

# Impact Assessment of Vegetable Markets on the Socio-Economic Status of Vegetable Farmers in Murshidabad District

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## ABSTRACT

Vegetables play a pivotal role in Indian agriculture by providing food, nutritional and economic security to the people of India with higher returns per unit area to the producers. Vegetable Markets are the transaction places for vegetable products. A large number of rural vegetable producers directly depend on the vegetable markets for their socio-economic livelihood. The main objectives of the present study are to identify the vegetable farmers' socio-economic profile and assess the impact of the vegetable markets on the socio-economic status of the farmers. In this study, the transaction of vegetables through different marketing channels and the market margin of the vegetable producer-sellers in the transaction of vegetable products has also been assessed. The study is based on both primary and secondary sources of data. For the primary data collection, a multi-stage sampling technique has been applied. The study concludes that vegetable markets positively impact the farmers' socio-economic development.

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## Introduction

Vegetables play a pivotal role in Indian agriculture by providing food, nutritional and economic security to the people of India with higher returns per unit area to the producers. In addition, vegetables have higher productivity and shorter maturity cycles, leading to higher returns per unit area and time. Worldwide, India holds the second position by contributing 15.70 and 14.50 per cent to the global vegetable area and production, respectively (Abraham et al. 2010). Our country's vegetable production is threatened by land fragmentation, climate change, decreasing natural resources, and uneven growth (Das 2015). In the Murshidabad district, 90 per cent of the estimated people live in rural areas and depend on agriculture for their livelihoods (Khatun & Roy 2012). This sector contributes 13.79 per cent to the gross state domestic product (GSDP). Vegetables play a crucial role in the human diet due to the number of vitamins, carbohydrates, fat, protein, and mineral substances they contain (Goswami et al. 2014). Their nutritional advantage is that they offer a high concentration of micronutrients and low contents of calories and fat. Each region grows and consumes different types of vegetables because of ecological and geographical differences, the impact of national consumption culture, and social dimensions associated with the habits the society gained over time. Because of its ecological advantages, Murshidabad is a district rich in vegetables, with more than 30 different types of vegetables (Samanta & Samanta, 2020).

Despite its utility, vegetable cultivation, consumption, and marketing in India remain a relatively neglected aspect. Though India is the second largest country in terms of the production of vegetables in the world, the average per capita intake of vegetables is much below the requirements of a

balanced diet (Maity & Basu, 2008). This is mainly due to severe handicaps associated with producing and marketing vegetables. The production problems include low productivity, traditional cultivation practices, etc. On the marketing side, there are many imperfections and inadequacies; at the same time, the perishable nature of vegetables poses some vital problems in marketing, and traditional and exploitative marketing practices pose some more problems. Some severe problems in marketing vegetables include unfair trade practices by middlemen, price uncertainty, price manipulations, lack of proper transport, storage facilities, etc. (Sen. & Sen. 2012). As a result, Indian vegetable growers are considered to be bad marketers. In this situation, they are forced to accept the price offered by the traders. Though some attempts are made to regulate market practices and develop marketing facilities, a greater part of vegetable marketing remains unorganized and underdeveloped.

Vegetable crops generally are of short duration in nature, and hence their production can make efficient use of land, which also ensures additional employment and income to rural families. If vegetable production is increased, the per marketing in Murshidabad is suffering from different infrastructural, organizational, and functional intersections. It is inefficient and non-remunerative to producers, the sellers. Distress sales, especially in villages, were common during the glut seasons. Small and marginal farmers were adversely affected and were forced to mortgage their surplus to the commission agents to obtain loans when they were distressed. Inadequate infrastructural facilities like all-weather roads and storage, farmers of small size, marketable surplus, non-suitable linkage to the regulated and rural markets from the villages as well as producers, and weak organizations were the significant

factors that prevent the growers from fixing fair prices for their per unit of marketed surplus in the markets. Proper organization of agricultural produce markets will not only remove the ills of agricultural marketing but also help farmers motivated towards higher production and continuance in agriculture.

