CAPACITY AFRICA INSTITUTE

COURSE ASSIGNMENT ON

DIPLOMA IN FOOD SECURITY AND CLIMATE CHANGE

BY

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24/1/2020

# Module Three Assignments

1. What is your understanding of climate change and what relationship doing the same have to food security and management?

Climate change refers to statistical distributions of weather patterns for a very long period of time. These long-term changes are mainly brought about by increasing demand of energy (coal, oil, and gas extraction) intensive agriculture leading to deforestation.

According to (Killmann) these changes affect food availability, accessibility, utilization and food system stability. These impacts are highly felt by in markets through increase in market prices, disruption in supply chain, affected people unable to cope, purchasing power lost, and human health endangered.

Being that climate is a major determinant of food security, advanced abilities to deal with climatic changes has been invented as a form of management. For instance, humanity has improvised genetically modified methods where it is now possible to grow plants under harsh weather conditions, breed animals, enhance soil quality and control flow of water.

1. Discuss the various causes of climate change and why it is important for the ruling class of any country to be cognizant of the same

Greenhouse effect When sunlight reaches the earth surface, some of the heat energy is absorbed into the earth surface and others reflected back into the atmosphere. Certain gases such as water vapor, carbon dioxide, methane, nitrous oxide and chlorofluorocarbons in the atmosphere block heat from escaping, some of these gases do not respond physically or chemically to changes in the atmosphere and this makes the earth warmer than it should be.

Variation in the sun’s energy reaching earth. The intensity of sunlight can either cause cooling or warming on the earth surface. These changes have influenced earth’s climate in the past. Cooling over the past years has influenced ice age on areas around the globe.

Changes in reflectivity. The amount of sunlight reflected or absorbed depends on earth’s surface and atmosphere. Light colored objects like clouds and snow reflect more light while dark objects and surfaces like forests and soil absorb more sunlight. The absorbed sunlight warms the earth’s land, water and atmosphere.

Human activities such as burning fossil fuels, biomass, deforestation contribute to emission of chemical substances such as sulfates and black carbon which leads to cooling and warming of the atmosphere.

According to (MOSER, AUGUST/9/2019), climate crisis is proof positive that ruling class is an utter failure. The ruling class uses deception and secrecy to limit public debate and often avoid debate on it. The only agenda they specialize in mostly is on how to gain more and more profit. This is mainly through activities such as increased industrialization and ways to manage emitted gases into the atmosphere are mainly ignored. Its therefore important if the ruling class would manage and find ways to deal with both profit making and climate changing factors. And as well curb the amount of emitted gases into the atmosphere.

1. What is the impact of climate change on agriculture?

Agricultural activities have proved to be the key factor in food production and enhancement of food security over the rising population. Climate change has become a major concern and a huge blow on agricultural activities, in that, the emitted gases into the atmosphere through industrialization, leads to rising of temperatures and these may favor crops on some areas leading to high yields or affect crops on other areas losing yields.

In the same manner, these high temperatures may also make it difficult to deal with drought as the soils becomes drier making irrigation cumbersome. CO2 emitted into the atmosphere may stimulate plants growth but also tend to lower plants nutritional value when in plenty. Its also proved that weeds tend to thrive well in wetter areas, warmer areas and areas with increased CO2, therefore making it hard for farmers to deal with pests, fungicides and weeds.

Heat stress affects animals in that, animals become vulnerable to diseases, reduce fertility and reduce milk production. High temperatures leading to drought also threaten livestock feeds and reduces forage available to grazing livestock. High temperature also leads to warm water and these leads to shifting of fish disrupting the ecosystem.

Therefore, its obvious that climate change affects agriculture a great deal and these may affect food availabity, spikes in prices and interruption in food deliveries hence strategies such adaptation options such as ranching, improved irrigation methods and crop management methods should be improvised.

1. Discuss the relationship between food security and gender taking examples from some cultural practices as well as believes

Agricultural and food security are inextricably linked. The agricultural sector is dependent on the available natural resource, national and international policy and institutions that govern those resources. These factors influence both men and women on the types of crops and their level of productivity. Agricultural production determines food availability. In most households’ women are known to be farmers who cultivate food crops and produce commercial crops alongside the men as a source of income. Substantial evidence (Lynn Brown, 2001) has proved that women’s income is for food and children’s needs. Women are the key to food security for their households.

In Sub Saharan Africa, roles such as water and firewood collection, feeding of small children, is largely done by women and girls on foot. In Ghana, Tanzania and Zambia women carry out activities such as load carrying fuelwood, water and grain for grinding and other farm activities. It has been proved that poorer households headed by women mostly succeed in providing nutritional food for their children than households headed by men. This demonstrates the importance of gender-based knowledge and roles with regard to food security. Different communities differ in cultural practices and believes when it comes to food available in a household and its nutritional value. In that, for example in South Asia, women eat after everyone else has eaten and are less likely consume preferred foods such as fish and meats as compared to men in the same household. This leads to most women lacking some important micronutrients in the body.

1. Discuss the indirect impacts of climate change on agricultural production to ensure food security

Climate change which is largely as a result of burning fossil fuels, is already affecting the earth’s temperature, precipitation and hydrological cycles. These activities bring about changes in frequency and intensity of precipitation and heat waves which indirectly affect agricultural activities, Furthermore, compounded climate factors can decrease plant productivity, this results in increase in prices of agricultural products. For instance, hydrologic cycle now includes more frequent and intense droughts and floods in many agricultural regions. These leads to lose and destruction of crops.

Increased heat and CO2 have also led to increased growth of weeds and pesticides which in turn destroys crops and lowers yields.

Agriculture will have to adapt to these events to ensure food security and for that, strategies such as cost-effective

investments in water infrastructure, emergency preparation for and response to extreme weather events, introduction of more resilient crop varieties that will tolerate adverse temperature and precipitation stress and improved land use and management practices have been introduced. (Dr Paul Gepts)

References

<https://www.google.com/search?q=impacts+of+climate+change+on+agriculture&oq=impacts+of+climate+change+on+agriculture&aqs=chrome..69i57.22046j0j8&sourceid=chrome&ie=UTF-8>

Bibliography

* (Dr Paul Gepts)
* (Killmann)
* (Lynn Brown, 2001)
* (MOSER, AUGUST/9/2019)