

Crops response to climate variability and societal implications on rural dwellers of Nigeria.

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Abstract

This study examines impacts of climate variability on the yield of eight major crops in the guinea ecological of Nigeria, using both quantitative and qualitative methods. The Guinea ecological zone represents a rich agricultural area for Nigeria, sometime call “the food basket zone of the country”. Several studies have been show that variability of rainfall has significant implication not only on the differences in the types of crops cultivated but also the rate of yield of such crops. Majority of these studies were based on assessment of two to four crops. Thus, the present study apply GIS techniques to examine the climate variability and its implications on the eight crops (Cassava, yam, Maize, sorghum, Groundnut, Cowpea, Cocoyam and Melon), majorly cultivated in the area. Rainfall, temperature and the crops yield dataset from 1982 to 2012 were used in the analysis. A year is divided into two growing seasons. These seasons are: early growing season (April-June) and late growing season (July-October) with regard to seasonal differences and the crops yields. The results show that during the past decades the yields of these crops were associated with climate variability, which vary differently in the year with high rainfall than the year with low rainfall. The study found out that the crops yield have been dominated by reduction in the number of rain days during the middle of the rainy season and there is evidence of a significant change in the crop yield as climate varied. The study concluded by recommending the need to encourage rain fed agriculture and agricultural research to improve crop yields.