**The Impact of Climate Change on Food Security**

Institutional Affiliation

Date

**Introduction**

Climate change is probably one of the major environmental issues posing serious threats to sustainable development in the 21st century. Climate changes impact ecosystems, food, health, water resources, and in general human life. There exist an interconnection between climate change and global food insecurity especially in developing countries. Climate change impacts food security both directly and indirectly (Gitz et al., 2016).

Agriculture is the main source of income and employment in most rural areas due to poverty. The livestock sector, however, is a significant source of climate change like greenhouse gases, and a major cause of water and soil pollution. This assignment gives an overview of climate change on food security and discussing how it differs from global warming.

**Climate change and global warming**

Both climate change and global warming are often interchangeably used, even though they have different meanings. Global warming is the gradual heating of the earth’s surface most cost by human activities such as the burning of fossil fuels that produce carbon dioxide, methane, among other greenhouse gases into the atmosphere. Global warming is a major cause of climate change. Due to human activities, the gradual heating of the earth’s surface largely contributes to reduced agricultural productivity. Human activities have changed the natural greenhouse impact of the earth. The burning of fossils has made the earth’s atmosphere trap more heat, which causes the earth to warm up (Gitz et al., 2016). As a result, food production becomes challenging as plants cannot be supported by the increased heating of the atmosphere, thus reducing food production. Global warming affects atmospheric circulation hence alters global precipitation patterns, and change soil moisture thus affecting plant growth.

Climate change, according to many individuals, is the alteration of the world’s climate due to human activities such as fossil fuel burning which results in increased concentration in the atmosphere. However, climate change entails a systematic change in climate key scopes such as average temperature, wind, and rainfall patterns for a given period. Increased temperatures over the last decades have contributed to greenhouse gases in the atmosphere, thus causing global warming. Because of excessive heating of the atmosphere, changes in increased sea levels have been witnesses across different parts of the world. Changes in season or seasonal characters have also affected food production around the globe. Farmers may not know how long the rainfall will last and what type of crops they should plant. Both global warming and climate changes are often interchanged because people feel that human activities such as the burning of fossils are often causes of both.

**Average global temperature**

It is indeed true that if the Earth’s surface temperature rises another 2°C (3.6°F), people will suffer catastrophic weather patterns thus causing a rise in sea levels, cause widespread droughts and wildfires, result in plant, insect, and animal extinctions, and reduce agricultural productivity throughout the world. As such, it could put people at risk of food insecurity. Climate change affects the agricultural sector both directly and indirectly which leads to food insecurity across the world (Bandara & Cai, 2014). Agriculture is the major source of income and employment for 70% of people living in rural areas. If there is a drought, for example, there are high chances that people will not have enough income and the employment rate will be rare because they only depend on agriculture for their survival. In most cases, increased drought within the rural areas leads to poverty, and the people get aid from the government. Agricultural production systems ought to be transformed such that they will meet the needs of the farmers, especially if such circumstances occur. Climate change caused by global warming leads to excess heat in the atmosphere. The excess heating may not support the farming of crops across the globe which would be an indication that most farmers will not have enough food.

Increased temperatures or climate change would also affect farmers especially in the prediction of rainfall. For example, it would be impossible for farmers to know how long the rainfall will last and what type of crops they should plant. A rise in sea levels would affect the farming sector especially in the coastal areas since most of the fertile land would be carried away by water, thus causing a decrease in food production (Hertel, 2016). Most crops will have a high yield if the environment or land is fertile. In such cases whereby there is a rise in sea levels, it is indeed clear that farmers will not have much harvest.

**Specific challenges posed by climate change to the food security**

In the last decades, climate change has indeed impacted the agricultural sector, both directly and indirectly. It has now become impossible to predict seasons, while rainfall is unreliable among farmers. Unpredictable and unreliable rainfall has resulted in greater uncertainty among farmers. The phenomenon has impacted not only food production but also the health of humans across different parts of the world. In cases where climate change has influenced rainfall and temperature patterns, land suitability on different types of crops has been affected. Climate change has as well affected the ecosystem and biodiversity of the environment. This has affected the availability of quality water for both crops and livestock (Wheeler & Von Braun, 2013). Climate change also results in the depletion of groundwater and inducing internal and international migration, thus contributing to conflicts in resource-based areas and civil unrest in different destination areas. The conflicts in water resources affect the food production sector and access to food in the conflicted zones. Further, a rise in sea levels and increased extreme events have posed danger and threatened the livelihoods of farmers this resulting in future food insecurity across the globe. A rise in sea levels could affect the agricultural sector because the flooding can result in the loss of fertile lands which impacts food security. Further, changes in climate due to increased greenhouse gases cause drought and increased flood (Kumar, 2016). In coastal areas, fresh water is contaminated with saltwater, and therefore it is impossible to have fresh water in such areas for food crops. There has also been an increased surge of storms and flooding in coastal areas, which has hindered the growing of crops and peopled living in such settings. Increased temperature has led to heat stress for plants thus increasing evaporation and reduced productivity.

**Financial support for food security misuse**

Corruption in government officials has not only affected economic development but also affected the equitable distribution of resources. Financial support for food security has indeed been misused by recipient government officials. Most of the financial support for food security has gone into the hands of government officials. Often, this is witnessed in developing countries where there are now strict laws in the distribution of funds to the people who need it the most, especially the poor. Over decades, many government officials have been vetted in different countries to understand where they get health from, despite that the amount of salary they receive is not equivalent to the amount of wealth they have. Most of these people cannot establish where their source of wealth came from, raising many questions as to where they get it from. Further, it has been established that most of the funds for food security are not used for their intended purpose, which has affected most of the people living in the poverty (Turral et al., 2011). For example, despite a lot of financial support given to the poor, the majority of them have not been able to sustain themselves as they are not distributed with the resources of finance to support their needs. Most of them continue to get aid from private entities although there are available opportunities to combat poverty in society. Also, the financial support is only given to a few individuals, who probably, have connections with the government officials. Most farmers have carried out demonstrations on these government officials as they are not given the financial support despite funds and resources been distributed to them. To address this issue, it is essential to create strict laws on corrupt government officials who take advantage of financial support for food security (Ye et al., 2013). This will promote the fair distribution of resources and financial support for food security.

**Conclusion**

To address the issue of climate change, it is essential to consider the factors that result in climate change and how it impacts food production. Various climate factors such as humidity and sunshine duration are major considerations of food security improvements. Further, there is a need to incorporate evidence-based technologies, which have already been tested and used, in food systems.

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