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Sudan, Sustainable Agriculture

Ending Malnutrition and Desertification in Sudan

Sudan is an agricultural based country no bigger than one-fifth of the United States. Even though it is known for agriculture, many of its kids suffer from malnutrition. Sudan is located in the North-Eastern part of Africa bordering the Red Sea which approximately totals 728,200 square miles. In Sudan “there is a population of 43.1 million people creating a population density of 62 people per square mile” (“The World Factbook: SUDAN”). Nearly all people live in rural areas that follow the Nile River or between the Blue and White Nile River. These rural areas rely heavily on the river water and rain to grow their crops to feed their communities. There are many problems which occur making their food supply diminish. Sudan faces periodic droughts which in turn hurts their crop yield and ruins necessary crop lands. Therefore, this leads to a smaller supply of food and worsens their already prevalent malnutrition. There are many challenges that Sudan will have to overcome in order to rise as an agricultural economy.

The geography and varying climate of Sudan provides problems for growing crops and feeding families. With an expanding desert and increased soil erosion due to current farming practices, it is getting harder for families to support themselves. With nearly all people living in rural areas they depend heavily on the land to support a bountiful crop each year. “Sudan is ranked 112 out of 119 for hunger problems” according to the Global Hunger Index (“Global Hunger Index”, 2019). Even with almost everyone living in rural areas with arable land many are still suffering from hunger. “Eighty percent of Sudan’s labor is dedicated towards agriculture and twenty percent are based in industry and services” (“The World Factbook: SUDAN”). Therefore with no support from other sources, families resort to continual practices for growing their crops including tillage. But Sudan’s people do not completely reap the benefits of the arable land. Only “8 million hectares out of 80 million available hectares” are being used to help feed people. To help people start using these acres an incentive would need to be made, because there is a lack of “sufficient foreign exchange” which causes little profit to be made when growing large quantities of crops (“Sudan: Agricultural Problems”, 2012). Also, the climate in Sudan has changed over the decades due to deforestation and erosion which is occurring all over the country. Again because farmers rely on varying rains, they in turn lose many of their crops due to long droughts. In recent years rain has caused many lands be unsustainable due to massive floods washing away the topsoil. This massive rainfall is usually followed by droughts. To keep their land fruitful and diminish erosion a new method of cultivating will have to be developed within Sudan.

Within Sudan, family households contain five to six people and communities are comprised of extended families leading back many generations. It is popular for households to live in small rural communities where the majority of the land can be used for grazing or irrigation. Almost all children receive lands from their parents to farm giving each generation of families less acres to grow their crops. Men live more of a social life having to talk to other families and discuss what may be going on. Women take care of the house, children, and participate in some farming. Social class is based on what tribal origin people come from and therefore can determine what jobs they qualify for. Many tribes don’t allow intermarriage

because of the belief that their tribe is superior to the others. There are two main religions in Sudan, Islam and Christianity. Islam is more prominent in the North while Christianity is more in the South. Within Islamic beliefs females can only show their face, hands, and feet to others that are not close relatives. “Although there are many health problems almost no people try to acquire medical aid unless deathly ill” (Elobeid, 2013). Money and supplies have to be used carefully as they are always at risk of running out. It is uncommon for people to use “hard” drugs or drink excessively, but many smoke. Families are close knit and are hard working despite what obstacles they face.

Education is a major element for the people of Sudan as “76% of the population is literate” (“The World Factbook: SUDAN”). All kids usually receive at least eight years of school education which helps them in their basic life. It is tough for rural kids to receive an education because schools can be miles away from home with scorching temperatures making it almost impossible for kids to receive their education. Most are unable to move on to higher education so they have to resort to farming (growing crops) to support their families. Even if they are suffering from malnutrition, most people never ask for help from others and try to overcome problems by themselves. This doesn’t help the cause of many kids that are suffering because they won’t receive help, specifically from foreign aids. The UNICEF has received millions of dollars to help young kids suffering from malnutrition in Sudan. Even though this has helped save many lives, the problem still continues. To give kids a better life, having a chance for them to go to school where they don’t have to worry about their next meal would be beneficial. But a system will have to be implemented so they can grow food for themselves. Supplying them with an almost endless food is not a permanent solution because they rely on it too heavily and then do not become a self sufficient community. To create a better economy the people of Sudan need a way to maintain a steady supply of income that they can prosper from, if that means continuing their education or having prosperous lands for farming.

Living on slow paychecks from the government makes life for a family in Sudan tough. For example, when each crop yield is sold, farmers are given only a portion of their money right away. When there are droughts and yields drop, families are forced to buy imported food to feed their family. With the climate changing and high soil erosion traditional arable lands are becoming infertile, forcing many to consider moving to cities for other jobs. Over the years the importing of food has surpassed the production of food inside of Sudan. This trend costs the government tons of funds and weakens the economic potential of the country, forcing people to sell their produce for higher prices. These prices on average are higher than the international market making only a few select countries buy their expensive products to help Sudan’s economy. The rest that farmers don’t sell are then stored and used to feed their family and community. With only a limited supply of buyers in the market, families have to depend directly off what the land yields instead of taking advantage of selling some of their own food.