The exchange of vegetables and agricultural commodities has many socio-economic implications for farmers and traders. In Murshidabad, the informal sector, including vegetable farming, marketing, and allied activities, creates a vast employment opportunity that affects the marginalized section of society's socio-economic subsistence. During the last few decades, Murshidabad area production and vegetables have grown noticeably. Hence there is pressure on the farming, harvesting, marketing, processing, transportation, and manufacturing of vegetable produce, which requires a vast amount of human resources.

Vegetable produces significant commercial importance compared to food grains. It provides high yield and high economic return; it has immense potential and scope for improving the socio-economic condition of deprived and marginalized sections of society. (Mishra D. & Ghadei K., 2015) The production and marketing of vegetables significantly contribute to poverty reduction and overcoming food security. (J. Siva, 2010) Vegetable farmers and traders are vital to any nation's progress and prosperity as they produce and feed society. (Rehman & M. Selveraj, 2013) Hence, there is a need to study the impact of vegetable markets on farmers' and traders' socio-economic livelihood. Vegetable cultivation and marketing increase income and employment and provide a socio-economic development tool for deprived and underprivileged people. (Khan. 2014). Assured vegetable cultivation, efficient post-harvest management, and efficient and effective marketing directly impact the employment generation of the farmers and traders. (Khan et al., 2012) Sustainable vegetable cultivation and marketing have well-established reliability in improving land productivity, employment generation, farmers' and entrepreneurs' economic conditions, and providing food security to the people. (Khoza et al., 2019) Owing to the growing demand for vegetable products and high remuneration, small and large landholding farmers shift towards vegetable cultivation (Khan et al., 2020)

#### Objectives:

The major objectives of the present study are as follows

1. To identify the various marketing channels and movement of the marketed surplus of vegetables through various market agencies.
2. To examine the socio-economic profile of the vegetable farmers in Murshidabad district.
3. To assess the market margin of the vegetable farmers in the transaction of vegetable products.
4. To analyze the impact of vegetable markets on the socio-economic status of the vegetable farmers in the Murshidabad district.

#### Hypothesis

1. There is a significant relationship between vegetable markets and socio-economic status of the farmers

#### Database and Methodology:

The study is based on primary and secondary sources of data. The secondary data sources about the vegetable markets have been collected from the West Bengal Board of Agricultural Marketing, Murshidabad Zilla Regulated Market Committee, District Statistical Handbook, and District Census Handbook. Primary data has been collected through extensive field surveys using a structured questionnaire. In the present study, a multi-stage sampling technique has been used for the primary data collection.

1. At the first stage, sixteen vegetable markets have been selected from different community development blocks of the district based on the accessibility and interior location of the markets.
2. In the second stage, the hinterland region of the vegetable markets has been identified and one village has been selected from each market hinterland region of vegetable markets based on the market arrivals of vegetable products using simple random sampling technique.
3. At the third stage, 30 vegetable farming households has been selected from each selected villages based on the land holding size of the farmers using simple random sampling technique. Therefore, total 480 farming households has been selected for the study.

#### Significance of the Study

Vegetables are increasingly recognized as essential for food and nutrition security. Vegetable production provides a promising economic opportunity for reducing rural poverty and unemployment in the Murshidabad district. Vegetables are humankind's most affordable source of vitamins and minerals for good health. Today, neither the economic nor nutritional power of vegetables is sufficiently realized. To tap the economic power of vegetables, governments must increase their farm productivity investment. In the Murshidabad district, many people are directly and indirectly linked with vegetable cultivation and marketing. So the study is a milestone in knowing the vegetable farmers' socio-economic conditions.

