RESEARCH ARTICLE

Study on Marketing Behavior of '*Uzhavar Sandhai*' Vegetable Farmers During Covid 19 in Coimbatore District of Tamil Nadu

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ABSTRACT

During the Covid 19 disaster and lockdown imposed by the Government, farmers found it difficult to harvest, transport, and market their farm produce and sell at competitive prices. Vegetables being highly perishable required immediate marketing. 'Uzhavar 'Sandhai' (Farmer's market) was one of the main channels for selling fresh vegetables directly to consumers. The present study was conducted to understand the marketing behaviour of vegetable farmers and identify the major constraints faced in marketing their farm produce during Covid 19 in two Uzhavar Sandhai in Coimbatore district of Tamil Nadu. A sample of 50 sellers was selected based on simple random sampling method. The results revealed medium level of overall marketing behavior among vegetable farmers in 'Uzhavar 'Sandhai' during Covid 19 pandemic situation. The lack of transportation facilities and non-availability of buyers visiting the Sandhai were the significant constraints faced by vegetable farmers. The study also found the need for grading-based fixed prices for the vegetables sold in 'Uzhavar Sandhai'.

Key words: *Covid; Uzhavar Sandhai; Marketing behavior; Vegetables*

INTRODUCTION

The diverse climate of India guarantees that all types of veggies are cultivated. According to the National Horticulture Board, India produced 191.77 million metric tonnes of vegetables in 2019-20. The total area under vegetable cultivation was 10.35 million hectares. India is the world's largest producer of ginger and okra among vegetables (FAO, 2019. Tamil Nadu accounts for about 3.9 per cent of India's vegetable production. The Coimbatore region is well suited for growing vegetable crops such as tomatoes, brinjal, and onions. Direct marketing of vegetable produce to consumers by farmers takes place through 'Uzhavar 'Sandhai' which was launched in 1999 in Tamil Nadu. These Sandhai provide fresh fruits and vegetables at a lower price, which benefits both farmers and consumers. The advent of corona virus caused an epidemic of "COVID-19" that in turn had affected marketing in Uzhavar Sandhai. Due to the Covid situation, the risk of vegetable marketing existed, farmers had lost their profits, faced a shortage of buyers visiting the market and marketing was also affected by the lack of transport.

Marketing behavior refers to the ability or inclination of each farmer to identify the market's tendency to sell the product for more profit. It is necessary for the farmers always to be aware of their marketing behavior since the vegetables are easily damaged in an environment that needs immediate marketing.

This article aims to study the overall marketing performance and challenges Uzhavar Sandhai vegetable farmers face during the Covid 19 crisis in marketing their produce. The objectives were to study the marketing behavior of Uzhavar Sandhai vegetable farmers during Covid 19 crisis, identify the constraints faced by Uzhavar Sandhai vegetable farmers during the crisis.

MATERIAL AND METHODS

In Coimbatore district, seven 'Uzhavar 'Sandhai' were located at Sundarapuram, R.S. Puram, Singanallur, Pollachi, Sulur, Vadavalli and Mettupalayam. Among these, R.S. Puram and Vadavalli Sandhai were purposively selected for this study. R.S. Puram Uzhavar Sandhai is the biggest with nearly 175 stalls with an average arrival of 155 farmers per day. Vadavalli is a small one having 55 farmer stalls with an average presence of 45 farmers per day. A sample of 50 Vegetable farmers was selected from the two 'farmer's markets situated at R.S. Puram and Vadavalli based on random sampling method.

The data was collected through a well-structured interview schedule and analyzed by employing suitable statistical tools. Arithmetic mean, Standard deviation, Frequency and percentage were used to find out the overall marketing behaviour. The simple correlation coefficient and Multiple regression

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analysis were used to find out the correlation between the independent variables and marketing behavior to know the degree of association between the variables and find out the functional relationship between independent variables and marketing behavior, respectively. Garrett ranking method was used to identify the constraints faced by vegetable farmers of Uzhavar Sandhai during the pandemic.

Marketing behavior is the dependent variable in this study. The responses were obtained about the marketing behavior of the vegetable farmers in Uzhavar Sandhai based on the marketing aspects like time of sale, reasons for selling at a particular place, place of selling, grading and weighing, market price, transport mode, selling behavior and packing methods were selected and results are presented. To assess the marketing behaviour, the scale followed by Santhoshkumar (2008) was used with little modifications. On the basis of these responses, respondents were classified into low, medium and high categories to find out the overall marketing behavior.

