

**MODELLING THE EFFECTS OF WEATHER VARIATION ON
COCOA YIELD IN SOUTH WESTERN NIGERIA**

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ABSTRACT

Data on the yield of cocoa and weather factors were collected from Ogun Osun River Basin Authority and Cocoa Research Institute of Nigeria (CRIN), Ibadan to predict the effects of weather variation on cocoa yield with 51 samples of cocoa trees.

Some multivariate Statistical techniques such as Correlation Analysis, Principal Component Analysis and Factor Analysis were considered and used in the analysis.

In factor analysis, the relationship between five weather variables was elucidated and four factors were considered because their eigenvalues were greater than unity. Also factor loading of the weather variables were used to indicate how the variables were related to the factor. Factor scores were estimated from the data value to emphasize the importance and the relationship among the weather variables.