

## Awareness of the Vegetable Growers on Market-led Extension System in Odisha

Jeebanjyoti Behera<sup>1\*</sup>, Sarbani Das<sup>2</sup>, Bibhuti Prasad Mohapatra<sup>3</sup>, Abhiram Dash<sup>4</sup> and Ashish Anand<sup>1</sup>

<sup>1</sup>Ph.D. Scholar, Department of Extension Education, College of Agriculture, Odisha University of Agriculture and Technology, Bhubaneswar (Odisha), India.

<sup>2</sup>Assistant Professor, Department of Extension Education, College of Agriculture, Odisha University of Agriculture and Technology, Bhubaneswar (Odisha), India.

<sup>3</sup>Professor & Head, Department of Extension Education, College of Agriculture, Odisha University of Agriculture and Technology, Bhubaneswar (Odisha), India.

<sup>4</sup>Assistant Professor & Head, Department of Agricultural Statistics, College of Agriculture, Odisha University of Agriculture and Technology, Bhubaneswar (Odisha), India.

(Corresponding author: Jeebanjyoti Behera<sup>\*</sup>)

(Received 26 June 2022, Accepted 08 August, 2022)

(Published by Research Trend, Website: [www.researchtrend.net](http://www.researchtrend.net))

**ABSTRACT:** Vegetable marketing is crucial, especially in light of the new liberalisation process and the agricultural sector's value-adding requirements. The existing marketing system must be updated by improving skills, knowledge, attitude, and so on. Most farmers are not aware of the new marketing system, i.e., the market-led extension system. So, the present study was conducted to analyze the awareness level of vegetable growers on market-led extension practices. An ex-post-facto research design was used for the study. The present study was conducted in Cuttack and Puri districts of Odisha state. A total of 240 respondents (15 vegetable growers from each village) were sampled for the completion of this study via a personal interview method at the vegetable growers' doorstep using a pre-list structured interview schedule. The results show that the majority of the respondents (69.17 %) had a medium level of awareness, followed by a high (16.67%) and a lower (14.16%) level of awareness of the market-led Extension System. There is a need to provide information and education related to different aspects of the marketing of vegetables through different extension functionaries at different market channels. Action could be taken by government authorities to develop awareness of the respondents to make the market-led extension system effective.

**Keywords:** Awareness, Diversification, Information, Market-led, Vegetable Growers.

### INTRODUCTION

Odisha is well-known for its vegetable production. The state provides a favourable environment for the production of vegetables under both rainfed and irrigated conditions (Das, 2006). Vegetables are perishable commodities with a limited shelf life, necessitating specialised marketing because they are a time-sensitive activity. Thus, the marketing of vegetables is subject to price fluctuations, which the middleman takes advantage of. Aside from that, there has always been a debate about paying farmers a fair wage while keeping prices low for consumers. This focuses on marketing with the goal of reducing price strategies between primary producers and ultimate consumers (Dastagiri *et al.*, 2013).

Vegetable marketing is crucial, especially in light of the new liberalisation process and the agricultural sector's value addition requirements. The existing marketing system must be updated by improving skills, knowledge, attitude, and so on (Gayathri *et al.*, 2020). One of the reasons for low agricultural returns is the traditional method of marketing through middlemen, as well as a lack of awareness about new developments in vegetable marketing. Other reasons include unscientific

and insufficient crop planning, crop husbandry, post-harvest management, and a lack of alternative marketing channels (Roy *et al.*, 2013). Adequate knowledge of production and marketing aspects is critical for vegetable growers to improve their competitiveness. Vegetable growers must be empowered in order to respond positively to changes in the food market in terms of production system diversification, increased farm productivity, improved product quality and standards, and the realisation of value-added opportunities. Agricultural marketing reforms are underway. With the globalisation of the market, farmers need to transform themselves from mere producers-sellers in the domestic market to producers cum sellers in a wider market sense to best realise the returns on their investments, risks, and efforts (Kumar *et al.*, 2011). The focus of the extension functionaries needs to be extended beyond production. Farmers should be sensitised to various aspects of quality, consumer preference, market intelligence, processing, value addition, and other marketing information (Singh, 2012; Thakur, 2017). This will help the farming community realise high returns for the produce, minimise the production costs, and improve the product's value and marketability. Direct marketing,

contract farming, the establishment of farmer/consumer markets, private markets, futures and forward trade, and other provisions are included in agricultural marketing reforms. In this context, a new concept has emerged considering the above reforms. *i.e.*, market-led extension (Nedumaran *et al.*, 2020). Market-led extension can be defined as a tool for the effective delivery of adequate and quality information to farmers for an effective decision on production and marketing issues so as to realise an optimum return for their investment without jeopardising the needs of the future generation (Shitu *et al.*, 2013).

