

A CASE STUDY

Trends in arrivals and prices of onion in Ahmedabad (Gujarat) market

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Received : 17.09.2014; Accepted : 25.03.2015

ABSTRACT

It is believed that, with the increase in arrivals of agricultural commodity in the market, their prices come down and *vice versa*. For this study, the data on arrivals and prices was under taken up. For the study, the data available in monthly reports of Agricultural Produce Committee Ahmadabad market, for the period of 10 years was used, the annual compound growth rate of arrivals in case of onion (15.37) were found positive and annual compound growth rates of prices in the onion (19.48 %) were positive growth rate indicating thereby positive relationship in Arrivals and prices per annually. Seasonal indices of arrivals and prices of onion was that, arrivals were noticed highest during the month of December (16.98) followed by April and February. It means that the market was flooded with onion from December to April. The lowest indices of arrivals were noticed in the month of October (5.25). The indices of lower arrivals were from May to October. In case of price indices was noticed highest in the month of November (13.39). The higher prices indices were noticed during August to January. While lowest in May (4.07) followed by April and June.

KEY WORDS : APMC, Arrivals, Prices, Compound Growth Rate, Seasonal indices

How to cite this paper : Daundkar, K.S. and Bairagi, S.K. (2015). Trends in arrivals and prices of onion in Ahmedabad (Gujarat) market. *Internat. J. Com. & Bus. Manage.*, 8(1) : 117-119.

The price fluctuation in agricultural commodities is a common phenomenon due to their seasonal nature of production, wide ecological imbalances compared to other crops and seasonal demand for agricultural commodities. Agriculture is characterized by wide variations in the output of crops which subsequently lead to larger variation in market arrivals. Fluctuations in market arrivals largely contribute to price instability and price fluctuations of agricultural commodities, there is need to have an understanding of the price behaviour over time. It is said that next to rains, prices are greatest enemy of the farmer. As per price theory, prices

are a function of demand and supply. But demand and supply are independently related to prices. Agriculture is being a biological industry and mostly depends on the monsoon, supplies of agricultural commodities which are uncertain and this uncertainty in supply leads to fluctuations in prices.

Onion is extremely important vegetable crop not only for internal consumption but also as highest foreign exchange earner among the fruits and vegetables. India is the 2nd largest producer of onion, in the world next only to China. It occupies an area 1.06 m. ha and production was 17.51 million tones.

In recent years the seasonal variability in arrivals and prices has created serious marketing problems to farmers, consumers, planners and policy makers. The seasonality in arrivals are resulted in gluts which occurred in peak season resulting in unfavorable prices to grower in peak season and high prices to consumer in off season. Thus, it is necessary and important to protect the farmers from sudden fall in prices and consumers from sharp rise in price.

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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.

Objectives :

- To study the trends in arrival and prices of onion in Ahmadabad market of Gujarat.
- To study the seasonal indices in arrivals and prices of onion in Ahmadabad market of Gujarat.

METHODOLOGY

Sources of data :

Market data :

Ahmadabad (Gujarat) market is selected for study purpose. The data will be collected on the NHRDF.

Analysis of data :

Trends in arrivals and prices of onion :

The time series data pertaining to monthly arrivals and prices of onion covering the period of ten years (Jan., 2004 to Dec., 2013) was collected from NHRDF from Ahmadabad (Gujarat) Market. The compound growth rates of arrivals and prices of onion was worked out by using an exponential form of equation as below :

$$Y = ab$$

where,

Y = Monthly arrivals/prices

a = Constant

b = Trend co-efficient

t = Time period.

Annual compound growth rate (ACGR) in percentage is calculated as :

$$ACGR (\%) = (\text{Antilog of } b - 1) \times 100$$

Seasonal indices in arrivals and prices of onion :

Seasonal indices are those periodic movements in business activity which occur regularly every year and have their origin in the year itself. Since such variations repeats during a period of twelve months that can be predicted fairly accurately.

The seasonal indices of arrivals and prices of onion was worked out by using simple average method.

$$SI = \frac{\text{Monthly average of given month}}{\text{Averages of monthly average}} \times 100$$

Table 1 : Trends in arrivals and prices of onion			
Sr. No	Year	Arrivals (Tones)	Prices (Rs.)
1.	2003-04	46028.58	428.50
2.	2004-05	39998.42	545.33
3.	2005-06	26719.42	300.25
4.	2006-07	61678.75	320.66
5.	2007-08	62680.50	566.16
6.	2008-09	61476.33	795.08
7.	2009-10	94618.17	1127.66
8.	2010-11	86006.25	840.66
9.	2011-12	98147.67	687.41
10.	2012-13	113442.2	2199.75
ACGR		15.37**	19.48**
't' value		5.56	3.45

(Source: www.NHRDF.com); *, ** and *** indicates significance of values at P = 0.01, P = 0.05 and P = 0.1, respectively

Table 2 : Seasonal indices of onion			
Sr. No.	Months	Ahmadabad Market	
		Arrivals (Tons)	Prices (Rs.)
1.	January	8.13	9.58
2.	February	9.94	7.13
3.	March	9.60	6.20
4.	April	10.49	4.44
5.	May	6.59	4.07
6.	June	7.41	5.34
7.	July	5.99	6.59
8.	August	6.22	10.26
9.	September	6.32	11.06
10.	October	5.25	10.07
11.	November	7.64	13.39
12.	December	16.98	11.83

ANALYSIS AND DISCUSSION

The findings of the present study as well as relevant discussion have been presented under following heads :

Trends in arrivals and prices of onion :

The results of Annual compound growth rates and coefficient of multiple determination (R^2) for arrivals and prices of onion for the period from 2004 to 2013 are estimated and presented in Table 1.

The information of compound growth rates in annual arrivals and prices of onion is presented in Table 1. It can be revealed from the table that, the annual compound growth rate of arrivals in case of onion (15.37) were found positive and significant at five per cent level.

The annual compound growth rates of prices in the case of onion (19.48 %) were positive growth rate and significant at five per cent level, indicating thereby, the prices of onion were increasing by 6.74 per cent per annum. It is clearly showed that, positive relationship in arrivals and prices per annually.

Seasonal indices in arrivals and prices of onion :

The seasonal indices of arrivals and prices of onion in Ahmadabad market was estimated over ten years from 2003-04 to 2012-13 and presented in Table 2.

The results of seasonal indices of arrivals and prices of onion was indicated that, arrivals were noticed highest during the month of December (16.98) followed by April and February. It means that the market was flooded with onion from December to April. The lowest indices of arrivals were noticed in the month of October (5.25). The indices of lower arrivals were from May to October.

In case of price indices was noticed highest in the month of November (13.39). The higher prices indices were noticed during August to January. While lowest in May (4.07) followed by April and June.

The monthly arrivals and prices of onion in Ahmadabad market shows great fluctuations and no any specific trend was observed. Related work was also done by Kulkarni *et al.* (2010), Aher *et al.* (2011), Shrirao *et al.* (2011), Kulkarni *et al.* (2012), meena *et al.* (2012).

Conclusions :

- The significant increase in arrivals of onion whereas; significant increases in prices of onion was noticed in the APMC, Ahmadabad market.
- The prices of onion increased significantly during the period under study.

- Seasonal indices of arrivals and prices of onion was indicated that, arrivals were highest the month of December (16.98) and lowest indices of arrivals were noticed in the month of October (5.25). In case of price indices was noticed highest in the month of November (13.39) While lowest in May (4.07). Therefore farmers or sellers sale their produce in the month of November.

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