

# Effects of climate change in africa and ways of mitigation assignment



## Effects of Climate Change in Africa and the ways of Mitigation. Introduction .

Climate has changed has had many negative effects on the continent of Africa and many other parts of the world. Temperatures have risen causing severe droughts and dry spells. Precipitation has risen in some parts of the and has completely fallen in other parts of the African continent, leading to cases of hunger, outbreak of diseases draughts and flooding. What has caused these changes in climate? The main causes of climate change include emission of carbon dioxide into the atmosphere by sources such as Industrial plants and motor vehicles.

Animals such as cattle also contribute to the causes of climate change by releasing a gas called methane. Deforestation and the release of greenhouse gases are amongst the many human influenced factors that have led to the change in climate. These gases collect in the atmosphere to form a barrier that traps the outgoing heat (long wave radiation), this intern heats up the atmosphere causing higher temperatures all over the world which then leads to drastic changes in the climate.

Unfortunately, Africa being one of the poorest continents In the world has suffered severely and will Petcock, 2009: xiv-xv) Adapting to the changes of climate is difficult and may be very expensive for many African countries. They could however reduce climate change effects by finding ways to reduce greenhouses gases in the atmosphere. This will not happen overnight but over a period of time. African countries could turn to green methods and this will help keep stable weather conditions which will not put a large number of people and animals under threat.

The continent could turn to climate change mitigation, mitigation refers to refers to the elimination or reduction of the regency, magnitude, or severity of exposure to environmental, economic, legal, or social risks, or minimization of the potential impact of a threat or warning. Mitigation will help reduce the rate of expansion of the estimated existing 43 per cent off dry lands covering the continent. UNEVEN 2009 1 5&17) The importance of learning the effects of climate change and the ways of mitigation has many positive outcomes in the future for the African continent as a whole and prevent Domino effect of hunger, poverty and desertification amongst many other negative effects. By working towards a cleaner green environment, Africa would have escaped an increase in poverty and hunger which is our continents greatest threat due to increasing temperatures and decrease in rainfall, agriculture which is the continents backbone in food production and employment will decrease rapidly and cause many problems including mass migration.

Mass migration to areas with resources will then lead to overpopulation and therefore spread poverty and hunger across the continent, as an increase in the number of people in an area will drain the regions resources. Effects of Climate Change Climate change has had negative effects on the agricultural sector in Africa, mainly caused by high temperatures and low rainfall in some parts continent. Areas such as Malawi, high temperatures caused draughts and vegetation loss. Domesticated animals, such as cattle were lost during this dry spell period.

Hundreds of people also died of hunger, estimated three million people suffered from starvation. A large percentage of the continent rely on <https://assignbuster.com/effects-of-climate-change-in-africa-and-ways-of-mitigation-assignment/>

agriculture, with these high temperatures crops will die of thirst as the ground will have lost large amounts of water and will not have enough to sustain plant growth. By 2020 it's estimated that crop production would even fall by 50% and the 70% of people who work in the agricultural sector would be left jobless which raises a secondary issue of unemployment. High unemployment will cause further problems of migration and a heavy strain on resources. Hutchins, 2009: 126-128; Descanter, 2013: 3). Africa is known for its amazing heritage sites from Egypt, Pyramids to Zimbabwe's, Great Zimbabwe. They have all stood for so many decades with little damage and threat, till the beginning of rapid climate changes. Timbuktu in Mali is currently facing sand encroachment. Increasing temperatures have led to droughts and dry spells. The vegetation around the area died due to lack of sufficient, leading to desertification. Land degradation has allowed the walls of the mosques of Timbuktu to be sand blown and encroached which is serious trouble. (UNESCO 2007).

Change in climate has resulted in an increase in temperatures which will affect the desert ecosystems. In the Kalahari Desert an increase in temperatures will lead to a reduction in desert plants as plants will die of thirst. This will result in the activation of the movement of desert dunes which were being held stable by the plants. This will put human settlements in danger as desert dwellers may end up drowning their settlements in sand. According to Archer & Ramset ' Change in Climate has also put the Succulent Karoo of South Africa, where 2800 endemic plant species face possible extinction due to increase in temperatures'.

