Day open the conversation for the general public, raise awareness for proper hygiene practices, and allows governments to pledge to improve the state of sanitation in their country. Giving generally taboo subjects the chance to be celebrated in a fun and unforgettable way is a much more effective way to reach a population than the usual route of education programs and seminars. For example, in Bangladesh on global handwashing day, 1213 school children set a Guinness World Record for most people simultaneously handwashing with soap (“Soap, Toilets, and Taps: A Foundation for Healthy Children”). On World Toilet Day in Nigeria, an activist group performed a drama for the people of Jiwa that raised awareness of the dangers of open defecation (Onochie, B. C.). These are memorable community events when coupled with government action, can help increase improved sanitation access. Every year a country is given the right to host World Toilet Day, and Niger is a prime candidate. With one of the highest open defecation rates in the world, an event that raises awareness for the use of latrines is much needed.

Increasing both physical access, and public awareness to the issues of proper sanitation practices and clean water availability is the first step in decreasing malnutrition within Niger. No matter how much food one has access too, if a disease or dehydration is preventing the body from absorbing nutrients, malnutrition will occur. Protecting the countries young children from waterborne diseases leads to healthier families, and stronger citizens for tomorrow. Ensuring all schools have access to clean water and proper latrines gives schoolchildren an equal chance to gain an education and to learn lifelong healthy sanitation habits in comfort and safety. As Niger continues to strive towards providing universal access to clean water and sanitation facilities, Nigeriens can look forward to a future where clean water and sanitation sets the foundation for food security and proper nutrition for all citizens.

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