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AN ECONOMIC ANALYSIS OF DIFFERENT MARKETING CHANNELS OF WATERMELON IN THIRUVALLUR DISTRICT OF TAMIL NADU IN INDIA

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ABSTRACT: The present study was conducted in Thiruvallur district of Tamil Nadu. Totally 100 respondents were randomly selected and interviewed from the district. The data was gathered in the form of pre-structured interview schedule. The present study was conducted with the aim to analyze the marketing cost, price spread and marketing efficiency of farmers in different marketing channel of Watermelon in Thiruvallur district. Among the different marketing channels, total marketing cost was low in channel I (Rs 44.63/qtl) as compared to channel II (Rs 70.21/qtl) and channel III (Rs 87.10/qtl). This shows that marketing cost was low if the channel does not have any market intermediaries. The best channel for both producers and consumers were found to be in channel I in which producers receives the maximum share of consumer rupee (95.06 per cent). The study reveals that among the other marketing channels, channel I has the highest marketing efficiency of 19.26 per cent. Middleman exploitation was the major problems which reduce the net income of farmers in the study area.

Keyword: Watermelon, price spread, marketing efficiency.

World watermelon [Citrullus lanatus (Thunb.] production is increasing because of higher demand (Popescu, 2012). Kotler and Keller (2012) defined marketing as an "organizational function and a set of processes for creating, communicating and delivering value to the customers and for managing customer relationships so as to benefit the organization and the stakeholders." It involves all activities concerned with persuasion and sale of goods and services. Marketing includes packaging, storage, transportation, pricing, financing, risk bearing, and product design. The success of the enterprise will depend on the ability of management to provide satisfaction in the target market at a profit. Watermelon reaches consumers through the marketing system. Marketing has economic value because it provides form, time, and place utility to products and services (Asogwa and Okwoche, 2012). Increased activity of watermelon marketers may be improved through provision of more and better produce at low prices. This will enable marketers to generate more income (Ukwuaba, 2017). If good practices of marketing and channel of the commodity are not properly followed, benefits of good production ends in the hands of middlemen instead of producers (Nagargoje, 2017). Marketing of crops in Nigeria is challenged by inefficiency and ineffectiveness due to inadequate market infrastructure, transportation, and the pricing system (Adakaren et al., 2012). As much as 30% loss occurs during transportation from point of production to point of consumption (Adugna, 2009). It was reported that prices of watermelon more than double during the off-season and marketers hardly benefit from these price increases because of the marketing system where collectors (middlemen) sell to retailers (Ubani et al. 2010). Marketers of vegetables experience some economic loss as result of perishability of products along the food chain due to poor storage and transportation to markets (Okonkwo et al., 2009). This occurs when there is an increased supply of products sold at low prices in local and urban markets and tends to affect produce prices, marketer income, and profit. Watermelon marketing is profitable in Nigeria, but there is a need to understand how the product can be efficiently distributed to maximize economic returns to farmers and marketers (Kassali et al., 2015). This study was undertaken to describe an economic analysis of watermelon marketing.

Sampling design

A Multi-Stage sampling technique was used in this study for selection of watermelon cultivators. Block as a primary unit, village as a secondary unit and watermelon cultivators as a final unit for the study.

RESEARCH METHODOLOGY

The study was conducted in Thiruvallur district of Tamil Nadu which is one of the 38 districts of Tamil Nadu. Thiruvallur district comprises of 14 blocks among that Sholavaram block were selected for this study. From that block 7 villages viz., Chinnaamullaivoyal, Periyamullaivoyal, Mabuskhanpettai, Thachur, Thirunilai and Valudigaimedu were selected. A list of all watermelon farmers/ respondents is prepared with the help of head of the village head of each selected villages in the block, there after farmers/respondents is categorized in 4 size groups based on their land holding and then from each village 10% farmers were selected randomly from all the different size of farm groups. Data for the study was collected from 100 farmers randomly.

Selection of Market

The primary and secondary market of Sholavaram block is selected purposively for the present study.

Selection of Market Functionaries

A list of all market functionaries both primary and secondary market was selected with the help of market head out of total market functionaries 10% out of the total market functionaries has been selected randomly for the present study this market functionaries was considered for the data collection regarding different marketing cost and other charges in different marketing channel.