Many are not connected to a constant supply of electricity in Sudan. Infrastructure that was built decades ago is broken down and doesn’t supply the citizens with what they need. Many times people experience power outages and because of it they can’t continue to work. This inability can cripple a countries productivity fast as most operations, factory or farming, require electricity to run. When experiencing these power outages they can’t keep producing at the regular rates. This hinders the economy as people can’t either get their produce to the market or they have to stop business until the power is restored. In turn, families can lose valuable days wages that may be damaging to communities. Some foreign aid has

been used to help build water dams to give a constant supply of power, so then Sudan could stop using fossil fuels. “China funded \$1.2 billion to construct the Merowe Dam on the Nile River” (Ghandhour, 2016). The fossil fuels that are currently in use make electricity bills go up which then force companies and people to sell their products for higher prices. To help lower prices, so more people can buy items, they need some money to be given by foreign aid or by saving money by getting rid of fossil fuels and using renewable energy, like water dams. If Sudan switched to a more stable supply of power they could save tremendously to help build new infrastructure and improve the country overall.

Sudan’s labor force consists of 12 million people and 80% work with agriculture. Even though most of the working class lives on their farms only “40% of the GDP comes from agriculture” (“The World Factbook: SUDAN”). The other 60% of the country's GDP comes from other services. One major reason that Sudan’s agriculture doesn’t create more income is the higher prices that farmers have to sell their crops for. At these high prices, fewer countries buy their products and people are forced to store their goods and not sell them. With many low wage communities the government has to import more goods than it exports hurting the economy and forcing no immediate help from government aids. Families have to live off what they plant, but the changing climate is lowering yield potential. Grounds are drying up and becoming deserts turning once fruitful lands into barren wastelands, forcing many families to move inward towards the Nile. All of this contributes to the big problem of malnutrition within Sudan. “Nearly 2 million kids annually suffer from acute malnutrition and over 550,000 suffer from severe acute malnutrition” (abdulai, 2017). Outside resources have gained funds and treated many Sudan kids each year, but it will never get better. More has to be done than giving the country money to help feeds it’s families. Finding a solution to eliminate malnutrition is key; for example new practices in farming should be taught and developed inside of Sudan creating self sustainable families.

There are a few solutions that Sudan could adapt to, and improve on how they use their land. Cover crops and No-Till soil could be introduced and demonstrated to the farmers. To make sure that conditions improve and the economy rises out of its poverty a continual check-in and educational system must be implemented. Nothing will change if they are forced to switch their growing tactics, if they don’t see the benefits, and not know how to properly maintain the new methods. The leading men of the family could take classes and be shown the benefits inside of Sudan by close communities. They could also take an expedition to the United States with a paid trip by the WFP. In the United States they can see how through the years cover crops and No-Till keeps the soil healthy and retains more moisture. Land could be obtained in Sudan utilizing No-Till and cover crops to demonstrate the benefits of switching farming practices to help supply their families. Communities can have the chance to see what happens before switching their own lands. Their trust has to be earned because many Sudanese families never think about relying on others and always get through problems by themselves. If they are forced to take classes and start using these methods it would not work and would fail immediately. If families see how much it would help them, they could take classes and learn the benefits of switching to other farming methods. After learning all key concepts, help would be needed to get cover crops started in Sudan and make sure that they are continued to be taught and helped when problems occur. Men would be in charge of converting the land and receiving help from organizations or eventually the government. Women would take care of the fertile land and always check in while managing the family. The WFP could supply a small amount of incentive money for farmers to buy cover crop seeds and convert their land to no-till.

Later, farmers or the government could supply earned money to continue this practice so eventually the whole country could be self prospering.

Cover Crop and No-Till will not completely fix supporting families, but it will not force farmers to relocate due to desertification and will increase food production. These cover crops could then be used to either help feed livestock or their families. Cover crops could be decided on the needs of the family and what they would benefit the most from planting. Animals like goats and cows could be fed and lead to a supply of milk and other foods. This could supply more food for kids and lower the rate of malnutrition. The cover crop would prepare fields for the regular growing season and create nutrients in the ground to help bolster newly planted crops causing a higher yield to help raise people out of poverty. When families have livestock like cows they can grow a cover crop to feed them and supply themselves with milk. This milk could provide valuable nutrients to kids and would start families to being raised out of poverty. “No-Till is found to have lower temperatures due to the residue left over from previous planting seasons” (Wall & Stobbe, 2018). It helps soil retain more moisture because it covers the soil from the sun giving it shade and eventually decomposes into reusable nutrients. Sudan doesn't have cold winters so there would be no concern about the soil freezing and not being able to plant on time in the spring. It could protect the crops when facing a dry season or really high temperatures. No-Till could also protect the topsoil and conserve it for future generations. When an abundance of water runs through the soil it will prevent a lot of erosion and will not damage the valuability of the land. Even though No-Till could help feed more people and allow more crops to be sold to other countries giving a steadier paycheck to farmers and their families.

Farmers can produce even more, and use crops to receive more money. The government would have to adapt its spending and instead of importing foodstuffs could put it into building a better economy. Without having to feed its people more money could be spent lowering the poverty rate and helping provide self-sustaining agricultural styles. Most people live off of their land and something will have to be done so they can make a bigger profit by selling crops. When they have a steadier lifestyle by growing their own food then families could sell their crops to other countries for less. These countries could then buy more because it wouldn't be as expensive as it is now. Then the government could install a better supply of electricity after saving money from not importing so many goods. This would lower electricity bills and again producers could sell their items for less. With lower prices and less inflation people could buy the supplies they need. People would be able to sell to a wider range of consumers overall generating more income into the economy. These implementations would help Sudan families thrive, overall ending malnutrition inside of these communities and giving community members the chance at creating a better future.

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