RESULTS AND DISCUSSION

Marketing Behaviour

To understand the marketing performance of vegetable growers, the following marketing perspectives were studied and the results are presented in Table 1.

Time of sale

During the time of sale, almost all farmers (100%) preferred to sell their farm produce immediately after harvest as vegetable production be deteriorating in the environment with declining prices. Due to Covid period, about 52 per cent of farmers were able to sell their produce only after initial storage. Over being small and medium farmers, they intend to sell their produce to meet their economic needs.

Reason for selling at particular place

From Table 1, it is found that almost 74 per cent of farmers sold their produce at Uzhavar Sandhai during Covid, as they felt satisfied with the available prices in the market for their farm produce and also faced no problem of losing the price for their produce by selling it through commission agents. About 36 per cent of farmers felt that the market facilities available in the farmer market are better even during the time of lockdown. It is found that 20 per cent of the respondents sold their produce in 'farmer's market due to the ease of transportation followed by respondents who preferred Uzhavar sandhai because of its nearness (16%).

Table 1. Distribution of Respondents according to their Marketing Behaviour

(n = 50*)

S.no	Marketing Behaviour	Respondents	
		Number	Percentage (%)
1	**Time of sale**		
	Immediately after harvest	50	100
	After initial storage	26	52
	When the price is high	0	-
2.	**Reasons for selling at a particular place**		
	Market is very near	8	16
	Better transport facilities are available	10	20
	Better prices are available in the market	37	74
	Better market facilities are available in the market	18	36
3.	**Place of selling**		
	Village	24	48
	Nearby bazaars	6	12
	Regulated markets	6	12
	Uzhavar Sandhai	38	76
4.	**Grading and weighing**		
	Always	35	70
	Sometimes	19	38
	Never	0	-
5.	**Market price**		
	Satisfied	41	82
	Not satisfied	9	18
6.	**Packing methods**		
	Appropriate	47	94
	Inappropriate	1	2
7.	**Selling behaviour**		
	Directly to the consumers	49	98
	To the wholesaler through commission agents	6	12
8.	**Mode of transport**		
	Own transport	19	38
	For rent	31	62

*multiple responses obtained

Place of selling

It was found that more than half (76%) of the respondents sold their produce at the Uzhavar Sandhai market mainly due to better services available and prices were also very satisfactory. About 48 per cent of respondents sold their produce in their villages because there was no transportation. Farmers also sold their produce at regulated markets (12%) or in nearby bazaars to sell their produce entirely. This is mainly done by

farmers with more land area who cannot sell their produce completely through Uzhavar Sandhai. But it has been observed through the collection of data that many farmers, even during the Corona period, were able to entirely sell their vegetables by utilizing the 'farmers' market.

Grading and Weighing

From table 1, regarding grading and weighing, about 70 per cent of respondents said that the measurement was done regularly and one third (38%) said that in Covid time, the installation was done only once since the product was taken together from Sandhai to one place by car or through bikes as they sell only few kilograms of a particular vegetable.

Market price

It is found that 82 per cent of farmers were satisfied with the market rate i.e., the availability of the rational price for their produce was satisfactory because these farmers were able to make a profit or at least sell the produce completely without any loss. All farmers were satisfied with the price fixed by Sandhai officials. They feel satisfied because by selling at Uzhavar Sandhai they can at least prevent the losses that could occur by way of commission when selling in other trade-related markets. Only 18 per cent of respondents were dissatisfied with the price level set by the vegetable market during the covid period because they felt the rates were too low.

Packing methods

From table 1, regarding the packing methods used, about 94 per cent of respondents in this study used appropriate methods to pack the vegetables they brought to 'Uzhavar Sandhai'. They used gunny bags and plastic boxes. Only two per cent have improper packaging and this happened with farmers for whom the market was close or if they bought few or lesser quantity of vegetables to 'Sandhai's for sales.

Selling behavior

About 98 per cent of the respondents sold their produce during Covid by coming directly to Uzhavar Sandhai by mobile vans and sold their produce locally. Their produce was sold directly to the consumers without intermediaries. Approximately 12 per cent of people sold their produce at bulk markets due to the unavailability of nearby markets or due to non-availability of mobile vans to reach their desired destinations, or when the harvested produce was inadequate.