Vegetable growers are not benefiting from the changing scenario due to a lack of awareness about the developments and the means to benefit from them. Knowledge of market-led extension is essential for vegetable growers to make informed decisions about what to grow, when to harvest, which markets to send produce to, and whether or not to store it (Ferris *et al.*, 2014). Thus, the need of the hour is to address the aforementioned issues in the vegetable marketing sector in order to increase competitiveness and raise awareness among farmers in order to make them more responsive to market demands. Proper planning for capacity building of farmers on various aspects of vegetable marketing requires knowing the farmers' current level of awareness and assessing their need for training programmes. Against this backdrop, the current study aims to investigate the level of awareness of the vegetable growers on market-led extension system in Odisha.

## MATERIALS AND METHOD

The current study was conducted purposively in the state of Odisha. An *ex-post-facto* research design was used for the study. Following the Cumulative Square Root Frequency Method, all 30 districts in Odisha with vegetable production data were classified as Higher Production Potential Districts (HPPD) and Lower Production Potential Districts (LPPD). Cuttack was chosen at random from the Higher Production Potential Districts (HPPD) and Puri from the Lower Production Potential Districts (LPPD), and two blocks from each district were chosen at random for the study. Furthermore, two Gram Panchayats were chosen at random from each block. Two villages from each Gram Panchayat were considered the basic unit of this study, making a total village into 16. For the current study, respondents with at least 5 years of experience growing vegetables on a land of 2 acres or more in a year were chosen. A total of 240 respondents (15 vegetable growers from each village) were sampled for the completion of this study via a personal interview method at the vegetable growers' doorstep using a pre-list structured interview schedule. Twelve parameters have been taken to measure the awareness level of the respondents by following the methodology of Thakur (2019) with modification. Respondents were asked to give their response to each of the 12 parameters on a three-point continuum scale, viz., fully aware, partially aware, and not aware, with a scale value of 2, 1, and 0 respectively.

## RESULTS AND DISCUSSION

Results portrayed in Table 1 show the awareness of respondents regarding different components of the market-led extension system. The results clearly showed that the majority of Cuttack district respondents (53.33%) were fully aware of "Effective Farm Operation Decisions," whereas the majority of Puri district respondents (64.67%) were only partially aware of the same component. These findings shed light on the primary decision-making factors influencing food loss in the field, such as whether growers have a buyer in mind, the quality of the produce, the available price, the financial risk of product rejection, and the priority of another field maturing and ready to harvest. The findings are similar to the findings reported by Johnson *et al.* (2019). The majority of the vegetable growers (46.67%) of Cuttack District have partial awareness regarding "Optimum return for Farm Investment", but in Puri District, the majority of the respondents, *i.e.*, 50 per cent, did not have any awareness about the same. This reveals that the majority of farmers were unaware of the return on vegetable sales. This could be due to low producer prices, a lack of markets, or a lack of patronage. The results are in line with the findings given by Matsane and Oyekale (2014). The majority of the respondents of Cuttack and Puri districts (46.67% and 50.83%, respectively) did not have any awareness about the "transformation of farmers from being mere producers-sellers". This shows that the farmers are lagging behind in making their produce profitable. It is expected that if market-led extension on farmers and vegetable production actors is properly implemented, there will be intermediate outcomes like greater market awareness, access to global markets, reliable market data, and enhanced market participation. The intermediate result will lead to the final result, which will be demand-driven production, simple and quick disposal, market access, expanded market, farmer integration, increased income, and greater food security. The above findings are supported by Nwafor *et al.* (2022). In the Cuttack District, the majority of the respondents (36.67%) are fully aware of "Acceptance to latest production technologies", but 37.50 per cent of respondents in the Puri district have partial awareness regarding the same component. These findings are in line with the findings of Singh *et al.* (2016).