#### Results and Discussion

##### Marketing Channels and Transaction of Vegetables in the vegetable Markets

Table 1 displays the percentage share of the district of Murshidabad's sold excess vegetables via various marketing channels. Seven common marketing channels are found for the transaction of the marketed surplus of vegetables in the study area. The table shows, Channel-IV (Producer-Village Traders-Retailers-Consumers) accounts for the most significant proportion of vegetable transactions (23.5%), followed by Channel-II (Producer-Retailer-Consumer) at 20.35% and Channel-III at 18.5%. Table no. 2 shows among all the market agencies, the proportion of the marketed surplus of all vegetable products sold in local village markets is highest due to the perishable nature of the commodities, except the marketed surplus arrivals of potatoes are highest in the locally regulated markets that are 33.5%. To reduce transportation costs, the small and marginal farmers sell their produce at the local village markets or hats for a reasonable time to reduce the wastage of produce.

### Socio-Economic Profile of the Vegetable Farmers

Table 3 shows the socio-economic and demographic profile of the vegetable growers in the sampled villages in the Murshidabad district. About 87.81 per cent of male vegetable farmers and 12.19 per cent of female vegetable producers. Whereas 68 per cent of male vegetable farmers are married, and 3.9 per cent of females are married. But most of the female vegetable producers' status is a widow. The educational level among vegetable market producers is generally low. Most respondents have an educational level up to the primary level in both age groups.

Among the total respondents, 69.45 per cent are Muslim vegetable growers, 25.18 per cent are Hindu, and the rest of the respondents are from other religions. In terms of caste composition, 68.18 per cent of respondents belong to the Other Backward Castes (OBCs) category, more than 21 per cent from the General category, and 10.95 per cent from Scheduled Caste. The joint family is mainly found in rural areas, about 69.45 per cent of farmers belong to the Joint family, and 30.55 per cent of farmers are from the nuclear family type. The family size is also significant in the vegetable producers' community. About 31 per cent of respondents belong to the range of 4-5 family members. Similarly, 45 per cent of respondents come from above five members of families. The rest of the respondents belong to the above 1-3 members of the family.

Vegetable markets create employment opportunities for the producer-sellers. Figure no. 1 shows that 75% of the respondents are earning 5000 to 10000 per month. So, it is challenging for the vegetable trader to sustain their livelihood. Vegetable traders' business also depends upon the session during the rainy season; they face difficulty very much. They are earning daily basic. So, they have no fixed amount to sustain their livelihood during old age. So, it is the primary duty of the government to give a pension during old age and some compensation during the natural calamity.

### Market Margins and Marketing Costs

The market costs and margin involved between different marketing channels may be taken as an index of the soundness of the marketing set-up of any agricultural produce (Chakraborty K.S., 2001). The market margins involved in the agricultural product transaction directly relate to the socio-economic transformation of vegetable traders. Therefore, in this study, an attempt has been made to access the market margin involved in the transaction of vegetable products. It is evident from table 3 and Figure 3 that the average market margin of the sampled vegetable farmers is 66.25% of the

consumer's price. However, the market margin of the farmers varies from one market to another based on the operational land size of the farmers and the nature of the vegetable products. It is to be mentioned that the average Percentage of transportation charges (7.5%) is significant in the sampled markets, which affects the level of income of the vegetable producer-sellers. To reduce transportation costs, 45% of vegetable producer-sellers use bi-cycle as the mode of transportation to travel the marketplaces (Figure 3). It can also be noted that the transportation cost is high in the vegetable markets like Dhanipur, Jemo Bazar, Sagardighi, Hasanpur, Gofurpur-Boraaz haat and Sekhpara haat due to the poor accessibility and interior location.

### Relationship Between Vegetable Markets and Socio-Economic Status of the Farmers

A large number of rural vegetable farmers depend on the vegetable markets for their livelihood. The social and economic background of vegetable farmers also depends on the efficiency and employability of the vegetable markets. To analyze the impact of vegetable markets on the socio-economic status of the farmers, eight variables related to vegetable markets and eight variables related to the socio-economic status of the farmers have been selected after the extensive literature survey. Table 4. Shows the list of selected variables. To test the hypothesis that "There is a significant impact of vegetable markets on socio-economic status of the farmers", Karl Pearson's correlation coefficient has been used.

