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Trends in arrivals and prices of selected agricultural commodities in APMC, Sangli

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Abstract

The present study was conducted to access the trends in arrivals and prices of selected agricultural commodities in APMC, Sangli. The trends in arrival and prices of selected agricultural commodities were worked out by using exponential form of equation. The trends in arrival and prices for selected commodities in APMC Sangli during 2007-2008 to 2017-2018 were depicted. The result indicates that, significant increase in arrivals of gram, turmeric and raisins whereas; significant decrease in arrivals of soybean was noticed in the APMC, Sangli during study period (2007-08 to 2017-18). The prices of all commodities were found to be significantly increased over entire period of study.

Keywords: Trends, CGR, arrivals, prices, APMC

Introduction

The price fluctuation in agricultural commodities is a common phenomenon due to seasonal nature of production. Agriculture is characterized by wide variation in the output of crops which subsequently lead to larger variation in market arrivals. Fluctuation in market arrivals largely contribute to price instability and price fluctuation of agricultural commodities, there is needed to have an understanding of the price behavior over time. It is said that next to rains, prices are greatest enemy of the farmer. As per the price theory, prices are function of demand and supply. But demand and supply are independently related to prices mostly depends on the monsoon, supplies of agricultural commodities which are uncertain and this uncertainty in supply leads to fluctuations in prices. These fluctuations in prices of agricultural commodities are greatest obstacle in the way of agricultural development. The knowledge on the interrelations between the arrival and prices of farm product is required for assessing the extent of prices over time. The study of arrival and prices helps the farmer to find out the best time for marketing of agricultural commodities to secure higher price for their produce. Thus it helps them to take decision regarding when to sale so as to obtain maximum price. The acreage under wheat, soybean, gram, turmeric and raisins was substantial in Sangli district and the arrival of these commodities was remarkable. However, the fluctuations in arrivals and prices of these commodities were noticed in APMC, Sangli. But it is too essential to have stability in the prices and arrivals of these commodities. The present study was undertaken with a view to examine arrivals and prices of selected agricultural commodities in APMC, Sangli. The agricultural produce marketing committee is established by the state governments of India. The state government provide infrastructural facilities to farmers to sale their produce and get reasonable price. Most of APMC have market yard where traders and other marketing agents are provided godowns and shops for purchase of agriculture produce from farmers. Farmers can sale their produce to agents or traders under supervision of APMC.

Objectives

To study the trends in arrival and prices of selected agricultural commodities.

Methodology

Material and Method

The present study has based on the data of arrivals and prices of selected agricultural commodities in APMC Sangli for the period of 11 years i.e. from April 2007 to March 2018. The secondary data pertaining to prices and arrivals crops wheat, soybean, gram, turmeric and

raisins selected in this study were collected from selected Agriculture Produce Market Committee, Sangli.

Selection of commodities

Selection of agricultural commodities in APMC, Sangli was really a difficult task. The notified commodities traded in APMC were more than 39. It was proposed to select one cereal, one oilseed, one pulse crop, turmeric & raisins on the basis of area and volume of commodities traded in the APMC, Sangli. The area under selected commodities during 2017-18 is presented in Table 1.

Table 1: Area under Selected Commodities in Sangli District (hectares)

Sr. No	Particulars	Area
1.	Wheat	28,883
2.	Soybean	60,108
3.	Gram	30,836
4.	Turmeric	991
5.	Grapes	27733.31

Analysis of Data

Trends in Arrivals and Prices

The time series data pertaining to monthly arrivals and prices of selected agricultural commodities covering the period of eleven years (2007-08 to 2017-18) were collected from APMC, Sangli. The compound growth rate of arrivals and prices of selected agricultural commodities was worked out

by using an exponential form of equation as below

$$Y = a \cdot b^t$$

Where,

Y = Monthly arrivals/prices

a = Constant

b = Trend coefficient

t = Time period

Annual Compound Growth Rates (CGR) in percentage was calculated as,

$$CGR \% = [A^{1/n} \cdot t^{1/n} (l^{1/n}) - 1] * 100$$

The estimated CGR was used to forecast the quantity of arrivals of selected commodities for next five years.

Results and Discussion

Trends in Arrivals and Prices of Selected Agricultural Commodities

The trend is effective tool to judge the behavior of any agricultural commodities in relation to arrivals and prices. For the present study compound growth rates for 11 years (During 2007-08 to 2017-18) were estimated for selected agricultural commodities and presented in Table 2.

