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A Study on Marketing of Brinjal in Meja Block Pryagraj District of Uttar Pradesh

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Abstract:- The present research entitled "A study on Marketing of Brinjal in Meja Block Prayagraj District of Uttar Pradesh" was carried out during the year 2022-23 in the PRAYAGRAJ district of the Uttar Pradesh State. The major crops grown by the farmers were Brinjal and Wheat in rabi and Paddy in kharif season. The average yield of Brinjal was observed 255.83 quintal per farm level. The average marketable surplus between the different size of farm household (196.31 qtl.). The marketing efficiency in channel I (Producer - Consumers) is 4.06, in channel II (Producer - Retailer - Consumers) is 4.10 and in channel III(Producer - Wholesaler - Retailer - Consumer) is 3.27.The price spread in marketing of Brinjal in channel I (Producer - Consumers) is Rs. 160.00 in channel II (Producer - Retailer - Consumers) is Rs. 220.00 and channel III (Producer - Wholesaler - Retailer - Consumer) is Rs.315.05. The result showed that producer's share consumer's rupee Brinjal is (75.38%) in channel I, (82.35%) in channel II and (62.27%) in channel III.

Keywords:- *Marketable Surplus, Marketing efficiency, Price Spread, Producer's Share Consumer's*

I. INTRODUCTION

Brinjal (Solanum melongena L.) belong to Solanaceae family. India is a country about 1.3 billion people. More than 65 percent of India's people live in rural areas and their main occupation is agriculture. Agriculture is the back bone of Indian economy because it contributes to economic and social well- being of entire nation through its influence of the GDP and employment. Agriculture sector accounts for only 14.7 percent GDP (2015-16) (Source link: articles.economictimes.indiatimess.com.). Brinjal is a vegetable crop and also known as eggplant. Brinjal originated in India and it is extensively grown in Bangladesh, India, Pakistan, Nepal, Sri Lanka, Egypt and other countries of the world. Among all summer grown vegetables with semi-perennial nature, brinjal is almost available throughout the year and consumed in various forms by all classes of people. World's statistics reveal that brinjal is second to potato and sweet potato in term of production (SPBB 1996). Worldwide production of brinjal is mainly in China, India, Egypt, Turkey and Indonesia with more than 85%. Its area under cultivation is more than 2 million hectares with 35 million tonnes production. (FAO, 2008) Aubergine is relatively low in term of nutritive value and potential of production. 1.2 Cultivation and production status in India: Brinjal is a warm season vegetable and susceptible to severe frost. Climatic conditions especially low temperature during the cool season causes abnormal development of the ovary (splitting) in flower buds which then differentiate and develop into deformed fruits during that season. The optimum temperature for growth and fruit set is 20-30°C. However, the high night and day temperature condition of 22-24°C to 33-35°C markedly reduce fruit set and yield. Many of the round varieties set fruits at slightly lower temperature but are highly susceptible to frost. The long-fruited varieties set fruit at higher temperature and show tolerance to frost. The growth of the crop is severely affected when temperature falls below 17°C. It can be successfully grown as a rainy season and summer season crop. India produces about 12,680,000mt of brinjal from an area of 727,000ha with an average productivity of 12.97mt/ha. the brinjal producing states are Orissa, Bihar, Karnataka, West Bengal, Andhra Pradesh, Maharashtra and Uttar Pradesh, the major brinjal producing in West Bengal. Brinjal has an ayurvedic medicinal properties and white brinjal is good for diabetic patients. It is also a source of vitamins A, C and minerals. Besides its value as a food crop, eggplant is widely used for medicinal purposes. The plant is used in decoction as powder or ash for curing diabetes, cholera, bronchitis, dysuria, dysentery, otitis, toothache, skin infections, asthenia and haemorrhoids.

II. MATERIALS AND METHODS

A. Selection of District

For the present study, Prayagraj district was selected purposively due to its large area under brinjal cultivation.

B. Selection of Block:

Prayagraj district contains 23 blocks of selected district; Meja block was selected purposively for the study due to the large area under brinjal cultivation.

