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The important egg markets be regulated and open auction in eggs introduced. The commission rate should be lowered from 3 per cent to 2 per cent and octroi should be abolished. This is particularly important for perishables so that there is free and prompt movement of the product. Keeping in view the utility added to the product and the services rendered to the consumers, the margin of the intermediaries can be further reduced through better handling practices and increased volume of business with increasing funds. Producers should perform the assembling and retailing functions better on co-operative basis to make it more economical. They should supply eggs direct to hotels, restaurants, military canteens, hospital, tea stalls, etc. Losses through breakage can be brought down by careful packing and handling. Malpractices like charging of excessive freights, gratification to booking personnel in railways should be eradicated through government help. Booking rates may be reduced from 1/2 the parcel rate at present to 1/4 the parcel rates and the return of containers should be made free of cost. Eggs as such, dehydrated eggs or preserved egg pulps can be exported to gulf countries through NAFED. For dehydration of eggs or egg powder, the idle capacity of existing milk plants in summer months can be usefully utilized.

PRICE SPREAD AND BEHAVIOUR IN THE MARKETING OF EGGS IN HIMACHAL PRADESH

Kanwar Prakash Chand and B. K. Sikka*

In India during the last one and a half decades poultry farming has developed to a take-off stage. It is believed that poultry farming can play an effective role in uplifting the socio-economic status of the small farmers. The utilization of modern methods in poultry farming in rural development can be of great use.

In Himachal Pradesh the State Government started taking interest in poultry development during the Third Plan. Now Poultry Extension Centres and co-operative societies advance loan to their members for the uplift of poultry industry in the State. The marketing of eggs is associated with a unique set of conditions which makes it highly risky, these include the nature of produce handled itself and the prevalence of imperfect market where there are only few traders in the business. Viewed from the producer's angle, how should he be assured of receiving an appropriate share of the consumer's rupee, and of deriving an advantage with the fluctuation in price and demand? Taking all these factors in view, we conducted a study on the marketing of eggs in Himachal Pradesh for the year 1977-78, which has the following objectives: (i) to examine the existing marketing system and the role of different distributional channels in the marketing of eggs, (ii) to determine the marketing margin at different stages of marketing of eggs, and (iii) to examine the price structure of eggs.

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METHODOLOGY

This study* was conducted in Simla town. Simla market was purposively selected for the study because (i) Simla is the main tourist centre both in winter and summer, which accounts for relatively more consumption of eggs. (ii) The town is also a cold hill station where egg consumption is considerably higher as compared to other cities/towns of Himachal Pradesh. Keeping the objectives of the study in view, the data pertaining to arrivals and prices of eggs were collected from the five wholesalers of the market. The data regarding retail prices were collected from various retailers selected randomly in the town.

There are only two poultry farms organized on modern lines around Simla city, the necessary data were collected from these two farms.

ANALYSIS OF DATA

Existing Marketing System

The marketing of eggs is almost the same as in other perishable commodities, viz., vegetables, fruits, milk and milk products, etc. However, the marketing system differs according to the distance between the producer and consumers of eggs. The more the distance between the producer and the consumer, the more complex becomes the marketing system and more marketing services are rendered. But the marketing organization for eggs is in its infant stage as the poultry industry in Simla is still in its developing stage.

Channels of Distribution

The main marketing channels involved in the marketing of eggs in Simla egg market are as follows:

- (i) Producers—Egg collectors—Wholesalers—Retailers—Consumers.
- (ii) Producers—Egg collectors—Retailers—Consumers.
- (iii) Producers—Hawkers—Restaurants/Bakers.
- (iv) Producers—Agents—Wholesalers—Retailers—Consumers.
- (v) Producers—Consumers.

The egg collectors are the main link between the producers and wholesalers for the marketing of eggs. They personally contact the producers and collect eggs from the local poultry farms and supply to the wholesalers or sometimes operate on behalf of wholesalers and they deduct their commission or they purchase eggs and then further sell to the wholesalers and then to the retailers. It has been estimated that about 80 per cent of the locally produced eggs are handled by egg collectors. The other agencies involved in the sale of eggs from door to door are the hawkers who collect the eggs from the producers and arrange delivery of eggs direct to the bulk consumers in restaurants, bakers, confectioners, etc., either at a rate contracted for the whole year or at the current market price. Both the parties mutually

* Data used in this study are taken from the unpublished M.Sc. thesis "Marketing and Demand for Eggs in Simla City—An Econometric Study" by the first author in 1978.

negotiate the terms and the conditions which facilitate the smooth supplies to the consumers. Thus, direct contacts ensure the maximum satisfaction to the consumers, and maximum share of consumer's rupee goes to the producers in this case of distribution whereas the consumers get fresh supplies and good quality eggs.

