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A Comparative Analysis of Marketing Efficiency of Vegetables in Organized Collection Centres and Traditional Channels with Respect to Select Vegetables in Ranga Reddy District of Telangana

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ABSTRACT: Though, India is the leading producer of vegetables, producer's share in consumer rupee was very less because of number of intermediaries involved in the marketing channel. In order to provide remunerative price to farmers, there is a need to identify an alternative marketing channel with increased marketing efficiency. Hence, this study was proposed to identify the best alternative marketing channel in comparison with traditional marketing channel. Ex-post facto research design has been adopted for the study. In Telangana, Ranga Reddy district, 60 farmers supplying to organized retail collection centers and 60 farmers selling through traditional marketing channels; thus, a total of 120 farmers have been selected as respondents for the study. The major vegetables cultivated in Ranga Reddy district were selected which includes Tomato, Brinjal and Cluster beans respectively. With the help of a pre-tested questionnaire, the data was gathered from the respondents and tabulated and analyzed with suitable statistical measures. From the findings, it was understood that the marketing efficiency for organized retail collection centre was higher than traditional marketing channel, as there were no middlemen involved in the marketing of produce. In addition to this, there is a significant different between the traditional marketing channel and the organized retail collection centre as selling produce in organized retail collection centre reduces the risk involved in selling of produce and the farmers were able to sell their produce within 1 hour of harvest at their nearest collection centre. Despite of long distance, farmers who had more land preferred to sell their produce in traditional market than organized retail collection centre. While, as a student researcher, time and money constraints limited the selection of vegetables (only three) and organized collection centres of Ranga Reddy district. Hence, an in-depth study on the status of organized collection centres in improving the marketing efficiency and livelihood of farmers in Telangana can be studied.

Keywords: Organized retail collection centre, Traditional marketing channel, Supply chain management, Vegetable marketing, Marketing efficiency, Producer's share.

INTRODUCTION

Vegetables play a vital role in human health by providing essential nutrients, vitamins and minerals to the human body through diet. India produces 10 per cent of the total vegetable production in the World and secures second rank in vegetable production. During 2021, India produced 197.23 million metric tonnes of vegetables under 10.93 million hectares (Indiastat, 2021). Thus, vegetable production provides a promising economic opportunity to increase the living standards of farmers, reducing the poverty of poor, increasing rural youth employment and plays a major role in farm diversification. Indian Council of Medical Research (ICMR) recommends consumption of 300 grams of vegetables per capita per day in human diet ensures good health, but the availability of vegetables among consumers is limited because of high post-harvest losses and increased price of vegetables. Meanwhile, WHO (2020) pointed out that, around the world, majority of deaths in a year are because of lack of fruit and vegetable consumption.

Telangana is one of the major vegetable producing states of India. The total area under vegetable production is 3.52 Lakh acres which produces 30.77 Lakh Metric Tonnes of vegetables. While, the major vegetable producing districts of Telangana are

Rangareddy, Sangareddy, Siddipet, Vikrabad, Jogulamaba and Gadwal. Among the major vegetable production districts of Telangana, Rangareddy is the leading producer of vegetables which produces 608986 metric tonnes of production under 59012 acres during the year 2020 (Department of Horticulture, Government of Telangana, 2019-2020). After the corona pandemic, there are lot of changes in the marketing channels of vegetables than earlier times. Retailing is a new and fast growing sector in Indian economy where traditional markets are also get transformed into new formats such as super markets, departmental stores, hypermarkets and specialty stores (Mahmadoseb, 2011).

Shrestha (2008) rightly pointed out that middlemen earns 50 per cent profit margin than the small vegetable growers of Yampaphant of Nepal because of their inexperience in marketing. Similar studies by Sidhu *et al.* (2010) concluded that emerging supply chain (2.35) has high marketing efficiency for okra than the traditional marketing channel (2.15) as there was less number of intermediaries involved. Simultaneously, Jitender (2011) reported that direct procurement of fresh fruits and vegetables by Mother Dairy procurement centres offers better prices than the marketing committee of the nearest market; while reducing the waste by 7 per cent and improving the efficiency by more than 17 per cent. As a result of SWOT analysis by Sayin *et al.* (2011), it was found that producers earn less due to cutbacks and consumers pay high because of procurement and transfer expenses. Trade with a familiar person due to trust issues was the most important determining marketing factor among Sweet Pepper farmers in Thailand (Schipmann and Qaim 2011). Further, supermarket channel provides high net price to producer's and the producer's share in consumer's rupee was higher than the traditional channel (Aparna and Hanumantaiah 2012).