C. Selection of Villages:

A complete list of all villages of "Meja" block was obtained from the block development office. Brinjal growing villages was prepared in ascending order along with their area under brinjal cultivation. 5 % villagers were selected randomly.

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D. Selection of Respondents/Growers:

A selected list of brinjal respondents of selected villages was prepared along with their size of land holding. Finally, 10% brinjal respondents in all the size farms groups were selected randomly in each selected village.

III. ANALYTICAL TOOLS

A. Marketing cost:

Marketing Cost means, the reasonable costs associated with promoting, selling, packaging, transferring title and moving Joint Products to the customer and include direct costs and overhead costs.

$$\textbf{Marketing cost (MC)} = \frac{\Delta TC}{\Delta Q}$$

Where,

Δ = Change
TC = Total Cost Quantity
Q = Quantity

B. Marketable surplus:

A Market Surplus occurs when there is excess supply-that is quantity supplied is greater than quantity demanded. In this situation, some producers won't be able to sell all their goods. This will induce them to lower their price to make their product more appealing.

$$\textbf{MS= P – C}$$

Where,
MS = Marketable surplus
P = Total Production
C = total requirements (family and farm)

C. Producer's share in Consumer's Rupee:

$$\textbf{PS=} \frac{\textbf{PF}}{\textbf{PC}} \textbf{X 100}$$

Where,
PS= Producer's share in Consumer's Rupee
PF= Price of the produce received by the farmer
PC= Price of the produce paid by the consumer

D. Marketing Efficiency:

Market efficiency refers to the ability possessed by markets to include information that offers maximum possible opportunities for traders to buy and sell securities without incurring additional transaction costs. The concept of market efficiency is closely linked to the efficient market hypothesis (EMH).

$$\textbf{Marketing Efficiency} = \frac{\textbf{Consumer price}}{\textbf{Total marketing cost + marketing margin}}$$

E. Marketing Margin:

Margin is calculated by subtracting the net farm value equivalent of food sold at retail of the farm product from the retail price.

$$\textbf{Marketing margin = Product price – Raw Material}$$

F. Price Spread:

Price spread is defined as the difference between the price paid by consumers and the net price received by the producer for an equivalent quantity of farm produce. It is expressed as percentage of consumer's price.

$$\textbf{Price Spread} = \frac{\textbf{(Consumer price – Net Price of Producer)}}{\textbf{Consumer price}} \textbf{X 100}$$

G. Garrett Ranking:

To know the acceptance of respondents and constraints in processing and marketing of Potato Garrett's ranking technique has been used. Basically, it gives the change of orders of constraints and advantages into numerical scores.

Garrett's formula for converting ranks into per cent was given by:

$$\textbf{Percent position} = \frac{100\,(R_{ij}-0.5)}{N_j}$$

Where,
Rij= rank given for ith factor by jth individual
Nj= number of factors ranked by jth individual

IV. RESULT AND DISCUSSION

The result is a presentation of the findings of the given study, purely based on the objective:

- To find out Marketing Cost, Marketing Margin, Price Spread, Market Efficiency, different marketing channels marketable surplus involved in the study area.

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Table 1: Marketing Cost, Marketing Margin and Price Spread in different Size of Farms Group
Channel-I = Producer – Consumer

S.No.	Particulars	Rs/Quintal
1.	Producer's sale price	650
2.	Expenses borne by the producer	160 (24.61)
i.	Cost of Loading	10 (1.53)
ii.	Cost of Transportation	40 (6.15)
iii.	Grading, filling, stitching, etc.	25 (3.07)
iv.	Cost of Unloading	20 (3.07)
v.	Packing material	20 (3.07)
vi.	Miscellaneous expenses	45 (6.92)
3.	Net price received by the producer	490 (75.38)
4.	Producer purchase price	650 (100)
5.	Price spread	160
6.	Producers share in consumer rupee	75.38%
7.	Marketing efficiency	4.06

Table 1 reveals that average marketing cost when producers sold their product to customer in the market was Rs.650/qtl. Among these cost of loading Rs. 10.00/ha, Grading, Filling, Stitching, etc was Rs.25.00/qtl, unloading cost Rs.20.00/qtl, transportation cost Rs.40.00/qtl, miscellaneous expenses Rs.45.00/qtl, packing material was Rs.20.00/qtl. The total Price spread was Rs.160.00/qtl, producer share in consumer rupee 75.38 and market efficiency was 4.06 per cent respectively.