Mode of transport

Covid almost damaged the mode of transport. Due to the unavailability of buses, farmers faced great difficulty in bringing their produce to the markets. 62 per cent of farmers came through rental vehicles. Farmers put themselves at greater risk of coming to market during the Covid epidemic as the vehicle rental cost also increased during the covid season. But almost 38 per cent of farmers used their vehicles to come over to the market.

Overall Marketing Behaviour

These responses were obtained from respondents on eight marketing aspects: time of sale, reasons for selling at a particular place, place of selling, grading and weighing, market price, transport mode, selling behavior and packing methods. The total score for all eight items gave the overall marketing behavior score of any individual. Based on the total score obtained by the respondents, the following categories of marketing behavior were presented with the help of mean and standard deviation values.

Table 2. Distribution of respondents according to their overall marketing behavior

(n=50)

Overall marketing behavior	Respondents	
	Number	Per cent
Low (<17)	13	26
Medium (17 – 24)	31	62
High (>24)	6	12

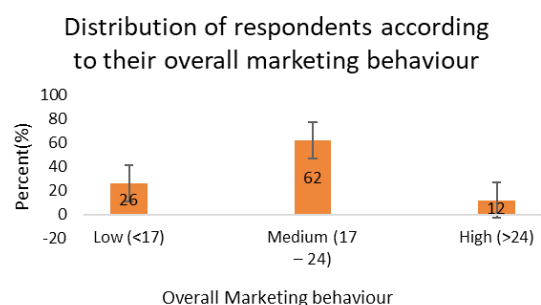Distribution of respondents according to their overall marketing behaviour

Figure 1. Distibution of Vegetable farmers according to their Overall Marketing Behavior during Covid - 19

From Table 2, it was found that 62 per cent of respondents had expressed a moderate level of marketing behavior followed by one-fourth of respondents with a low level and about 12 per cent of respondents with a high level of marketing behavior. Therefore, the marketing behavior of vegetable growers during the Covid period was at a moderate level and this may be due to the fact that farmers were satisfied with the price set for their produce in the market. Although there was a risk in transport, they tried to sell their produce through Uzhavar Sandhai to enjoy a relative advantage in terms of better price for their produce. With the right market facilities, they could sell their produce directly to consumers. Farmers also try not to waste their produce, cultivated in their farms partially, and try to sell the produce completely in the market so as

not to affect the marketing. It has also been found that there is no adverse effect on the marketing of vegetables exhibited by the farmers during Covid 19. The current study is consistent with the results of Kriti Rai (2018), Rajkal *et al*. (2020) and Sonare Rashmita *et al*. (2020).

Association of profile characteristics of Vegetable farmers of Uzhavar Sandhai with their marketing behavior

Table 3. Correlation and multiple regression analysis between the profile characteristics and marketing behavior of vegetable farmers

(n=50)

Variable number	Independent variables	Correlation (r) values	Regression coefficient	Std. Error	't' values
X_1	Age	-.064[NS]	-.052	.830	-.463[NS]
X_2	Educational Status	.264[NS]	-.068	.582	-.540[NS]
X_3	Occupation	.429**	.268	1.189	2.106*
X_4	Total landholding	.546**	.492	1.039	2.659*
X_5	Farming experience	.506**	.357	.050	2.865**
X_6	Annual income	.106[NS]	-.247	.059	-1.578[NS]
X_7	Extension contact	-.242[NS]	-.068	.851	-.622[NS]

*: Significant at 0.05 (5%) level of probability
**: Significant at 0.01 (1%) level of probability
NS: Non-significant
R^2 = 0.540

It could be seen from table 3 based on correlation co-efficient between the independent and the dependent variable, three independent variables *viz*., Occupation(X_3), Total land holdings(X_4), Farming experience(X_5), were found to have a positive and significant association with dependent variable (marketing behaviour of vegetable farmers) at 1 per cent level of significance and the variables educational status(X_2) and annual income(X_6) were positively correlated and had a non-significant relationship with the dependent variable marketing behavior. The variables age(X_1) and extension contact (X_7) was negatively correlated and had non-significant relationship with the dependent variable marketing behavior.