MARKETING COST AND MARKET MARGIN

Market cost and market margin were worked out from the actual data collected from market four wholesalers and four retailers. Marketing cost incurred by producers was estimated from the data collected from selected cultivators for the present study.

Marketing cost:

The total cost incurred on marketing by various intermediaries involved in the sale and purchase of the commodity till it reaches the ultimate consumer was computed as follow:

M= Ct+Cm1+Cm2+Cm3+.....+Cmn

Where, M= Total cost of marketing

Ct = Cost borne by the producer farmer from the produce leaves the farm till the sale of the produce, and

Cmn = Cost incurred by i^{th} middlemen in the process of buying and selling

Market margin:

The profit of the various market functionaries realized while moving the produce from the initial point of production to the ultimate consumer. The absolute value of marketing margin varies from the channel to channel, market to market and time to time.

(a) Absolute margin= PRi - (PPi + Cmi)

(b) Percent margin = $\frac{PRi - (PPi + Cmi) \times 100}{PRi}$

Pri = total value of receipts per unit (sale price)

Ppi = purchase value of goods per unit

Cmi = cost incurred on marketing per unit

Price spread

Price spread indicates shares of various agenc1es involved in the marketing along with the cost incurred by them. The price spread of the produce shows the difference between net price received by the producers in the assembling market and price paid by the ultimate consumers or produce in the retail market. lt includes all the market charges incurred by producers, wholesalers, and retailers as well as profit margins of wholesalers and retailers.

Price Spread = $\frac{(\text{Consumer price} - \text{net price of producer}) \times 100}{\text{Consumer price}}$

Farmers' share in consumers' rupee

Further, the farmer's share in consumer rupee was calculated with the help of the following formula

$$F_s = \frac{F_p}{C_p} \times 100$$

Where,

F_s= Farmers' share in consumers rupee (percentage)

F_p= Farmers' price

C_p= Consumers' price

Marketing efficiency

Marketing efficiency is a measure of market performance. The movement of goods from producers to the ultimate consumers at the lowest possible cost consistent with the provision of service desired by the consumers is termed as efficient marketing

Shepherd's Formula

Shepherd (1965) suggested that the ratio of total value of goods marketed to the marketing cost could be used as a measure of marketing efficiency. The higher the ratio, higher would be the efficiency and vice versa. This can be expressed in the following form:

$$ME = \frac{V}{I} - 1$$

Where,

ME = Index of marketing efficiency

V = Value of goods sold

I = Total marketing cost

RESULTS AND DISCUSSION

Marketing Channel Selected By Respondents

Although marketing is an art for enchanting of goods and service over country so that it is necessary to divide the different channel which is effective in particular area. Therefore, the channel is depicted is the table-1.

Table 1 Marketing channel selected by respondents

S.no	Channels	Respondent(No.)
1	Producer → Consumer	19 (19.00)
2	Producer → Retailer → Consumer	24 (24.00)
3	Producer → Wholesaler / Commission agent → Retailer → Consumer	57 (57.00)
TOTAL		**100 (100.00)**

It was observed from the Table-1 that, maximum numbers of watermelon cultivators (57) are distributed through the third channel. First channel was used by 19 watermelon cultivators marketed through first channel which was direct channel whereas, 24 watermelon cultivators had used the II Channel.

Table- 2: Per quintal marketing expenses incurred by different agencies

S. No.	Items of cost	Producer	Retailer	Wholesaler/ comm. agent
1.	Transport cost	20.06	26.46	35.95
2.	Loading and unloading	17.44	13.77	12.38
3.	Weighting charges	3.13	8.33	4.54
4.	Commission charges	-	-	20
5.	Rent of stall	-	5.66	1.62
6.	Licenses fee	-	1.02	0.45
7	Losses	2.00	6.35	8.81
8.	Other charges (maintenances, and plastic bag.)	2.00	10.62	3.35
	Total	**44.63**	**70.21**	**87.10**

It is seen from Table 2 that, out of three marketing agencies the marketing cost incurred by producer was Rs. 44.63. The marketing cost incurred by retailer Rs.70.21 and the wholesaler incurred marketing cost was of Rs. 87.10. Price paid by consumer and producer's share in consumer's rupee.