Table 2: Marketing Cost, Marketing Margin and Price Spread in different size of farms group
Channel-II = Producer-Retailer-Consumer

S.No.	Particulars	Rs/Quintal	In (%)
1.	Producer sale price to Retailer's	650	
2.	Cost incurred by the Producer		
I.	Cost of gunny bag	25.00	3.20
II.	Grading, Filling	20.00	2.56
III.	Load & Transportation Cost	30.00	3.84
IV.	Unloading charges	15.00	1.92
V.	Total Cost incurred by product (i-v)	90.00	11.53
3.	Net price received by producer	560.00	82.35
4.	Sale price of producer to village merchant/Retailers	650.00	
5.	Cost incurred by the retailers		
I.	Transportation Cost	30.00	3.84
II.	Labour	15.03	1.92
III.	Loss, wastage, spoilage	25.00	3.20
IV.	Miscellaneous charges	20.00	2.56
V.	Market fee	10.00	1.28
VI.	Total cost incurred	100.00	12.82
6.	Village merchant/ Retailer margin	30.00	3.84
7.	Sale price of retailer to consumer	780.00	100
8.	Price Spread (Total marketing cost + Margin)	220.00	
9.	Producer share in consumer rupee	82.35	
10.	Marketing efficiency	4.10	

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Table 2 reveals that average marketing cost when producer sold theirto village Retailers in the market was 780.00/qtl. Among this cost of Gunny bag was Ra25.00/qtl, loading and transportation cost Rs 30.00/qtl, unloading charges Rs.15/qtl and grading & Filling cost. The average marketing cost sold to their produce through village retailers to the consumers, was observed 12.82 percent, among this cost transportation was the most important 3.84 percent, followed by loss, wastage and spoilage 3.20 percent, labour 1.92 percent and miscellaneous cost 2.56 percent respectively. The total price spread was R$220.00/qtl, producer sale in consumer rupee 82.35 and market efficiency was 4.10 percent respectively.

Table 3: Marketing Cost, Marketing margin, and Price spread in different size of farms group
Channel-III = Producer- Wholesaler- Retailer- consumer

S.No.	Particulars	Rs/Quintal	In (%)
1.	Producer's sale price/wholesaler's purchase price	620.00	100
2.	Expenses borne by the producer	100.00	11.97
I.	Cost of gunny bag	25.00	2.99
II.	Grading, Filling	20.00	2.39
III.	Transportation cost	30.00	3.59
IV.	Miscellaneous cost	25.00	2.99
3.	Net price received by producer	520.00	62.27
4.	Sale price of producer to wholesaler	620.00	74.24
	Cost incurred by wholesaler		
I.	Market fee (2.5%)	15.05	1.80
II.	Transportation cost	20.00	2.39
III.	Storage cost	15.00	1.79
IV.	Labour charges	10.00	1.19
V.	Losses, wastage cost	10.00	1.19
VI.	Miscellaneous expenses	15.00	1.79
VII.	Total cost incurred by wholesaler	85.05	10.18
5.	Wholesaler's margin	30.00	3.59
6.	Sale price of wholesaler to retailer	735.05	88.26
	Cost Incurred by retailer		
I.	Transportation cost	20.00	2.39
II.	Labour	15.00	1.70
III.	Packing cost	15.00	1.79
IV.	Loss, wastage and spoilage @ 2.50%	10.00	1.19
V.	Miscellaneous cost	10.00	1.19
7.	Total cost incurred by retailer	70.00	8.38
8.	Margin of retailer	30.00	3.68
9.	Retailer's sale price/consumer's purchase price	835.05	100
10.	Price spread	315.05	
11.	Producer share in consumer rupee	62.27	
12.	Marketing efficiency	3.27	

