



Study on Temporal Variations in Prices and Arrivals of Dry Chilly in Byadgi Market

KEYWORDS

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ABSTRACT *Chilli is an important commercial spice crop from time immemorial and gaining lot of economic importance because of its use in ready-to-use masala and sambar powders. Chilli is cultivated exclusively for market, with a little proportion of it retained for its domestic consumption. The study period was from 2000-2014. In Karnataka the most important market of chilly is byadgi trends in arrivals and prices was found to be increasing. Seasonal indices was also high in almost all the months.*

Introduction.

Chilli is one of the most important commercial crops of India it is a crop of tropical and sub-tropical regions and requires a warm humid climate. Number of varieties of chillies are grown, which can be used as vegetable, condiments and pickles. Chilli occupies an important place in Indian diet and it is an indispensable item in the kitchen, as it is consumed daily as a condiment in one or other form. Chilli is rich in vitamin A and C and has many medicinal properties. In India, chilli is grown in almost all states. The important states growing chilli in terms of production are Andhra Pradesh (49%), Karnataka (15%), Orissa (8%), Maharashtra (6%), West Bengal (5%), Rajasthan (4%) and Tamil Nadu (3%). The production of chilli in India is dominated by Andhra Pradesh which bestows 51 per cent to the total production. Madhya Pradesh has now come out as a second largest producer of chilli with a contribution of 11 per cent in total production. Karnataka contributes 9 per cent followed by Orissa (4 per cent), Maharashtra (4 per cent), Rajasthan (5 per cent), Tamil Nadu, Uttar Pradesh and others. Karnataka has 20 per cent of the total area under chillies in India but its output is only 9 per cent of the total production of the country. Here about 75 per cent of the state's production of chillies is supplied by Dharwad, Haveri, Gulbarga, Gadag, Belgaum, Hassan and Chitradurga districts. North Karnataka is an important chilli growing area among major chilli growing areas and it is highly concentrated in the districts like Dharwad, Haveri, Koppal, Belary, Raichur, Gulbarga and Belgaum.

Methodology

For the study the monthly arrivals and prices of dry chillies in byadgi market was considered for the period from 2000 to 2014. Time series analysis : A time series is a complex mixture of four components namely, Trend (T), Seasonal variations (S), Cyclical variations (C) and Irregular variations (I). These four types of movements are frequently found either separately or in combination in a time series. The relationship among these components is assumed to be additive or multiplicative, but the multiplicative model is the most commonly used method in economic analysis, which can be represented as

$$O_t = T \times C \times S \times I$$

Where,

O_t = Original observation at time 't'

T = Trend component

S = Seasonal variations

C = Cyclical element

I = Irregular fluctuations

Analysis of long-term movements (trend) For estimating the long run trend of arrivals and prices, the method of least squares estimate was employed. This method of ascertaining the trend in a series of annual arrivals and prices involves estimating the co-efficient of intercept (a) and slope (b) in the linear functional form. The equation adopted for this purpose was specified as follows.

$$Y_t = a + bX + e$$

Where,

Y_t = Trend values at time t

X = Period

a = intercept parameter

b = slope parameter

e = Error

Annual trends of prices and arrivals for the selected markets were computed and compared. The goodness of fit of trend line to the data was tested by computing the coefficient of multiple determinations which is denoted by R²

Results and Discussion

As seen from the table 1. The pattern of trend in arrivals and prices was similar in increasing trend. There was an increase in 3422 qtls every year with the time variable explained to the extent of 72 per cent. The similar finding was found to be in the prices with Rs 324 as the time variable explained to the tune of 74 per cent in the studied period. Increase in the arrivals and prices indicated that there is abundant production of chilly. Hence the farmers in the hinterlands of these markets can grow chilly, as

price and arrivals trend is increasing. Table 2 depicts that to ascertain the pattern of price variation in drychilly during the different months of the year, seasonal indices were computed by adopting 12 months moving averages. The seasonal indices with respect to arrivals. was found to be high in the month of February, March, January, December and November with the indices of 120, 110,107,111, and 100. The lowest index was found to be in the month of May. In case of seasonal indices of prices, indices found to be in the month of January (115), February(112), March(111)December(104) and June(101). In prices also the lowest indices was found in the month of May with the value of 88. The above discussions put forward that farmers need to plan their production and store up the produce in peak seasons and release the same to the market during sagging seasons to get better prices to their produce. To ascertain the cyclical variations in arrivals of dry chilly in byadgi market multiplicative model of time series was employed. Cyclical variations in arrivals of drychilly in the selected byadgi market was presented in table 3.. There was an uneven cycle with 5 in the arrivals and prices of byadgi market. Large fluctuations in prices will lead to switching over in area of cultivation from one crop to another commercial crop .The variations in the arrivals of dry chilly across the years could be attributable to weather and climatic conditions, pest and disease situations, market impact factors and such other parameters which vary at regular intervals. Perfect cycles with regard to variations in prices could be observed if the time series data is for larger period, i.e. for the period of 35-40 years. Non availability of data for such a long period has posed another demerit in getting the proper cyclical pattern with respect to prices. Since there was an increasing trend in arrivals and prices .The producers may be advised to plan their production as well as sale of the crop. Further the inadequacy of storage facilities is another serious bottle neck.

Table1. Trends in Arrival and Prices of Drychilly in Byadgi market

Byadgi Market.	Trend	R Square
Arrival Trend	29143.79+3422.34t	72
Price Trend	30278.84+ 324.54t	74

Table 2 Seasonal indices of dry chilly in byadgi market

Month	Seasonal Arrivals	Seasonal Price
Jan	107.58	115.54
Feb	120.95	112.29
Mar	110.90	111.45
Apr	98.02	97.09
May	86.57	88.91
Jun	92.81	101.94
Jul	92.24	87.45
Aug	90.84	91.67
Sep	92.99	94.13
Oct	95.39	98.24
Nov	100.01	96.47
Dec	111.71	104.81

Table 3: Cyclical variations of dry chilly in byadgi market

Year	Cyclical Arrivals	Cyclical Prices
2000	117.29	105.98
2001	106.13	98.83
2002	104.23	96.73
2003	109.20	102.45
2004	106.32	102.86
2005	80.12	72.17
2006	94.40	90.30
2007	125.43	119.09
2008	115.94	110.58
2009	117.36	113.13
2010	87.73	83.69
2011	130.68	124.92
2012	89.88	86.02
2013	86.63	90.79
2014	122.70	102.46
Cycles	5	5

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