This shows that climate change has also affected the desert ecosystems amongst many things. (Archer & Ramset, 2010: 163) Besides the affecting the vegetation in the desert ecosystem, the change in climate in the desert has forced the Calamari desert antelope migrates towards water holes close or by human settlements. High temperatures cause draughts which cause these animals to move towards human talents, they then carry the foot and mouth disease to the humans and cause sickness. Climate change has affected the human and animal population in the Calamari. Owens, 1985: Appendix A) Changes in climate in Africa will lead to the increase in Malaria caused deaths. Flash floods will come regularly and will lead to with the long periods of no rainfall. This will allow mass breeding of mosquitoes which will increase the number of malaria struck victims. With an increased number of mosquitoes, a large number of people are going to be affected and this will cause increase in death rate. The increase in deaths caused by malaria will also affect tourism as tourists will become hesitant to visit the continent in fear of catching the disease.

Potential investors will also withdraw from the malaria struck areas or even the whole continent as a whole as because businesses will no longer be profitable due to lower number of consumers. This shows that malaria will also lead to countries poverty. (Disaster, 2013: 3; Middle, Spalding-Fischer, Turnip & Hinkler 2002: iii). Fresh water supply shortages have and will keep rising, due to the hot temperatures. High temperatures lead to high levels of evaporation which will drain eater supplies. Low rainfall will not be enough to sustain the growing populations.

In Central Africa, the ice caps on Mount Kilimanjaro have melted significantly and have continued melting due to the change in weather. The water from the mountain flows in its surrounding rivers; these are drying out as fast as their main source. Water shortages will have rapid consequences. Water will become scarce this will lead to death of thousands of people from thirst or diseases from drinking dirty water. Civil wars may break out as people and tribes go against each other in order to be close to the water source.

The Nile which provides water for most parts of North East Africa has decreased and will continue doing so, due to the increase in temperature. Lack of water will also lead to rapid migration and will strain the neighboring countries resources. (Hutchins 2009: 138). The change in climate is not only affecting humans, It is also affecting animal and reducing the number of different types of species that are to be found. On the island of Madagascar has affected the natural environment which has led to the extinction of the Labor banded snail.

The decrease in rainfall made the living conditions unbearable as the temperatures rose. The snails failed to adapt to the new and changing weather conditions. This led to the decline in number the changes in climate. (Butler 2007). With the increasing number of natural disasters due to rapid climate changes most countries in Africa will have a low Gross Domestic Product (GDP) because production would have declined. Low output from the agricultural sector will lead to unemployment and an increase in poverty. The governments will not be stable enough financially to provide the required facilities, such as hospitals.

The infant mortality rate and the death rate shall increase as people may not be in reach of deiced points and will not be able to afford the required treatments. It is estimated that 40 000 to 250 000 children will die every year in Sub-Sahara Africa , due to the increase in poverty caused by climate changes. (Hutchins 2009: 136). South Africa and many other parts of the continent are known globally for their wildlife conservations and game parks. The Big Five, which include the lion, elephant, buffalo, cheetah and rhino are amongst are all found in Africa.

This has attracted large numbers of people and has as a result increased the importance of tourism in the continent. South Africa for example relies on wildlife and natural beauty to attract tourism, 36% of the international tourists come in for tourism. Due to changes in climate, changes in temperature and humidity which lead to the loss of habitats e. G. Coastal areas and biodiversity which will affect beauty and wildlife of the country. The number of international tourists will decrease as the reason for them to visit will no longer be in existence. When the tourism is affected the country Gross Domestic Product. Middle, Spalding-Fischer, Turnip & Hinkler, 2002: iii & 24). Malaria is not the only asses that is going to cause an increase in deaths in the continent due to climate change. The change in precipitation levels and the increase in temperatures which lead to severe draughts have and will lead to the very contagious disease of Invasive macroeconomic disease. This is a bacterial infection which can be spread by respiratory secretion and saliva. In Africa this disease is mainly found in the sub- Sahara, for example in Nigeria the first ever epidemic happened in 1905.

Due to the changes in climate the disease is going to spread across the continent, putting people's lives at risk. Large world organizations have entered into this region to try control and prevent the start of epidemics but with the rapid changes in climate this is going to be fairly impossible. Even though the disease can be cured, it leaves people with partial deafness for the rest of their lives. Changes in climate will not only increase the death rate but increase the number of the disadvantaged. (Palmer, 2009: 116).

Ways of Mitigation.

Educating people of the effects of climate change would be first step to reducing climate change effect in Africa. There are a number of ways in which carbon dioxide emission can be reduced in order to reduce the effects of climate change. Most African countries have turned to recycling products; in South Africa they have different colored bins which require people to put certain products which can be recycled. In Kenya there is a large scrap metal recycling industry which produces housing essentials, this reduces the strain on natural resources and prevents continuous tree clearing to dig and search for iron.

