Tropentag, September 15-17, 2021, hybrid conference

"Towards shifting paradigms in agriculture
for a healthy and sustainable future"

Relationship Between farmers' Climate Risk Vulnerability and Food Security Status

Mustapha Yakubu Madaki[1], Miroslava Bavorova[2]

[1] *Czech University of Life Sciences Prague, Fac. of Tropical AgriSciences, Dept. of Economics and Development, Czech*

[2] *Czech University of Life Sciences Prague, Fac. of Tropical AgriSciences - Dept. of Economics and Development, Czech Republic*

Abstract

Climate changes are expected to alter pest and disease outbreaks, increase the frequency and severity of droughts and floods, and increase the likelihood of poor yields and crop failure, and livestock mortality. Smallholder farmers in developing countries are one of the most vulnerable social groups to climate change as they lack the resources to adapt. This study analysed the relationship between farmers' vulnerability to climate risk and their food security status based on the survey in Nigeria conducted between October 2020 and February 2021. A multi-stage sampling method was used to select the respondents. First, six states were selected from six Agroecological Zones (AEZs) purposively. Second, two Local Governments Areas (LGAs) were selected from each state chosen. Third, two wards were drawn from each selected LGA and finally, 45 farming households were randomly selected from each selected ward which forms 1,080 households for the study. A structured questionnaire was used for collecting data on farmers' exposure, sensitivity, and impact of climate risk (Climate Risk Vulnerability), Fifteen questions were used to capture the climate risk vulnerability in the last 10 years and quantity of consumed food in the last 7 days (Food Consumption Score) through a face-to-face interview Chi-square test was used to analyse the association between climate risk vulnerability and food security status. Results revealed that more than 65 % of farming households experienced drought, flood, and extreme temperature, shortage of livestock feed, crop pest and disease outbreak, crop yield reduction, and complete crop failure in the last 10 years. A significant statistical association was found between climate risk vulnerability and farmers' food security as 55.7 % of farmers with poor food security status experienced high climate risk while only 13.7 % of the farmers with acceptable food security status experienced high climate vulnerability. Farmers with high climate risk vulnerability should be supported with climate risk adaptation to make their agriculture resilient to the climate risk and in turn, improve their food security.

Keywords: And food security , climate risk, exposure, impact, sensitivity

Contact Address: Mustapha Yakubu Madaki, Czech University of Life Sciences Prague, Fac. of Tropical AgriSciences, Dept. of Economics and Development, Kamycká 129, 165 00 Prague 6 - Suchdol, Czech, e-mail: yakubu_madaki@ftz.czu.cz