Simultaneously, modern retail procurement facilitates quicker profit realization among farmers (Raju, 2013). While, Athalye *et al.* (2013) commented that no middlemen support policy of super market smoothens the flow of goods. In addition to this, Dastagiri *et al.* (2013) identified that marketing efficiency and producer's share in consumer rupee for vegetables was highest in Punjab, Tamil Nadu and Manipur because of direct marketing channels. Meanwhile, the horticultural farmers of Haryana receives more returns under emerging marketing channel than the traditional marketing channel (Tuteja and Chandra 2014). Bisen *et al*. (2018) revealed that the modern supply chain for fruits and vegetables (1.06) was more efficient than the traditional supply chain for both the fruits and vegetables (0.77); since it shortens the length of the supply chain and physical losses. Priyadarshana and Vidhanapthirana (2018) evaluated the marketing channel of vegetables among the super markets in Sri Lanka and reported that supermarkets pay higher prices at farm level and reduce the post harvest losses significantly; thus, it leads to increased marketing efficiency between producers and buyers when organized. Reducing the wastage, direct supply of products to store, reduction in inventory cost and independent of wholesalers or middlemen were the advantages in modern food retail chain of fruits and vegetables in Karnataka (Vishnu and Kumar 2019).

While Chandra *et al.* (2020) commented that high prices for the crop and avoiding intermediaries were of greater advantages in supermarkets to farmers. Nedumaran *et al.* (2020) examined the digital integration to enhance market efficiency and reported that small and marginal farmers receive a very minimal share in consumer rupee due to market uncertainity, high post harvest loss, information asymmetry, lack of processing facilities and the erratic demand supply situation. In addition to this, Barwal *et al.* (2022) studied the marketing channel and marketing efficiency of capsicum in mid-hills of Himachal Pradesh and reported that out of four major marketing channels in the Himachal Pradesh, the price spread is low in channel –A (producer- consumer), consumer's rupee and marketing efficiency (70.28) is high in channel- A; since it directly connects the consumers with the farmers.

Statement of the problem. Though, India is the leading producer of vegetables, increased post-harvest losses; increase the price of vegetables and questions the availability of the vegetables among the common man. Simultaneously, the middlemen involved in the marketing of vegetables are another factor which increases the prices of vegetables. Hence, enough care should be taken during post-harvest management and marketing practices. In addition to this, the price realized by the Indian farmers is generally one-sixth of the consumer's price. So, there is a need to understand the marketing margin and marketing efficiency of organized retail collection centres and traditional marketing channel to know the farmer's preference among them. With this context, the following objectives were formulated;

— To compare the marketing efficiency of organized collection centres vs. traditional channels of selected vegetables in Ranga Reddy district

— To know the farmer's preference among organized collection centre and traditional marketing channel.

MATERIAL AND METHODS

Ex-post facto research design has been adopted for the study. In Telangana, Ranga Reddy district was selected purposively, since this district consists of major area under vegetable production in Telangana. In Ranga Reddy district of Telangana, 60 farmers supplying to organized retail collection centers and 60 farmers selling through traditional marketing channels. Thus, a total of 120 farmers have been selected as respondents for the study. The major vegetables cultivated in Ranga Redddy district were selected to study the procurement pattern and marketing efficiency. The selected vegetables were Tomato, Brinjal and Cluster beans

respectively. A pre-tested questionnaire was developed to collect primary data from the farmers. Meanwhile, the secondary data regarding the area under the crops, district level or mandal level statistics etc will be collected from reports, records, journals, newsletters etc. The data collected from the respondents were tabulated, categorised, analysed with suitable statistical tools.

RESULTS AND DISCUSSION

The marketing cost incurred by the farmers in the organized retail collection centre and traditional marketing channel is presented in Table 1.

Table 1: Marketing cost incurred by the farmers in organized collection centre and traditional marketing channel.

