



RESEARCH PAPER

Modelling and forecasting of cultivated area and production of rice in India

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Abstract : In the present study, autoregressive integrated moving average (ARIMA) methodology has been applied for modeling and forecasting of yearly area and production of rice in India. Rice production data for the period of 1950-1951 to 2014-2015 of India were analyzed by time-series methods. Autocorrelation and partial autocorrelation functions have been estimated, which have led to the identification and construction of ARIMA models, suitable in explaining the time series and forecasting the future area and production. The diagnostic checking has shown that ARIMA (1, 0, 1) and ARIMA (0, 1, 1) is appropriate for rice area and production. The forecasts from 2015-2016 to 2024-2025 were calculated based on the selected model. The forecasting power of autoregressive integrated moving average model was used to forecast rice area and production for ten leading years. This projection is important as it helps to inform good policies with respect to relative production, price structure as well as consumption of rice in the country.

Key Words : ACF - autocorrelation function, ARIMA - Autoregressive integrated moving average, PACF - Partial autocorrelation function, Rice, Trends

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