However, some consumers in the vicinity of poultry farms purchase eggs direct from the poultry farms, which provides an opportunity for establishing direct contacts between the producers and the consumers. But this system is not very common and hardly 5 per cent of the locally produced eggs are handled by this channel of distribution.

A few wholesalers during the summer season and their agents establish their direct contacts with egg suppliers of adjoining areas, Bilaspur, Mandi, Solan and Sirmur districts. Such suppliers despatch the supplies to the wholesalers of Simla city.

Marketing Margin

The marketing margins in respect of one basket of eggs produced in the plains and around Simla marketed in Simla are given in Table I. It may be seen from the table that the producers got 71.38, 70.67 and 81.19 per cent respectively of the price paid by the consumer for Chandigarh and Ambala outstation eggs and locally produced eggs of Simla. Thus, the producer received quite a fair share of the consumer's rupee. The retailer's expenses for outstation eggs are higher as compared to locally produced eggs. For outstation supplies of eggs, the losses due to breakage are borne by the retailers, as the baskets received by the wholesalers are sold to the retailers as such. In the case of locally produced eggs, the payment to the egg collectors is made for the eggs actually supplied.

Price Structure of Eggs

From Table II it is observed that the arrivals and price of eggs in Simla market vary from month to month. It is further seen that the arrivals of eggs are higher during summer months, *i.e.*, April to July and thereafter gradually start tapering down with the commencement of the rainy season. The large supplies/arrivals from April to July are mainly due to the influx of tourists and their departure from Simla before the setting in of the rainy season results in lower demand. Consumption of eggs is very small in the plains during the summer because of heat. As the population of tourists increases in Simla (which is comparatively cold to the plains) during this period, dealers are attracted to send large supplies of eggs to the Simla market to avoid spoilage/losses due to higher temperature.

However, the wholesale and retail prices are higher from November to February and lowest in the month of April to June. Lower prices in summer are found due to lower seasonal demand for eggs in the plains; therefore, distress sale of eggs during the summer season prevails. Further in winter, the majority of families shift to lower hills or plains due to the severity of climate, attributing to the small demand for eggs in Simla.

TABLE I—SPREAD OVER OF CONSUMER'S RUPEE FOR OUTSTATION AND LOCALLY PRODUCED EGGS IN SIMLA MARKET (1977-78)

Particulars	Per basket of 210 eggs produced at					
	Chandigarh		Ambala		Simla	
	Rs.	Per-centage	Rs.	Per-centage	Rs.	Per-centage
(i) Price paid to producer ..	61.10	71.38	60.50	70.67	69.50	81.19
(ii) Commission paid at producing centre ..	2.00	2.34	2.00	2.34	—	—
(iii) Packing, handling and transportation charges upto Simla ..	6.00	7.01	6.00	7.01	—	—
(iv) Octroi, handling and transportation at Simla	2.75	3.21	2.75	3.21	2.00	2.34
(v) Wholesaler's expenses ..	1.25	1.46	1.35	1.58	—	—
(vi) Wholesaler's margin ..	2.10	2.45	2.10	2.45	—	—
(vii) Loss due to breakage ..	2.00	2.34	2.50	2.92	2.00	2.34
(viii) Egg collector's margin ..	—	—	—	—	5.00	5.84
(ix) Retailer's purchase price	77.20	—	77.20	—	78.50	—
(x) Retailer's expenses ..	3.10	3.62	3.10	3.62	2.10	2.45
(ix) Retailer's margin ..	5.30	6.19	5.30	6.19	5.00	5.84
(xii) Price paid by consumer	85.60	100.00	85.60	100.00	85.60	100.00

TABLE II—MONTHLY ARRIVALS AND PRICES OF EGGS IN SIMLA MARKET DURING 1977-78

Month	Arrivals of eggs (thousand)	Average price for 100 eggs (Rs.)	
		Wholesale	Retail
July	760 (107.43)	34 (92.51)	38
August	739 (104.46)	37 (100.68)	41
September	715 (101.07)	38 (103.40)	41
October	705 (99.65)	38 (103.40)	41
November	699 (98.81)	40 (108.84)	45
December	660 (93.29)	41 (111.56)	45
January	663 (93.72)	45 (122.44)	50
February	662 (93.58)	44 (119.72)	48
March	668 (94.42)	35 (95.23)	38
April	698 (98.66)	30 (81.63)	33
May	730 (103.19)	24 (65.30)	29
June	790 (111.67)	35 (95.23)	40
Average	707.41	36.76	40.75

Note:— Figures in parentheses indicate seasonal index.