Table 3 reveals that marketing cost, marketing margin, and price spread for channel-III is important because lots of farms i.e., 62.27 per cent of growers preferring sale of their produce through this channel. Two intermediaries were identified through which brinjal reaches to the consumer's i.e., commission agents, Retailers. This is identified as the longest channel. The producer sells his produce to the wholesaler, who in turn sells it to retailers in the market. Finally, the produce reaches to consumers after collecting margin. Average marketing cost when producers sold their produce to wholesaler in the market was Rs.620.00/qtl. Among these Among these cost of gunny bag Rs.25/qtl, Grading, Filling, Stitching, etc was Rs.20.00/qtl, loading and transportation cost. Rs.30.00/qtl, and Miscellaneous cost Rs.25/qtl. The net price received by the producer was Rs.520.00/qtl. Sale price of the producer to wholesaler was Rs. 520.00/qtl respectively.

In these channel marketing cost of the producer, commission agents and retailers were 12.97 per cent, 10.18 percent and 8.38 percent of consumers paid price respectively. The commission agent margin was estimated to be 3.59 per cent and the retailer's margin was 3.59 per cent of the consumer paid price. Producer share in consumer price was 62.27 per cent respectively. Price spread was Rs.315.05/qtl in different size of farms groups. The marketing efficiency is 3.27 per cent and it is low compared to the channel I and II.

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Table 4: Estimation Total Marketing Cost and Marketing Margin in different Size of Farms Group

S.No.	Particulars	Channel I	Channel II	Channel III
1.	Total marketing cost	160.00	190.00	255.05
2.	Total marketing margins	00.00	30.00	60.00
3.	Price spread	160.00	220.00	315.05
4.	Producer share in consumer rupee in per cent	75.38	82.35	62.27
5.	Marketing efficiency in percent	4.06	4.10	3.27

Table 4. reveals that total marketing cost, marketing margin, price spread, Producers share in consumer rupee and marketing efficiency in the marketing channels. The total market Cost was higher in channel III (Rs 255.05) compared to channel II (Rs. 190.00) and channel I (Rs. 160.00). And the total marketing margin and price spread was also seen higher in channel III (Rs.60.00 and Rs.315.05) because in the channel III there are two intermediates where as in the channel II there is only one intermediate. The producer share in consumer rupee was higher in channel II, 82.35 percent respectively.

V. CONCLUSION

The main purpose of this chapter is to summarize the results of the present research work carried out and draw useful conclusions on the basis of these results and also to make suitable recommendations.According to the study. the meteorological conditions in the study location. Meja Block in the Prayagraj district, were favourable for the production of brinjals. Most producers were aware of the brinjal production. Producers maintain positive relationships with the local traders, wholesalers, retailers as well. Additionally, it was discovered that the socio-economic status of the producers is quite important when it comes to brinjal output. To identify key obstacles and potential for the creation of effective marketing systems, the study examined three brinjal marketing channels. Marketing cost, marketing margin, price spread, marketing efficiency, net price received by the producer and producers share in consumer rupee for brinjal were all significantly impacted by the marketing channels.Following MC1, MC2 andMC3. marketing channelMC1 had significantly higher retailer's sale price, total marketing cost, total marketing margins, price spread and marketing system for brinjal. The findings unmistakably show that as the price received by the farmer in brinjal marketing channels are producer share in consumer rupee and marketing efficiency all considerably decreased. The most significant element impacting marketing effectiveness and producer share in consumer pricing, aside from net price of producer. marketing loss, and marketing margin of intermediaries, was the marketing cost. The another most important factor affecting the cost of brinjal marketing was the commission that producers, retailers, and wholesalers paid to commission agents. Brinjal production is more profitable in large farms as compared to medium size farms and smallsize farms. The study indicated that there is scope to increase the producer's share in consumer's rupee by making the market more effective so that the number of intermediaries is to be restricted and marketing costs of marketing margins reduced.

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