



Tropentag, September 20-22, 2023, hybrid conference  
“Competing pathways for equitable food systems transformation:  
Trade-offs and synergies”

## Weather and climate information use and needs for rice production, cross river state, Nigeria

HILDA CHIA ETA

*University of Calabar, Dept. of Agricultural Extension and Rural Sociology, Nigeria*

### Abstract

Agriculture in developing countries is climate dependent. Consequently, climate and weather forecasts have the potential to assist small scale farmers make informed decisions that will boost the quality and quantity of crops produced. Contrarily, climate and weather information disseminated are often in forms that are ill-suited for use by small scale farmers. This study sought to investigate weather and climate information use and needs for rice production in Cross River State, Nigeria. It adopted a multistage sampling procedure resulting to the selection of 125 rice farmers. A set of structured questionnaire was employed to elicit information from farmers. Descriptive and multinomial logistic regression analysis were used to analyse the data. Results showed that the majority (57.6 %) of rice farmers were males, 47.2 % had attained secondary education, and 32.8 % were not aware of available weather and climate information in the study area. Major types of weather/climate information used for rice production were: onset/length of rainy season (86.4 %), sunshine duration (84.8 %), end of rainy season (83.2 %), daily temperatures (81.6 %), and wind direction (80.8 %). Weather and climate information that significantly aided decision making in rice production were: information on onset and end of rainy season ( $\bar{x}=4.34$ ), forecasts on extreme weather events like floods and/or droughts ( $\bar{x}=4.33$ ) and chances of wet spells ( $\bar{x}= 4.14$ ). Rice farmers' key weather information needs were identified as: information on how to cope with risk and uncertainty (95.2 %), information on water management especially during dry season (92.8 %), soil nutrient management information (92.8 %), and information on how to reduce the negative consequences of weather/climate on rice production (92.8 %). Significant constraints to farmers' use of weather/climate information were: inadequate access to climate information ( $\bar{x}=4.43$ ), inadequate money to buy radio, television, cell phones, batteries, ( $\bar{x}=4.36$ ) and absence of electricity or unreliable power supply ( $\bar{x}=4.34$ ). The binary logistic regression model showed that educational level ( $p = 0.033$ ) and farming experience ( $p = 0.043$ ) had significant positive effects on the use of weather and climate information at  $p = 0.05$ . The study recommended that weather and climate information providers should present weather and climate in readily accessible and practical forms to enhance uptake by farmers.

**Keywords:** Rice farmers, weather and climate information needs, weather and climate information use