



Effect of climate change on food security

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Abstract

Extreme weather is affecting food security due to climate change, which lowers incomes and restricts access to food for urban dwellers. The effects of climate change on the availability of food would be startling. Therefore, the purpose of this research is to assess how climate change would affect global food security. Climate change can impair the world's ability to sustain adequate food production and generate nutrients that are affordable in agricultural systems in a number of different ways. We need to broaden our narrow focus from increasing agricultural yields and productivity to include the impact of climate change on the nutritional content of food crops in order to get a complete picture of how it will affect our global food supply. Proactive adaptation can improve capacities to deal with climate change by taking climate change into account in long term decision making and removing barriers to changing behavior in response to climate change.

Keywords: Agriculture, Climate change mitigation, Food availability, Food utilization, Productivity

INTRODUCTION

Our knowledge of how much climate change impacts us and our environment has improved as a result of arguments and evidence on the unpredictability of climate change. Given that climate change has a significant impact on a variety of social and environmental spheres many decision makers have a challenging work ahead of them in developing effective policies to limit its dangers. Despite gaps in scientific understanding and ambiguity regarding the most effective ways to restrict and mitigate complex hazards, preventive actions and policies have been acknowledged by numerous government agencies at the international, regional, and national levels (Abegunde VO, 2019).

Climate change awareness is steadily highlighting the severity of its effects and exacerbating the deterioration in food security. Vulnerability to

future global food security is a key consequence of climate change, which fundamentally threatens the survival and sustainability of all life (Akinbile CO, et al., 2015). Food security attracted particular attention at the World Food Conference in 1974, particularly population density, health, food production and distribution, and poverty (Akinseye FM, et al., 2020). During the 1980's, food security analysis captured micro level considerations such as food access, nutrition and household food requirements. Before that, there were intensive studies on food security at the macro level, such as a country's food production, stocks, and international trade. In 1996, the importance of food security shifted to environmental issues such as deforestation, water scarcity, air quality, overexploitation and climate change. The four dimensions of food security included: Availability of sufficient and quality food, access of individuals to nutritious and adequate food, use of food to meet all socio physiological

needs, and stability of food availability. Availability and use of foods considered "sustainable" in overall food systems as a critical part of the analysis food security, beyond four dimensions. Thus, considering sustainability is important for achieving food security, which should also be considered as a long-term time dimension. Climate change affects natural resources such as water, land and agricultural production (Alam GM, et al., 2017). This climate change causes extreme weather that affects food securities, reducing urban resident's incomes and access to food. In addition to impacts on agriculture and food security, climate change is one of the most pressing challenges facing humanity (Andric I, et al., 2019). Changes in the temporality and spatiality of climate variables, along with increased occurrence of extreme weather events, pose significant risks to future food production. In addition, changes in temperature and precipitation can strongly alter the regional climate, causing potential shifts in crop production due to climate change. The aim of this contribution is therefore to evaluate the impact of climate change on food security (Ayantunde AA, et al., 2020).

LITERATURE REVIEW

All information in the review was collected from secondary sources. The data here was compiled from documents (such as published articles, books, and dissertations), including Google Scholars. The literature mostly covers the period from 2015 to 2021, with a few review papers carefully selected from the previous period to lay the foundation for the review. Impact of climate change on food security Impact of climate change on food availability. Climate change affects food availability through its adverse effects on crop yields, fish and livestock production, particularly in sub-Saharan Africa and South Asia, where the majority of food insecure people live. A study by Zougmore suggest that without appropriate interventions, climate change and variability will affect agricultural yields, food security and contribute to the current disproportionate levels of poverty in sub-Saharan Africa. The effects of climate change will be particularly severe in regions where agriculture is mainly rain fed, such as sub-Saharan Africa, making it highly vulnerable to climate fluctuations and drought. Climate change will reduce yields and production of major staple crops such as rice and maize (Baldos ULC, Hertel TW, 2015). Climate change is also expected to affect livestock productivity. Some studies have also revealed that the increased incidence of animal diseases is attributed to climate change. The decline in yields and productivity can also have serious consequences for other dimensions of food security, especially access to and use of food. For example, shows the negative impact of rainfall and temperature variability on food availability and access to food due to reduced supply of agricultural products, commodity inflation and generally reduced household income.

