

A STATISTICAL ESTIMATION ON PRODUCTION AND PRODUCTIVITY TREND OF RICE CROP (*Oryza sativa*) IN MANIPUR STATE

L. NETAJIT SINGH¹ & Y. SANTOSH SINGH²

¹Department of Agricultural Statistics, N. M. College of Agriculture, NAU, Navsari, Gujarat India

²Departments of Agricultural Economics, BCKV, Mohanpur, Nadia West Bengal, India

ABSTRACT

The present investigation was carried out to fit the trend in production and productivity of Rice crop data in Manipur state by using different statistical model (*e. i.* linear, nonlinear and time series model). The most suitable model was selected on the basis of adjusted R^2 , significant regression coefficient, root mean square error, mean absolute error, normality (Shapiro-Wilk test) and randomness of residual's (Run test) distribution. Among the fitted models, time series *e. i.* ARIMA (2,1,1) and Gompertz models were found to be the best fitted trend equation for Rice production and productivity trend of Manipur State. The percentage growth rate during 6th to 11th five year plan and overall period during (1980-81 to 2013-14) show the increasing growth rate in production and productivity. Rice production and productivity has increase at the rate 2.090 per cent and 1.905 per cent per annum, respectively during the years (1980-81 to 2013-14).

KEYWORDS: Rice, Linear and Nonlinear, ARIMA, Manipur