The price of eggs, therefore, has a negative correlation with its arrivals, because the arrivals and price of eggs move in opposite directions. This contention is also confirmed by correlation analysis between wholesale prices and arrivals. The correlation coefficient was found to be -0.52 , which is significant at 10 per cent level of probability.

The seasonal index for arrivals and wholesale prices of eggs in Simla market (1977-78) are given in parentheses in Table II. It is observed that market arrivals of eggs start increasing from the month of March (94.42) and reached the peak by June (111.67). The seasonal index of wholesale prices of eggs in this market reaches the peak in the month of January (122.44) due to increased consumption in the plains. The minimum seasonal index (65.30) in the month of May is due to the smaller consumption in the plains and distress sales among the wholesalers and competition between them, at a lower price.

On the basis of information about the relationship between the arrivals and wholesale prices of eggs, a linear regression line of the form

$$Y = f(x) = b_0 + b_1 x$$

is fitted, which is shown in Table III wherein Y indicates arrivals and x is the wholesale prices of eggs. It is clear from this table that wholesale prices and arrivals are negatively related; further for each unit increase in price the arrivals of eggs decrease by 3.62 units.

TABLE III—REGRESSION LINE BETWEEN WHOLESALE PRICES AND ARRIVALS OF EGGS

Variables taken	Regression coefficients		r^2	Price elasticity
	Constant b_0	Arrivals b_1		
$Y = f(x)$	840.45* (78.39)	-3.62** (1.72)	0.270	-0.188

Note:— * Significant at 1 per cent level of probability.

** Significant at 10 per cent level of probability.

(Figures in parentheses are the standard errors.)

The coefficient of determination (r^2) indicates that 27 per cent variation in arrivals is explained by the variation in wholesale prices alone, while 73 per cent unexplained variation is due to certain other factors, *i.e.*, income of consumers, price of substitutes and temperature, etc. By multiplying the regression coefficient with the ratio of prices and arrivals at arithmetic mean level, *i.e.*, $E_p = b_1 \frac{\bar{X}}{\bar{Y}}$, where

E_p = price elasticity of demand,

b_1 = regression coefficient of price,

\bar{X} and \bar{Y} = arithmetic mean of prices and arrivals respectively.

The price elasticity of demand for eggs is -0.188 , which explains that a one per cent increase in price from the arithmetic mean will result in 0.188

per cent decrease in demand from the arithmetic mean. Thus, the impact of increase in prices on consumption/demand is not much under this situation, the producer may be induced to increase the price to the extent/level with which the consumers remain satisfied. However, the benefit of this increase in price should go to the producers rather than to the middlemen.

STUDY OF FRUITS AND VEGETABLES' COLD STORE UNITS— A COMPARATIVE PERFORMANCE OF DIFFERENT AGENCIES*

V Mohandoss, Mruthyunjaya and K. V. Subrahmanyam†

The cold storage industry in India is mostly in the hands of private people and as on 1972 out of a total available capacity of 16.79 lakh tons, nearly 94 per cent was in the private sector, one per cent in the government sector and five per cent in the co-operative sector. In view of this, the National Commission on Agriculture observed that the owners themselves are availing the facility or leasing out the facility at higher rates¹ and hence it suggested that "...private ownership has to be discouraged in future and cold storages have to be set up both in the co-operative and public sector."² In view of this recommendation, it is desirable to examine empirically in detail, the performance of the cold store units run by these three agencies, namely, government, co-operative and private, in terms of efficiency in capacity utilization, profitability, types of users, etc. Hence the present study. Bangalore city has been specifically chosen as the study area since (i) it is a major trading centre for fruits and vegetables in Karnataka and (ii) more than half of the available storage capacity in Karnataka is existing in Bangalore.³

DATA AND METHODOLOGY

The data were collected from all the six fruits and vegetables' cold stores (one government, one co-operative and four private units) in Bangalore city (Table I), through personal interviews with the help of a pre-tested questionnaire during December 1978 to February 1979. However, the data pertaining to only two private units (designated as private-1 and private-2 units) were used for comparison with government and co-operative units, as detailed information was not available with other stores. The data collected relate to the years 1975-76 to 1977-78.

* This paper is a part of the report prepared by the authors on "A Study of Fruits and Vegetables' Cold Store Units in Bangalore City", Contribution number 802, Indian Institute of Horticultural Research (ICAR), Bangalore-6.

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1. Government of India: Report of National Commission on Agriculture, 1976, Part XII—Supporting Services and Incentives. Ministry of Agriculture and Irrigation, New Delhi, 1976, pp. 161-162.

2. *ibid.* p. 163.

3. Out of a total of 11 fruits and vegetables' cold stores operating in the State, six units sharing between them around 60 per cent of the capacity are located in Bangalore city itself.