The impact of climate change on access to food availability refers to the availability of resources to obtain food (Belesova K, et al., 2019). It depends on sources of food production, food values, transport and trade networks, wholesale and retail systems, and proximity to access to food, socio cultural norms, food preferences and forms of distribution. Food shortages due to the negative effects of climate change on yields and product would increase food prices. An increase in food prices would affect low income nations living in areas formerly affected by high situations of hunger and poverty in South Asia. Tamaki and Tamara-Chitja recommended that sub-Saharan Africa faces a number of climate pitfalls, including rapid fire and uncertain changes in downfall and temperature patterns that hang food product and could lead to rising food prices and food instability. The civic and pastoral poor, utmost of who buy food fairly and formerly spend a large portion of their income on food, would find it more delicate to meet their salutary requirements, adding the threat of food instability and hunger. This situation is particularly intimidating for populations that depend on husbandry for their livelihood and income, especially small growers. Also, they suggest that the impacts of climate change on husbandry have numerous counteraccusations for livelihoods and food security (Berry EM, et al., 2015). Smallholder growers who have different husbandry systems and inadequate coffers associated with several pitfalls are greatly affected. Climate change and variability will have far reaching consequences for smallholder growers in sub-Saharan Africa, whose livelihoods depend primarily on husbandry. The pastoral population will clearly suffer from the increase in food prices as well as the negative impacts of climate change on their sources of income and livelihood strategies related to husbandry. Loss of agrarian product indicates loss of income for growers and loss of income for countries. A drop in product will frequently be associated with a loss of livelihood due to an increase in the intensity and frequency of climate related disasters. Impact of climate change on food consumption Climate change affects food use by reducing the vacuity of wild crops and the product of smallholder growers. Impacts of climate change on child malnutrition among subsistence growers in low income countries reported that the links between rainfall oscillations and children's inhibitions in homes are significant. The goods of global warming related malnutrition may be particularly severe in vulnerable groups similar as children and women. In addition, climate change will affect the use of nutrition, similar as reducing the loss of chief crops and adding the threat of impurity of nutrition argue that the impacts of climate change on food access and use have entered little attention. Although achieving food security and structure climate flexible food product schemes into a holistic system able of icing climate adaptability of the entire food system while addressing nutritive

challenges arising from the impacts of climate change (Bryan E, et al., 2018). This suggests a broadening of the narrow focus from the impacts of a changing climate on crop yield and productivity to include the impact on the nutritive value of crops and latterly on diet. The impact of climate change on the stability of the food system the stability of food systems is hovered by climate change, especially by homes with limited food consumption capacity. For illustration, an increase in temperature and a sharp drop in downfall in the semi-arid zone of northern Nigeria caused a drop in crop and beast productivity. In addition, it contributes to the loss of agrarian areas and ranges while adding water failure, which negatively affects livelihoods, artificial food dearth's in manage inflows, malnutrition and complaint. The impacts of the consequences of climate change on food security at the global, public and original situations represent the insecurity of food security. The short term goods of temperature and rush variability on crop yields can have long term counteraccusations for the stability of the global food system. The stability of entire food systems may be covered by climate change due to short term force variability and increased price volatility (Cadro S, et al., 2019). Understanding the impacts of climate change on food vacuity, access, application and stability over time points to the need to borrow a food system approach. A study by showed that effective responses bear understanding the full diapason of implicit impacts of climate change on food use, access, stability and vacuity, as well as on underpinning natural systems. Food security, climate change adaption and mitigation Islam and Wong argue that exploration on climate change and food instability appears to be frequently one sided. Climate change is linked as the reason for food instability and not how the systems in place to insure food security have boosted the problem of climate change. Arguably the most climate-dependent mortal exertion, husbandry is both a victim and a cause of climate change, while it can also be a result to the climate change extremity. Sustainable intensification is considered a palm-palm strategy that combines food security and climate change mitigation. On the negative, van Loon revealed that while intensification scripts are easily better than expansion scripts in mollifying climate change for cereals in sub-Saharan Africa (Chen Y, et al., 2015).

DISCUSSION

The strengthening will do depending on the achieved nutrient application effectiveness with a large increase in nutrient input and associated hothouse gas emigrations. Some experimenters have emphasized that it uses the benefits of climate smart husbandry for both climate change mitigation and adaption. In addition, Lobo guarder suggests that climate smart husbandry can offer backing in promoting solidarity between productivity, adaption and mitigation. Climate

change mitigation sweats use decarburization technologies and ways that reduce carbon dioxide emigrations, similar as renewable energy, energy switching, effectiveness earnings, nuclear power, and carbon storehouse and application. Utmost of these technologies are well known and bring a respectable position of managed climate change threat. Adaptation can manage the negative impact of climate change, but alone cannot solve the problem of climate change. Adaptation to climate change refers to changes in human and environmental mechanisms related to current and projected changing climate conditions in order to minimize or neutralize the associated risks that create potential opportunities against climate change. Adapting agricultural production to climate change is critical in developing countries to ensure livelihoods for poor communities. Similarly, adaptation strategies are effective in helping residents cope with adverse weather and climate change. The development of adaptation strategies should involve various stakeholders, including policy makers, researchers, Non-Profit Organizations (NGOs), communities, representatives and farmers. These adaptations are largely specific and depend on local institutions and the socio economic situation of addicts).

CONCLUSION

Climate change has prevalent temporary and multifaceted impacts on food security. The literature reviewed shows that climate change has several adverse impacts on all four areas of food security (availability, accessibility, utilization and stability). To its comprehensive extent across many social and environmental domains. Adaptation and mitigation measures should therefore reflect geophysical as well as socio economic technological and cultural elements and conditions. Consequently, multifaceted strategies involving adaptation and mitigation are needed to mitigate the impacts of climate change in the food sector. Numerous studies show that socio economic conditions define food security more than physical conditions. As such, developing countries are more vulnerable to climate shocks and food shortages than developed countries.

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