Price Forecasting of Chilli in Warangal Market Using ARIMA Model

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ABSTRACT

This article presents a comprehensive study on the application of the Auto Regressive Integrated Moving Average (ARIMA) model for the purpose of price forecasting in the chilli market. The research employs historical price data of chilli spanning multiple years, collected from the Warangal market of Telangana State. Initially, the data is subjected to preprocessing (or) reprocessing techniques to ensure its quality and stationarity. The ARIMA model is applied to generate price forecasts for the upcoming periods, thereby enabling stakeholders to anticipate potential market trends and price fluctuations. The study considers performance metrics like Root Mean Squared Error (3.726), Mean Absolute Percentage Error (2.605) and Akaike Information Criterion (350.62) to evaluate the forecasting capabilities of each method. The results demonstrate that the ARIMA (2, 1, 2) model is appropriate for accurately predicting chilli prices in the Warangal market. The increasing volatility and uncertainty in agricultural commodity prices have necessitated the development of robust forecasting methods to aid farmers, traders and policymakers in making informed decisions.

Keywords**:** *ARIMA, Chilli and Price forecasting.*