The output of the Hypothesis is summarised in table 6. It explains that the degree of Karl Pearson's correlation coefficient between vegetable markets and socio-economic status of the sampled farmers is positive ( $r=0.624$ ) and significant. Therefore, the selected alternative Hypothesis accepted that there is a positive relationship between the vegetable markets and the socio-economic status of the sampled farmers.

### Conclusion

From the above study, it can be concluded that only 12.19 % of vegetable farmers are female, and most are widows. The study also finds that the average market margin of vegetable farmers is very low due to the extensive involvement of intermediaries during the marketing process. The transportation cost incurred by the producer-sellers is also a significant factor in reducing the vegetable producers' income level. The study also finds that most sampled farmers belong to the other backward classes, especially Muslim-OBC. The study also finds a positive correlation between the socio-economic condition of the farmers and vegetable markets.

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Tables

**Table 1.**  
**Percentage Share of Marketed Surplus of Vegetables Moving in Various Marketing Channels in Murshidabad District, 2018-19**

Marketing Channels of Vegetables	Description	Quantity (%)
Channel-I	Producer - Consumer	8
Channel-II	Producer – Retailer - Consumer	20.35
Channel-III	Producer - Village Traders - Consumers	18.5
Channel-IV	Producer - Village Traders – Retailers - Consumers	23.5
Channel-V	Producer - Village Traders – Wholesaler – Retailer - Consumer	15.75
Channel-VI	Producer - Commission Agent – Wholesaler – Retailer - Consumer	5.25
Channel-VII	Produce r - Post Harvest Contractor - Commission Agent – Wholesaler – Retailer - Consumer	8.65
Total		100

Source: Field Survey, 2018

**Table 2.**  
**The proportion of Marketed Surplus of Vegetable products Marketed in Different Market Agencies (2018-19)**

Market Agencies	Marketed Surplus of Vegetable Products(%)					
	Brinjal	Cucurbits	Cabbage	Cauliflower	Potato	Tomato
Consumer at Home	8	9.5	5.95	3	7.5	12.5
Village Markets	48.75	36.25	49.5	39	24.5	43.5
Wholesale Markets	4.5	12.45	9.25	14.5	14.5	10
Regulated Markets	22.5	15.8	13.3	8	33.5	12.5
Local Haats	16.25	26	22	35.5	20	21.5

Source: Field Survey, 2018

**Table 3.**  
**Socio-Economic Profile of the Respondents**

Variable	Category	Male		Female		Total	
		No	Percent	No	Percent	No	Percent
Gender		421	87.81	59	12.19	480	100
Age Structure	Below 30	157	32.72	9	1.81	166	34.54
	30-50	183	38.18	35	7.27	218	45.45
	Above 50	81	16.9	15	3.09	96	20

Marital Status	Married	327	68.18	15	3.09	343	71.45
	Unmarried	44	9.09	0		44	9.09
	Divorced	22	4.54	13	2.72	35	7.27
	Widow	29	6	59	12.36	59	12.36
Educational Status	Illiterate	183	38.18	209	43.63	209	43.63
	Up to 5	106	22	119	24.72	119	24.72
	5 to 10	70	14.54	83	17.27	83	17.27
	10 to 12	44	9.27	51	10.54	51	10.54
	Graduate	17	3.63	17	3.63	17	3.63
Religion	Hindu	105	21.81	124	25.81	124	25.81
	Muslim	298	62.18	333	69.45	333	69.45
	Others	18	3.81	23	4.72	23	4.72
Caste	General	100	20.9	105	21.81	105	21.81
	OBC	288	60	327	68.18	327	68.18
	SC	33	6.9	48	10	48	10
	ST	0		0		0	0
Family Type	Nuclear	113	23.63	147	30.54	147	30.55
	Joint	308	64.18	333	69.45	333	69.45
Family Size	1 to 3	109	22.72	122	25.45	122	25.45
	4 to 5	131	27.27	150	31.27	150	31.27
	Above 5	190	39.63	216	45.09	216	45.09