Sr. No.	Particulars	Average Rs. / quintal	
		Organized retail collection centre	Traditional marketing channel
1.	Grading	100	60
2.	Transportation charges	59.83	300
3.	Loading and unloading charges	33.33	60
4.	Commission charges	39.32	100
5.	Packing material and labour packing cost	12.8	0
6.	Hamali charges	0	10
Total cost		**245.28**	**530**

From Table 1, the marketing cost incurred by the farmers in organized retail collection centre and traditional marketing channel can be understood. In organized retail collection centre, the amount paid by the farmers for grading was found to be Rs. 100/qtl. While, Rs. 59.83/qtl as transportation charges, Rs. 33.33/qtl as loading and unloading charges, Rs. 39.32/qtl as commission charges and Rs. 12./qtl as packing material and labour packing cost. Thus, the marketing cost paid by the farmer in organized retail collection center was Rs. 245.28 per quintal. While, in traditional marketing channel, the amount paid by the farmers for grading was Rs. 60/qtl. While, the transportation charges was Rs. 300/qtl, the loading and unloading charges was Rs. 60/qtl, the hamali charges was Rs. 10/qtl and the commission charges was Rs. 100/qtl. Thus, the total marketing cost incurred by the farmers in organized retail collection centre was Rs. 530/qtl.

The marketing margin incurred by the farmers in the organized retail collection centre and traditional marketing channel is presented in Table 2.

Table 2: Marketing margins incurred by the farmers in organized collection centre and traditional marketing channel.

S. No.	Particulars	Average Rs. / quintal	
		Organized retail collection centre	Traditional marketing channel
1.	Tomato	715.96	820
2.	Bottle guard	625.00	750
3..	Brinjal	608.29	710
4.	Okra	669.30	770
5.	Carrot	641.67	750
6.	Beetroot	655.56	775
7.	Cluster bean	775.00	875

From Table 2, the marketing margin incurred by the farmers for various vegetables in organized retail collection center and traditional marketing channel can be observed. In organized retail collection centre, the marketing margin for tomato was found to be Rs. 715.96 /qtl, Rs. 625/qtl for bottle guard, Rs. 608.29/qtl for brinjal, Rs. 669.30/qtl for okra, Rs. 641.67/qtl for carrot, Rs. 655.56/qtl for beetroot and Rs. 775/qtl for cluster bean respectively. While, in traditional marketing channel, the marketing margin for tomato was Rs. 820/qtl, Rs. 750/qtl for bottle guard, Rs. 710/qtl for brinjal, Rs. 770/qtl for okra, Rs. 750/qtl for carrot, Rs. 775/qtl for beetroot and Rs. 875/qtl for cluster beans respectively. The findings were in line with the studies of Shrestha (2008).

The marketing efficiency of the organized retail collection centre and traditional marketing channel for the selected vegetables in Ranga Reddy district presented in Table 3.

Table 3: Marketing efficiency of organized retail collection centre and traditional marketing channel for the selected vegetables in Ranga Reddy district.

Sr. No.	Particulars	Average Rs. / quintal	
		Organized retail collection centre	Traditional marketing channel
1	**Tomato**		
i.	Yield	100 kg	100 kg
ii.	Price received by the farmer	17.50 / kg	17.50 / kg
iii.	Net price received by the farmer	1750	1750
iv.	Marketing costs incurred by the farmer (per quintal)	245.28	530
v.	Marketing margin (per quintal)	715.96	820
vi.	Sale price to consumers	Rs. 25.00/kg	Rs. 25.00/kg
vii.	Price spread	7.50	7.50
viii.	Marketing cost	2.45	5.30
ix.	Marketing margin	7.15	8.20
x.	Marketing efficiency	1.82	1.32
xi.	Producer's share in consumer's rupee	70	70
2	**Brinjal**		
i.	Yield	100 kg	100 kg
ii.	Price received by the farmer	Rs.45/kg	Rs.45/kg
iii.	Net price received by the farmer	4500	4500
iv.	Marketing costs incurred by the farmer (per quintal)	245.28	530
v.	Marketing margin (per quintal)	668.29	710
vi.	Sale price to consumers	Rs.60/kg	Rs.60/kg
vii.	Price spread	15	15
viii.	Marketing cost	2.45	5.30
ix.	Marketing margin	6.68	7.10
x.	Marketing efficiency	4.92	3.62
xi.	Producer's share in consumer's rupee	75	75
3	**Cluster beans**		
i.	Yield	100 kg	100 kg
ii.	Price received by the farmer	Rs.61.50/kg	Rs.61.50/kg
iii.	Net price received by the farmer	6150	6150
iv.	Marketing costs incurred by the farmer (per quintal)	245.28	530
v.	Marketing margin (per quintal)	655.56	875
vi.	Sale price to consumers	Rs.83/kg	Rs.83/kg
vii.	Price spread	21.50	21.50
viii.	Marketing cost	2.45	5.30
ix.	Marketing margin	6.55	8.75
x.	Marketing efficiency	6.82	4.37
xi.	Producer's share in consumer's rupee	74	74