Channel Wise Price Spread of Watermelon

Table- 3: Channel wise price spread of watermelon

S. N.	Particulars	Channel I	Channel II	Channel III
1	Net price received by producer	860	650	678
2	Cost incurred by producer	44.63 (4.93)	30.35 (2.46)	50.35 (3.57)
3	Purchase Price by wholesaler/commission agent	-		728.35
4	Cost incurred by wholesaler/commission agent	-		87.10 (6.18)
5	Marketing margin by wholesaler/commission agent	-		223 (15.83)
6	Purchase Price by retailer	-	680.35	1038.45
7	Cost incurred by retailer	-	70.21 (5.69)	70.21 (4.98)
8	Marketing margin by retailer	-	451.41 (36.64)	300.35 (21.32)
9	Total marketing cost	44.63 (4.93)	100.56 (8.16)	207.66 (14.74)
10	Total marketing margin	-	451.41 (36.64)	523.35 (37.16)
11	Consumers purchase price	904.63 (100)	1231.97 (100)	1408.31 (100)
12	Producer share in consumer rupee (%)	95.06	52.76	48.14
13	Marketing efficiency (ME) (%)	19.26	11.25	5.78
14	Price spread	44.63	581.97	730.31

(Figures in parentheses indicate percentage to consumer's purchase price)

It was observed from Table 3 that, price per quintal paid by the consumer was Rs.904.63, Rs.1231.97 and Rs.1562 in channel I, channel II and channel III, respectively. The producer's share in consumer's rupee was highest 95.06 per cent in channel I followed by 52.76 per cent inchannel II and 43.40 per cent in channel III. Therefore, it can be concluded that, the involvement of intermediaries particularly wholesaler/commission agent and retailer has decreased the producer's share in consumer's rupee to considerable extent. This further revealed that, the reduction in intermediaries was advantageous to producers, on the contrary their services were essential, who reaped larger of chunk of producer's share from consumer's rupee. Producer's share in consumer's rupee was the lowest in channel III and channel III involving a large chain of intermediaries, the net price received by producer in channel I was highest (Rs.860).

Marketing margin of intermediaries

The total marketing margin of all intermediaries was highest (37.16%) in channel III followed by (36.64%) of consumer's price in channel II, respectively.

Marketing efficiency (ME)

Marketing efficiency (ME) is essentially the degree of market performance. It is considered as indicators or measures for comparing or asses the efficiency of the alternate marketing channel/system.

Marketing efficiency is estimated in marketing of watermelon by using modified Shepherd's formula (approach) as mentioned in methodology and presented in Table 5.19.

It is observed from Table 5.19 that, the marketing efficiency (ME) in channel I was highest (19.26%) whereas, it was (11.25%) in channel II and (5.78%) in channel III.

This revealed that, the higher marketing margin taken away by market intermediaries in channel III and there for that channel resulted in the poor efficiency in marketing of watermelon. This indicated that, channel I *i.e.,* direct sale by producer to consumer is most efficient channel of marketing of watermelon followed by channel II and channel III.

Price spread

The price spread refers to the difference between the price paid by the consumer and the net price received by the producer for an equivalent quantity of farm produce. This spread consists of marketing expenses and margin of intermediaries, which ultimately determined the overall effectiveness of a marketing system and efficiency of the marketing system. The detailed price spread of per quintal of watermelon through different channels is presented in Table 5.1.11.3.

Therefore, observed price spread is said to be less in channel I with Rs. 44.63 followed by channel II with Rs. 581.97 and highest price spread observed in channel III with Rs. 730.31 due to a greater number of middlemen.

Conclusion

The study of marketing of black pepper in Thiruvallur District, Tamil Nadu, revealed some interesting findings. In the marketing of watermelon channel I is more efficient channel comparing with other two channels. This revealed that, the higher marketing margin taken away by market intermediaries in channel III and there for that channel resulted in the poor efficiency in marketing of watermelon. This indicated that, channel I *i.e.,* direct sale by producer to consumer is most efficient channel of marketing of watermelon followed by channel II and channel III. The total marketing margin of all intermediaries was highest (37.16%) in channel III followed by(36.64%) of consumer's price in channel II, respectively.

It can be concluded that, increase in number of intermediaries in the channel increase the marketing expenses.

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