A Time Series Analysis on Shrimp Production from India and Andhra Pradesh Using ARIMA Model

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ABSTRACT

The objective of present study was to analyse the forecasting of shrimp production for the future. Based on secondary data from 2001-02 to 2017-18, the future trend were predicted for up to 2023-24 by employing the Auto Regressive Integrated Moving Average (ARIMA) technique. Stationary of shrimp production data from 1995-96 to 2017-18 was tested by Augmented Dickey Fuller (ADF) test. Maximum R-Square, minimum Mean Absolute Percentage Error (MAPE) and Root Mean Square Error (RMSE) was used as a criteria to select the best model for price forecasting. Based on the above criteria the models (0,1,1) and (1,1,0) was found to fit the time series to predict future trend in India and Andhra Pradesh respectively. The linear relationship between sea food exports from India and shrimp production in A.P., Correlation coefficient (r) was found to be 0.87 and coefficient of determination was 0 .76 (i.e. about 76 per cent) indicating the variation in quantity exported due to changes in shrimp production.

Keywords: *ARIMA, Correlation Co-efficient and Shrimp.*