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“MARKET CO-INTEGRATION BETWEEN GONDAL AND RAJKOT APMC”

ABSTRACT

Key words: crops, trend, growth rate, instability, seasonal variation, ADF test, Co-integration, Granger causality.

Agricultural Produce Market Committee (APMC) being one of the important service sector in India which is provide platform for farmers to sell their product. Therefore, the present study entitle “Market Co-integration between Gondal and Rajkot APMCs” was under taken techniques with the trend, compound growth rates, instability, seasonal variation, Augmented Dickey Fuller (ADF) unit root test, Johansen’s co-integration test and Granger causality test to achieve the objective of the study. Monthly wholesale prices and arrivals were taken from Gondal and Rajkot APMCs for Groundnut, sesame and garlic crops for the period 2001 to 2015.

Highest growth rate was noticed in sesame crop in both market. Trends of the production can be studied by examining the compound growth rate. Linear and quadratic models were estimated to measure the trade in yearly prices. The values of \( R^2 \) were found to be higher in case of all crops of Gondal and Rajkot markets in linear model, revealed that the linear model is a better fit for groundnut, sesame and garlic. Instability analysis indicated that prices of all the crops in Gondal APMC were more stable than Rajkot APMC.

Seasonality in prices are such changes that occur regularly every year as a result of changes in season. Thus, groundnut showed three intra-year cycles in Gondal and Rajkot markets. Sesame and garlic showed two intra-year cycles in both APMCs under study.
The result of Augmented Dickey Fuller Unit Root Test, Johansen Co-integration Test and Granger Causality Test find that all crop indices were stationary at first difference and long run equilibrium relationship existed among both APMCs. Johansen’s co-integration test indicated that the model variable had a co-movement among the crops and their market price and arrival series during study period. Granger causality test was employed to know the direction between price and arrival of both market. Granger causality test indicated that there was a unidirectional influence between price and arrival of Rajkot and Gondal markets in groundnut, sesame and garlic crops except there was a bidirectional relationship on price of Rajkot and Gondal markets in sesame crop.

There are some services provided to farmers by Gondal APMC like as storage facility, loading and unloading service, price, labours, auction facility and grading system of goods. There were no major problems faced by farmers in Gondal APMC except only major problem faced by farmers was lower price of product i.e. 36 out of 100 farmers.