Source: Field Survey, 2018

**Table 3.**

**Average Percentage of marketing costs and margins involved in the transaction of vegetables in the sampled markets in Murshidabad District**

Items	Market Margin (%)
Cultivator's Margin	66.25
Transportation Charges	7.5
Loading, Unloading and Labour Charges	2.5
Market Fees	0.75
Vegetable Traders' margin (Village Traders, wholesalers & retailers)	23
<b>Consumer's Price</b>	<b>100</b>

Source: Field Survey, 2018

**Table 4**

**List of selected variables**

Variables related to Vegetable Markets	
X1	Average marketed surplus arrivals of Brinjal in the vegetable market from the sampled farmers
X2	Average marketed surplus arrivals of Cucurbits in the vegetable market from the sampled farmers
X3	Average marketed surplus arrivals of Ladies Finger in the vegetable market from the sampled farmers
X4	Average marketed surplus arrivals of Tomato in the vegetable market from the sampled farmers
X5	Average marketed surplus arrivals of Cabbage in the vegetable market from the sampled farmers
X6	Average marketed surplus arrivals of Cauliflower in the vegetable market from the sampled farmers
X7	Average transportation cost incurred by the producer-sellers in the transaction of vegetable products from the sampled farmers
X8	Estimated average market margin of the sampled farmers involve in the transaction of vegetable products
Variables related to Socio-economic Status	
Y1	Average Land size holdings of the farmers

Y2	Average Percentage of literate farmers
Y3	Percentage of farmers directly engaged in vegetable marketing activities
Y4	Percentage of OBC farmers
Y5	Percentage of SC/ST farmers
Y6	Percentage of farmers directly engaged in vegetable marketing activities
Y7	Annual income of the small farmers having landholding below 0.5 hectare
Y8	Annual income of the marginal farmers having landholding 0.5 – 2 hectare

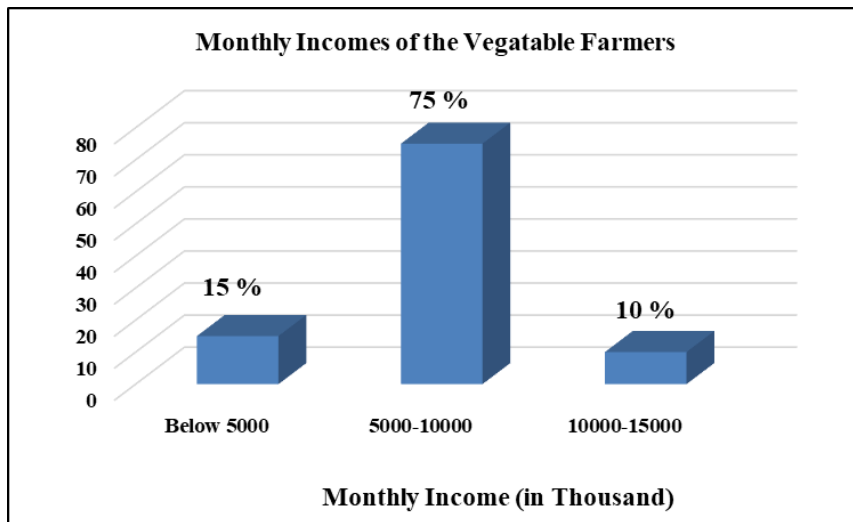
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**Table 5**  
**Relationship Between Vegetable Markets and Socio-economic Status**

