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Multiple Shades of Climate Change Impacts and Responses among Smallholder Farmers: Case Studies from Nigeria: 2012–2021

OLUWAFUNMISO ADEOLA OLAJIDE

University of Ibadan, Dept. of Agricultural Economics, Nigeria

Abstract

There is a need for information that will support Africa’s climate change response at the grass-root level. This requires evidence of its impact at the grassroots level on crop production as well as farmer’s response; as different from traditional production challenges and farm management practices. In order to close this gap, this study synthesizes cross-sectional studies which examined farmers’ perception and understanding of climate change, the different effects on crop production pattern, yield, and income, and food security. It also examined the adaptation strategies adopted by male and female farmers in order to ensure a sustainable livelihood and food security. The data used were both secondary and primary data. The secondary data were collected from NIMET and the GHS data collected by the World Bank and the National Bureau of Statistics. The primary data were collected through a multistage sampling technique to select 100–150 respondents across different agro-ecological zones in Nigeria. The cross-sectional studies were carried out at different locations within a 9 year period. The data were analysed using descriptive statistics, inferential statistics, and regression models at α 0.05. The results show that over 50 percent of farmers have an idea of what climate change is; frequent adaptation strategies are mainly traditional farm management practice and either of change in land size, changes in crops, and change in the planting season. The results also show that climate change presents both challenges and opportunities for expansion. But on the general level, information and training to enhance farmer’s adaptation strategies as well as households’ adaptive capacity are required. The potentials to take advantage of migration for agricultural development across the zones also exist. The findings from this study can inform regional policy support for climate change adaptation and mitigation in sub-Saharan Africa.

Keywords: Climate variability, farming, gender, households, migration, sustainable livelihoods, synthesis