

# Market Arrivals and Price Behaviour of Potato: A Case Study of Bangalore Market

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## ABSTRACT

The present study examined the trend, seasonal variations, cyclical variations, correlation in arrival and prices and to forecast future prices of potato in Bangalore market by using multiplicative trend model and Seasonal Autoregressive Integrated Moving Average (SARIMA) model. Bangalore market was selected based on the highest market arrivals of potato in Karnataka state and monthly time series data on arrivals and prices of potato for a period of 15 years from January, 2005 to December, 2019 was considered for analysis. The results revealed significant positive trend in both arrivals and prices with 259.86 quintal per annum and ₹ 4.08 per quintal per annum respectively. The highest seasonal arrival and price indices were observed in the months of September and November respectively, while the lowest were observed in the months of February and March respectively. The perfect price cycle of potato during the period of 2015 to 2019 was identified and while no such cycle was identified for the arrival. Significant correlation between arrival and prices of potato coupled with lowest variation in monthly mean arrival and monthly mean prices of potato was observed during February month only in Bangalore market. The SARIMA (0,1,1) (0,1,1) model selected as a best model based on the highest R-Square, lowest Mean Absolute Percent Error (MAPE), Root Means Square Error (RMSE) and Mean Absolute Error (MAE) values with 80.50, 12.12, 179.23 and 137.36 respectively. The per quintal predicted prices of potato during January 2020 to June 2020 would be ranging from ₹1437 per quintal in March 2020 to ₹1800 per quintal in June 2020.

**Keywords:** *Correlation coefficient, Coefficient of Variation, Moving average, Monthly variability and Seasonal indices.*