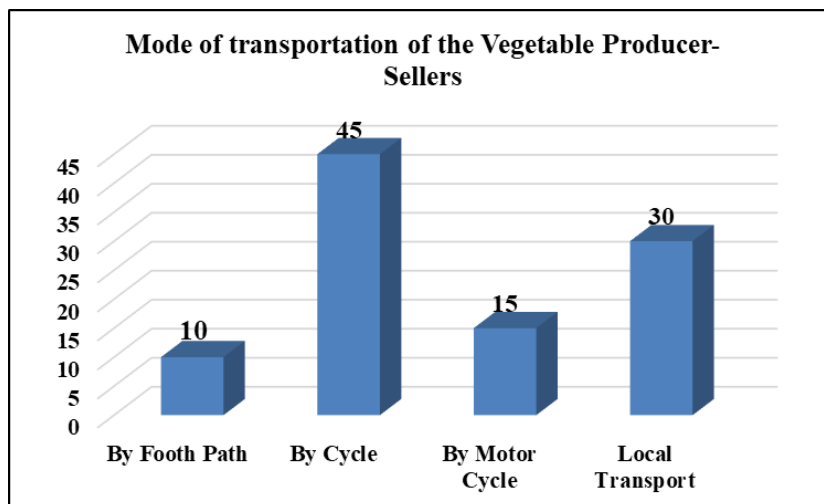
		Regulated Markets	Socio-Economic Status
Vegetable Markets	Pearson Correlation	1	0.624**
	Sig. (2-tailed)		0
	N	16	16
Socio-Economic Status	Pearson Correlation	0.624**	1
	Sig. (2-tailed)	0	0
	N	16	16

Source: Calculated by the Author

**Figures**



**Figure 1 Monthly Income of the Vegetable Farmers**



**Figure 2. Mode of Transportation of the Producer-Sellers**

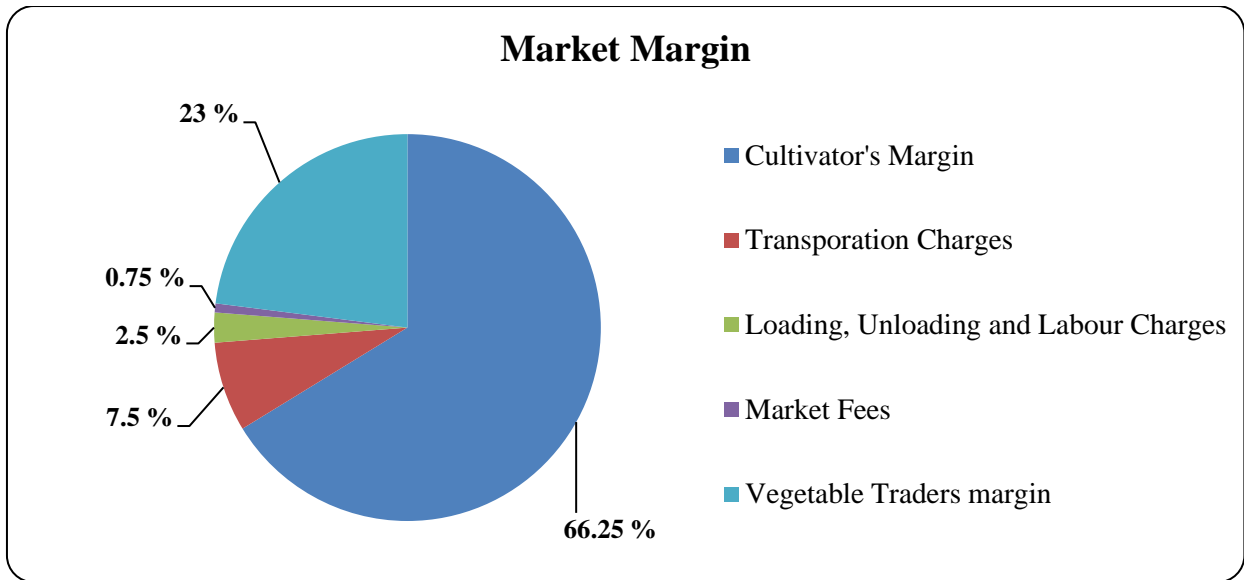


Figure 3. Market Margin of the Vegetable Farmers