As an end result this will result in a reduction in carbon dioxide emissions from mining sites and by recycling there is less vegetation and resources will be used resulting in reduced effects from climate change. (Green Works; Hugh 2000: 145). In Africa one of the best ways to mitigate climate change is the saving electricity. By turning to energy efficient products and switching off plugs and lights when not in use, this will help reduce energy consumption. In Africa most countries use thermal energy; South Africa has the leading coal powered stations on the world (Eskimo).

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An estimated 64 percent of South Africans energy comes from burning coal. If South African reduced energy consumption this would result in less coal being burnt and less carbon dioxide released into the atmosphere. Thus reducing the effects of climate change. Energy can be saved by purchasing solar lights and switching off geysers at night among many other ways of saving electricity. The introduction of the Whatever, a light power usage device that helps reduce costs of electricity and electric usage. All these help reduce the effect of climate change, as less energy is used resulting in less emission of carbon dioxide in the atmosphere. Department: Energy of Republic of South Africa; Whatever: Make every watt count. The reduction in deforestation will be a factor that will lead to a reduction in the effects of climate change. Trees play an important role in reducing carbon dioxide in the atmosphere as trees use carbon dioxide during the process of photosynthesis. Therefore countries in Africa should turn to alternative sources of energy in order; in Kenya they introduced the solar system which reduced pressure on resources in most rural areas.

A large number of people turned to solar products because they were efficient and affordable. This then led to the deduction in carbon dioxide emission, helping reduce the effects of climate change. Liveryman, Richardson & Stefan , 201 1 428). Urban planners could be encouraged to structure developing towns to be close to each other and have all or most shopping centers and convenient stores in one area, in order to reduce use of motor vehicles which release a large amount of carbon in the atmosphere. They could also introduce bus lanes and trains which will provide efficient public transport.

This will result in a deduction of carbon dioxide emissions as less personal vehicles are used. In Johannesburg, South Africa they have already introduced the Quatrain and bus lanes which a large sum of people use in place of their cars to move from one place to another. People could be encouraged to cycle to close destinations as well and not use cars, at Nelson Mandela Metropolitan University most students and lecturers cycle to school and this is an example of how to reduce the emissions of carbon dioxide and the effects of climate change. Liveryman, Richardson & Stefan , 2011 428; South African Government News Agency ) African countries could turn to more environmental friendly sources of energy supplies. The use of hydro power is an example of clean energy. It comes with its disadvantages which are flooding when constructing the dam and destroying animal habitats but have long term benefits of clean energy, which lead to a reduction in effects by climate change due carbon emission. In Macaube they have the Cohort the transmission line got damaged . In Zanzibar they also rely on hydro power from Kari dam which makes its carbon emission low. Hydro energy is another way to mitigate the effects of climate change but is expensive to set up. (Renewable Energy Department: Energy Republic of South Africa; Ritchie, 2010 153) Another way of mitigation that could be used in Africa is to support subsistence farmers in order for them to reduce shifting cultivation, which increases deforestation and land degradation.

The local government could make use of satellite and computer-based models to provide seasonal precipitation forecasts which can help reduce risk. They could introduce seed varieties which will be able to cope with the predicted precipitation levels. They could also issue insurance to farmers

who grow their crops according to predicted rainfall conditions, in Malawi they have already started practicing these schemes. This will in turn reduce hunger levels and the fast level of forestation in the continent; this thereby reduces the effects of climate change. Giddiness Conclusion In conclusion, Climate change in Africa has had a negative effect on many aspects in the continent, if the climate pattern keeps changing it will leave the continent in a quagmire. Reduction in resources, rising number of deaths caused by diseases, extinction of animals which affects the biodiversity and many other factors I have mentioned are and will be the effects of climate change. There are ways of reducing the effects of climate change which work effectively but take time to make a difference as they do not make an immediate change.

Some of ways of mitigation a expensive to implement for African countries as most economies are not rich enough to set them up e. G. Setting up dams to generate hydro electricity or wind farms. However I think Africa should turn to easier and cheaper ways of mitigation such as recycling and use of solar energy which is an abundant source of energy in the continent.

Countries should impose tree planting days every year, Zanzibar has a tree planting day every December. This helps reduce the amount of carbon dioxide in the atmosphere, thus reducing chances of a rapid effects of climate change.