Problem Of Desertification In Sudan

Sudan is located in north eastern Africa and experiences desertification first hand.

Desertification is the spread of desert-like conditions in arid and semi-arid conditions. It is the result of natural climate and human influence. Desertification in Sudan has been growing at an extremely fast rate over the last three decades, leading to social exclusion and the loss of farmable land. The central factors contributing to desertification include population growth, drought, the expanding of extensive agriculture, rapid urbanization, deforestation, the absence of proper education and the lack of economic institutions. Initiatives to prevent desertification must include proper grazing methods, improved cultivation, crop/livestock rotations and reforestation.

Desertification is the result of many social factors including population. Sudan's population is a massive 43.120 Million. The large population and the small liveable amount of land plays a massive part in desertification. If you look the graph (3) on the right it shows the Population of Sudan since 1950. This graph shows the massive boom of the population that doesn't seem to have an end. If Sudan continues at this rate it is predicted that the drinking water sources will drop by 14% in only 32 years which could will have devastating consequences.

In LEDC countries such as Sudan, trees are often cut down to provide wood for cooking, housing, selling or in most scenarios trees are burnt to provide fertile land for farming (1). When the land is cleared of trees, the absence of roots means the soil is now extremely susceptible to soil erosion. Soil erosion is when the ground soil is no longer held down by the roots of trees and gets blown away in the wind, unusable land and the expansion of deserts are the result of soil erosion (2).

With the rapid rate of urbanisation, arable land in Sudan is shrinking whilst the amount of food needed is increasing this means over grazing and farming is increasingly common. Over grazing and farming is an extremely big cause to desertification, over grazing/farming occurs when the plants or soil are exposed to intensive grazing or farming for extended periods of time without recovery periods. Overgrazing/farming can result in soil erosion which then leads to deforestation.

History plays a major part in predicting what will occur in the future and how to prevent it. With Sudan and other African nations looking into the past is the answer to all their problems. The Sahara desert is the largest desert in the world covering 10 African countries and spanning more than 3 million square miles which is almost as big as the United states (4). The Sahara desert is known as an arid plain, that extends for miles that is exposed to extreme temperatures and low rainfall.

But a few thousand years ago it was grassy and dotted with lakes (5). An archaeologist is suggestion that humans were to blame for the green liveable land turning into what is now the almost uninhabitable Sahara desert. Crop farmers are said to have set off a chain of events that pushed this area into its barren state.

The Sahara`s luscious green pastures dried up around the time that humans arrived around 8 thousand years ago bringing agriculture with them. Within only 1 thousand years it had turned into the arid desert seen today.

Dr David Wright of Seoul Nations human community says this change was provoked by crop farmers. Crop farmers grew certain species of plants that left the soil exposed to soil erosion. They also brought livestock that ate the vegetation further uncovering the soil. The Sunlight reflected off the exposed soil further warming the Saharan air. As more farmers arrived, the soil was further damaged increasing the air temperature. This reduced rainfall and created weather conditions suitable for shrubs. Rainfall eventually vanished, killing off most of the vegetation leaving only the tough plants.

Sudan has looked at the past and is now subsidizing farming lessons on the correct farming methods to prevent the further spread of the Sahara desert. Sudan is not only encouraging the teaching farmers but is also partaking in the Great green wall. This wall spans the width of Africa and currently has 20 countries participating. Sudan has restored 2,000 ha of land, which is the least out of all participant countries that stretch along the wall, but this is because of the unstable government and the corrupt leaders (6).

Sudan like most African countries is seen as an LEDC which means less economically developed country. This plays a major part desertification. Being a poor country means people would go to great measures to support their family. This includes disregarding the environment to put food on the table.

Sudan has faced severe economical challenges since the start of 2018, with the elimination of wheat and flour subsidies in the month of February 2018 and the continued devaluation of the Sudanese pound (SDG) shortages of essential commodities became common and hard currency. This economic crisis has continued through 2018 into 2019 with the future not looking bright for this African country. The economical Crisis is disrupting public services, impacting agricultural activities and results in dramatic price increases for staple foods. Living standards have dropped dramatically so protesting occurred from mid-December 2018 till the start of 2019 when Omar al Bashir stepped down from “presidency”.

Omar Al Bashir who was the former corrupt president of Sudan put money towards war efforts instead of supporting his farmers and preventing the inevitable events of desertification, with his support Sudan wouldn’t be the lowest contributing country to the ‘Great Green Wall’.

There are many environmental issues in Sudan including water pollution, water scarcity, periods of drought, excessive hunting, soil erosion, desertification, deforestation and loss of habitat. All of these problems are linked to Sudan’s economy if the economy was strong water wouldn’t be as polluted, water would be accessible, people wouldn’t have to hunt a lot and during periods of drought farmers would get help from the Sudanese government and would not have to resort to bad farming techniques to save a buck or two.

The Nile river is Sudan`s main water source this is concerning as 20 years ago there was an E.coli outbreak and as the river has not gotten cleaner another outbreak is inevitable.

Sudanese people use traditional farming methods like that found before the industrial revolution. These farming methods included lack of solid fences which can keep diseases out, no crop

rotation, lack of fertilizer and a mixture of crops and livestock.

Sudan has not had an easy last century when it comes to politics. Omar al Bashir came to power through a military coup in 1989. He came to power in the midst of a 21 year civil war between the north and south of Sudan in 1993. Although under his reign his government signed a deal to end the war in 2005 another war was in the midst of breaking out in the region of Darfur were Mr Bashir is accused of committing countless amounts of war crimes. Omar al Bashir was a corrupt leader and ended his reign this year in 2019.

Omar al Bashir used his position to benefit himself in other words he was corrupt. The effect of his reign and the civil war are still evident today, 33% of children under the age of 5 are underweight, over 34% of urban water is undrinkable, 20% of the population are unemployed and the risk of getting a major infection is very high. The amount of money Omar al Bashir put towards war efforts and his own personal needs could have been put towards food, sanitation and creating new jobs.

Omar al Bashir`s reign had an effect on desertification, due to war efforts farming techniques went backwards to save money whilst farms would expand this resulted in deep rooted plants being pulled out and replaced by small rooted crops like rice. This meant that soil erosion was common as the roots could not hold the soil down as they were to small and fragile.

Technology plays a major part in stopping desertification all around the world and Sudan is no different. A one hour drive from the Sudanese capital Khartoum an explosion of green from the desolate semi arid land surrounding it. A vast circle of crops clustering around canals filled with water from the blue Nile. The Al Waha or Oasis in English uses the latest technology to grow a crop called Alfalfa. Central pivot irrigation systems role smoothly around spraying water and fertilizer. The Oasis is an amazing technological device which is now used in many farms in Sudan. This isn’t all good news although the device means that food safety isn’t a massive threat anymore it does create a new one soil erosion. This device sprays water on a small crop called Alfalfa, the small roots on the crop means soil is exposed to weathering. Not only does the encouragement of small rooted crops have negatives but so does the actual device, spraying lots of fertilizer on the soil can contribute to the release of greenhouse gases such as carbon dioxide and nitrous oxide into the atmosphere.

Sudan future is hazy but if they act now it could look good, they have done the least out of all the countries participating in the green wall initiative but that is due to some issues that are now mostly behind them. Sudan needs to teach its population about farming techniques and they need to plant deep rooted trees throughout fields to keep the soil in place. If Sudan doesn’t act now their might not be any point in writing this document. (see image below)