

Extracts from:

Impact of climate change on agriculture in Africa by 2030

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Concerns about climate change are global and real. As all communities try to get adapted to the challenges of their local climate, they are today sensitive to its variations. Third World countries, particularly Africa are threatened by the predicted effects of climate change because of their economic dependence on climate for development whose backbone is agriculture. There is strong evidence from the World Meteorological Organization (WMO), Intergovernmental Panel on Climate Change (IPCC) and United Nations Environmental Programme (UNEP) that the observed increases in greenhouse gases particularly Carbon dioxide (CO₂) may lead to global warming, sea level rise and space-time changes in climatic zones and seasons on the globe. To come up with climate change associated impacts on agriculture in Africa, the study evaluated climate related researches conducted on snow capped mountains in Africa (Mt Kilimanjaro), fishing in inland lakes (Lake Victoria, Baringo), Agriculture in the Semi-arid lands of East Africa and irrigation projects in Africa (Gezira in Egypt) It was established that Africa is already experiencing the devastating impacts of climate change as seen in frequent floods and droughts and shift in marginal agricultural systems. If the predicted temperature increase of 4.5 degrees centigrade is realized by the year 2030, then agricultural systems in Africa will be seriously affected particularly the food security section. There will be reduced land for agriculture because the high agricultural potential areas will become arid, Coastal areas will be submerged, affecting fishing and human settlement, there will be increased desertification and disappearance of ice and snow on the mountains. The effects of climate change may include: reduced agricultural land use due to submergence of coastal regions and increased aridity in the tropical high agricultural potential regions, there will be increased incidences of farm pests and diseases, over cultivation, food insecurity and poverty especially in Tropical regions. Africa will face serious challenges in her endeavor to adapt to new mechanisms of food production for sustainable development

Challenges on socio-economic sustainability for Africa in the 21 st century

There will be serious food insecurity problems resulting from disruption of natural ecosystems with grassland and deserts expanding in area, the coastal region being submerged while most perennial rivers such as the Nile flowing through the deserts will probably dry up, inhibiting irrigation. Famine and starvation cases will increase.

Human population will definitely reduce. People currently living along the coast, in arid and semi arid lands will be forced to migrate to the climatically habitable continents. The Arabs in North Africa may move to Europe.

There will be a halt on industrialization since cash crop cultivation, which is the basis of industrialization in Africa, will be drastically reduced.

Giant irrigation projects such as the Gezira in Sudan may disappear due to drying up of the Nile River.

Conclusion

It is only prudent that anthropogenic remedial measures are employed to halt further changes in climate. International, Regional and local action is urgently needed to minimize both green house heating and ozone gas depletion. Because it takes decades for human action to produce any effect on the structure of the atmosphere, the action to reverse the trend must be aggressive, focused and massive.

Recommendations

Halting or preventing the predicted 30% increase in green house gases caused by deforestation and fuel burning. This could be facilitated by:

a) Making more use of Geothermal and solar energy which Africa is well endowed with instead of cutting trees and burning of wood for fuel wood.

b) Since the vegetated earth (biosphere) is one of the major Sinks of carbon dioxide, massive afforestation and agro-forestry farming programmes could be encouraged to provide enough vegetation to take up the excess carbon-dioxide. Carbon dioxide which is already in the atmosphere could in theory be mopped up by planting more trees on the Earth which would in turn convert atmospheric carbon dioxide into woody tissues as reported by Green peace, an international Environmental Organization in Morocco in 2001.