Table 3 indicates the marketing efficiency of vegetables in organized retail collection centres and traditional marketing channel by assuming the yield of 100kgs. In organized retail collection centre; the marketing costs incurred by the farmers for tomato was Rs. 245.28/qtl, marketing margin was Rs. 715.96/qtl and thus, indicates the marketing efficiency of 1.82. While, the price spread was found to be 7.50 and the producer's share in consumer's rupee was 70. Similarly for brinjal, the marketing cost was Rs. 245.28/qtl, the marketing margin was Rs. 668.29/qtl and thus, indicates the marketing efficiency of 4.92. Whereas, the price spread was found to be 15 and the producer's share in consumer's rupee was 75. Eventually, for cluster beans, the marketing costs, the marketing margin and the marketing efficiency was found to be Rs. 245.28/qtl, Rs. 655.56/qtl and 6.82 respectively. Hence, the price spread was 21.50 and the producer's share in consumer's rupee was 74. It was evident that marketing efficiency was high for cluster bean (6.82), brinjal (4.92) and tomato (1.82).

In traditional marketing channel; for tomato, the marketing cost, the marketing margin and the marketing efficiency was found to be Rs. 530/qtl, Rs. 820/qtl and 1.32. While, the price spread was 7.50 and the producer's share in consumer rupee was 70. For brinjal, the marketing cost, the marketing margin and the marketing efficiency paid by the farmers was found to be Rs. 530/qtl, Rs. 710/qtl and 3.62. Thus, the price spread was 15 and the producer's share in consumer's rupee was 75. For cluster beans, Rs. 530/qtl, Rs. 875/qtl and 4.37 was the marketing costs, marketing margin and the marketing efficiency of cluster beans respectively. The findings were in accordance with the studies of Bisen *et al*. (2018); Priyadarshana and Vidhanpthriana (2018); Nedumaran *et al.* (2020); Barwal *et al.* (2022).

The farmer's preference over traditional marketing channel and organized retail collection centres in Ranga Reddy district can be understood from the following Table 4.

Table 4: Relationship between traditional marketing channel and organized retail collection centres in Ranga Reddy district.

Chi-square tests	Value	Df	Asymp. Sig. (2- sided)
Pearson Chi-square	2.800E2	64	0.000
Likelihood Ratio	81.339	64	0.071
N of Valid Cases	35		

From Table 4, it can be observed that the p-value is 0.000 (<0.05) lesser than the alpha level; which depicts that null hypothesis is rejected and acceptance of alternate hypothesis. The alternate hypothesis states that, there is a significant difference between the traditional marketing channel and the organized retail collection centres. As the farmers can sell their produce in the nearest organized retail collection centre within one hour of harvest and get payment earlier than traditional marketing channel; majority of the farmers preferred organized retail collection centre than the traditional marketing channel.

Most of the farmers prefer organized retail collection centre since the marketing efficiency of vegetables is higher as there is no involvement of middlemen. Meanwhile, farmers those who had good relationship with the commission agents of traditional marketing channel, prefers traditional marketing channel. While, farmers with larger land holding prefers traditional marketing channel, as the commission will be less for large quantity of produce and easy handling and selling of produce. The findings were supported by similar studies of Bisen *et al.* (2018); Priyadarshana and Vidhanpthriana (2018); Nedumaran *et al.* (2020); Barwal *et al.* (2022).

CONCLUSIONS

Based on the findings of the study, it can be concluded that, there is a significant different between the traditional marketing channel and the organized retail collection centre. The marketing efficiency for organized retail collection centre was higher than traditional marketing channel, as there were no middlemen involved in the marketing of produce. In addition to this, selling produce in organized retail collection centre reduces the risk involved in selling of produce and the farmers were able to sell their produce within 1 hour of harvest at their nearest collection centre. Despite of long distance, farmers who had more land preferred to sell their produce in traditional market than organized retail collection centre.

FUTURE SCOPE

In this digitalized era, everything is getting digitalized and updated. Hence, farmers should get updated with new marketing channels which do not involve intermediaries. Not only avoiding of intermediaries, emerging market channels ensures assured market price for crops, reduce inventory cost, storage cost, transportation costs; while, farmers can learn about new technologies and practices. Hence, more in-depth studies towards emerging marketing channels and the strategies, monitoring, legislation and standardization of rules should be taken care.

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Conflict of Interest. None.

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