The '''R^2' value of 0.540 depicted that all the selected seven independent variables put together explained about 54.00 per cent of the variation in the marketing behavior of the vegetable farmers in Uzhavar Sandhai. Table 3 further revealed that the independent variables *viz*., occupation, total landholdings and farming experience were found to be positively significant as evident from their significant '''t' values. The independent variables like age, educational status, annual income and extension contact were found to be negatively significant with the marketing behavior

of the vegetable farmers. This implied that the variables occupation, total landholdings and farming experience had contributed to this variation in the marketing behavior of vegetable farmers. More the farming experience gives more the knowledge on marketing their produce. Since most of them were small and marginal farmers, they could sell their produce with whatever they cultivated in their lands and make out a profit or reduce their losses. The variables farming experience, occupation and total land holdings are significant with the marketing behavior and contribute to the variation in the marketing behavior of vegetable farmers.

Constraints faced by vegetable farmers in marketing during Covid 19

A list of five predominant marketing problems faced by farmers during Covid 19 was identified and given to the vegetable farmers in Uzhavar Sandhai for ranking. The relevant data were obtained and the results are tabulated in Table 4.

Table 4. Ranking of marketing Problems

(n=50)

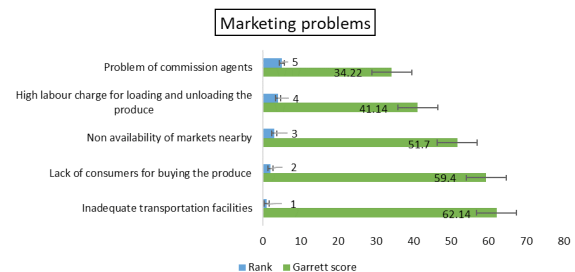| Marketing problems	Garrett score	Rank
Inadequate transportation facilities	62.14	1
Lack of consumers for buying the produce	59.4	2
Non availability of markets nearby	51.7	3
High labour charge for loading and unloading the produce	41.14	4
Problem of commission agents	34.22	5

Figure 2. Constraints faced by Vegetable farmers in marketing during Covid - 19

From the Table 4, it is revealed that with a Garrett score of 62.14 and Rank 1, 'inadequate transport facilities' were the major problem faced by the farmers of Uzhavar Sandhai because of the non-availability of buses at free of charge. Since most of the farmers in Uzhavar Sandhai come from distant villages, they faced difficulty in transportation since there was a restriction of movement of vehicles due to lockdown. So, farmers grouped themselves into 3 or 4 and hired a tempo for rent to sell their farm produce in Sandhai. This made them spend at least Rs 300 for their one time of transportation. With a 59.4 Garrett score lack of consumers for buying the product was the second major constraint faced by

the farmers. Due to corona, the consumer arrival to market was very less and farmers faced difficulty in selling their produce that they brought to the market. Because of this, farmers faced huge loss and this impact is still continuing. The next important problem perceived was the non-availability of markets nearby. This is due the lack of transportation facility and closure of markets for two months during Corona and farmers were not able to sell their produce completely and were dependent on this market. The 4th rank was for the high labour charge for loading and unloading the farm produce. The farmers who used two-wheeler were not affected much but farmers who bought their produce in hired vehicles needed labour mainly to unload their produce. The charge for unloading increased by two-fold than earlier. Last rank was assigned to the problem of the commission agents. Even during Covid people mostly depended on direct marketing and based on the demand only. Farmers also left land barren without cultivating. This helped them to market their vegetables mostly without making much wastage and marketing through Uzhavar sandhai prevented middlemen or commission agents from siphoning their profit.

CONCLUSION

COVID-19 is an unexpected and unprecedented challenge for all sectors of economy throughout the world. One among the major affected sector is Agriculture. It can be concluded from the above discussion that the vegetable farmers of Uzhavar Sandhai experienced a medium level (62%) of overall marketing behaviour during Covid. This study also attempted to find the major constraints for the vegetable farmers in marketing, as the lack of transportation facility followed by the less of consumers visiting the market for buying. It is also understood that the independent variables namely the occupation, total landholdings and the farming experience, had significant relationship with the marketing behaviour. The need of the hour is that the government should develop direct selling markets at the village level so that fresh produces can reach hand in hand to the consumers who are in and around and prevent wastage of the produce.

Ethics statement

No specific permits were required for the described field studies because no human or animal subjects were involved in this research.

Originality and plagiarism

We assure that we have written and submitted only entirely original works.

Consent for publication

All the authors are agreed to publish this research article.

Competing interests

There were no conflict of interest in the publication of this content

Data availability

All the data of this manuscript are included in the MS. No separate external data source is required. If anything is required from the MS, certainly, this will be extended by communicating with the corresponding author through corresponding official mail: gayathriponnusamy97@gmail.com

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