Table 2: Trends in Arrivals and Prices of selected agricultural commodities

Sr. No.	Crops	Arrivals		Prices	
		CGR (%)	't' value	CGR (%)	't' value
1.	Wheat	0.57 NS	0.18	5.13***	7.51
2.	Soybean	-14.54***	3.57	7.52***	5.19
3.	Gram	9.82**	2.04	11.12***	6.11
4.	Turmeric	14.07***	2.99	7.65*	1.90
5.	Raisins	7.55**	2.23	8.80***	4.58

(***, **, * indicates significance at 1, 5, 10 per cent level of significance)

Wheat

Table 4.1 revealed that, the annual compound growth rate of arrivals in case of wheat was found positive but non-significant. The magnitude of CGR was 0.57, indicated that result cannot be used for prediction as the 't test' turn out non-significant. The CGR for prices were positive and highly significant at 1 per cent level of significance. It indicates that prices of wheat increased by 5.13 per cent per annum during period under study. It can be observed from the above result that the prices of wheat at Sangli market have been increasing rapidly over the span of 11 years at faster rate. This might be on account of general rise in prices and failure of supply to keep pace with the increased demand due to human consumption.

Soybean

Table 4.1 revealed that, the annual compound growth rate of arrivals in case of soybean was found negatively significant. It indicates that annual arrival of soybean decreased during the study period. Whereas prices have been increased by 7.52 per cent per annum during study period.

Gram

The annual compound growth rates of arrivals of gram were found positive and significant during the period under the study. The arrival of gram increased by 9.82 per cent per

annum and price of gram was found positive and highly significant means prices have been increased by 11.12 per cent per annum during study period.

Turmeric

The magnitude of annual compound growth rate of arrivals of Turmeric was positive and highly significant at 1 per cent level of significance during the period of study. It shows that the arrivals of turmeric increased by 14.07 per cent per annum. The annual compound growth rates of prices of turmeric was also positive and significant at 5 per cent level of significance it shows that prices of turmeric increased by 7.65 per cent per annum during study period.

Raisins

In case of raisins, the annual compound growth rate was found positive for both arrivals and prices and significant during the study era. The magnitudes of CGR were 7.55 and 8.80 for arrivals and prices, respectively. This implies that the arrivals of raisins increased by 7.55 per cent per annum and prices increased 8.80 per cent per annum under the study era. The arrivals and prices of Gram, turmeric and raisins increased over a period of time

as per the result mentioned in above table, hence the hypothesis that arrivals and prices of selected commodities is increasing over a period of timely is accepted. The result of

present finding is in close conformity with the result reported by Mishra and Shrivastva (1998) examined trends in market arrivals and prices of gram and soybean in two mandis of Madhya Pradesh.

Projected Arrivals of Selected Agricultural Commodities

The estimated values of CGR can be used for prediction of future value. The result of projected arrivals of selected agricultural commodities for the period from 2019-20 and 2022-23 based on CGRs for 11 years data were estimated and presented in Table 3

The result of the Table 3 clearly indicates that there will be

increase in arrivals of gram turmeric and raisins and arrivals of soybean decrease. Overall soybean arrivals will be 12704.00 qtls and 7958.89 qtls in the year 2019-20 and 2022-23 respectively. In case of gram projected arrivals will be 37620.00 qtls and 49830.62 qtls in the year 2019-20 and 2022-23 respectively. Turmeric arrivals will be 1560449.00 qtls and 2316591.00 qtls in the year 2019-20 and 2022-23. In case of raisins arrivals will be 612516.00 qtls and 762126.00 qtls in the year 2019-20 and 2022-23 respectively. This result will be helpful for the APMC management to cope with increased arrivals and also guide to farmers to take decision for undertaking production.

Table 3: Projected Arrivals of Selected Agricultural Commodities in APMC, Sangli

Years	Soybean		Raisins						
	Actual	Projected	Actual	Projected		Actual	Projected	Actual	Projected
2007-08	46431.00	82492.65	5845.00	22221.82	186706.0	0321255.001	52916.00	255554.00	
2012-13	37177.00	37835.00	8728.00	19524.94	1284283.00	620654.005	26452.00	367844.00	
2017-18	6715.00	17353.00	23507.00	31192.00	1132118.00	1199084.003	44454.00	529475.00	
2019-20		12704.00			37620.00		1560449.00	612516.00	
2022-23		7958.89			49830.62		2316591.00	762126.00	

Conclusions

1. The significant increase in arrivals of gram, turmeric and raisins whereas; significant decrease in arrivals of soybean was noticed in the APMC, Sangli during study period (2007- 08 to 2017-18).
2. The district has significant area under soybean but the arrivals of soybean decreases in APMC Market due to the private oil mill owners may collect this produce from farmer's field.
3. The prices of wheat, soybean, Gram, turmeric and raisins increased significantly during the period under study.
4. The estimated future projections of arrivals for agricultural commodities traded in APMC, Sangli showed that there will be increase in arrivals of gram, turmeric and raisins. The officials of the APMC, Sangli must frame appropriate policies to cope with this increased arrival.

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