A majority of the respondents of both Cuttack and Puri districts (55.00 % and 50.00 %, respectively) have partial awareness regarding "market information and market intelligence". Similar results were found by Phukan *et al.* (2018). Similarly, a majority of the respondents of both Cuttack (47.50%) and Puri (41.67%) districts have partial awareness of the "productivity to profitability" component. This shows that most of the respondents are yet to be concerned about the profitability part of the production system. Possible reasons may be the practise of traditional methods along with the unavailability of suitable marketing information. "Subsistence to commercial agriculture" component was partially aware by majority of the respondents (45.00 %) of Cuttack district followed by Puri district (41.67%). This implies that

many farmers are still unaware of taking vegetable production as a commercial venture and are only growing vegetables for subsistence purposes. They cannot make this farm profitable unless they include vegetable production commercially. The "Commodity-oriented to farming systems orientation" component was partially aware by the respondents (60.00 %) of Cuttack district, followed by Puri district (56.67 %). Respondents of Cuttack District (74.17%) and respondents of Puri District (67.50 %) were fully aware of the component "Local market to export markets". This means that respondents are aware of marketing their produce not only in their local market but also to distant places to get a good price. It was seen that around 34.17 per cent of respondents from Cuttack district and 30.00 per cent of respondents from Puri district were fully aware of the "Mono-cropping to crop diversity" component. This shows that respondents have to educate themselves about how to use vegetables along with other crops in a crop diversification system and the benefits from them to make a profitable business. Similar results were also found by Kumar *et al.* (2012). Cuttack district respondents were more aware of the component "Sensitized towards produce

quality," with 72.50 percent, followed by Puri district (67.50%). A majority of the respondents in both Cuttack and Puri districts have partial awareness of "Prospects of Contract Farming".

The same table also shows the awareness of the respondents on an overall basis. Results in the table show that respondents on an overall basis were fully aware of the components like "Local market to export markets" and "Sensitized towards produce quality". Similarly, Results states that Majority of the respondents in overall basis have partial awareness on components like "Effective Farm Operation Decisions", "Acceptance to latest production technologies", "Market information & market intelligence", "Productivity to profitability", "Subsistence to commercial agriculture", "Commodity-oriented to farming systems orientation", "Mono-cropping to crop diversity", and "Prospects of Contract Farming". Likewise, the components like "Optimum return for farm investment" and "Transformation of farmers from being mere producers-sellers" were not at all aware by majority of the respondents on an overall basis. The details are shown in Table 1.

**Table 1: Distribution of respondents (reflected in frequency & percentage) on the basis of level of awareness on market-led extension system.**

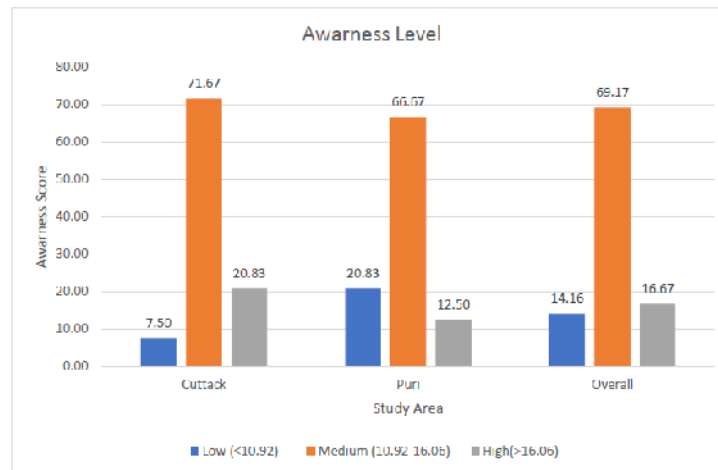
Sr. No.	Key Parameters	Cuttack (n=120)			Puri (n=120)			Total (n=240)		
		FA	PA	NA	FA	PA	NA	FA	PA	NA
		f (%)	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)
1.	Effective farm operations decisions	64 (53.33)	56 (46.67)	0 (0.00)	32 (26.67)	64 (66.67)	24 (6.66)	96 (40.00)	120 (50.00)	24 (10.00)
2.	Optimum return for Farm investment	24 (20.00)	56 (46.67)	40 (33.33)	19 (15.83)	41 (34.17)	60 (50.00)	43 (17.92)	97 (40.42)	100 (41.67)
3.	Transformation of farmers being mere producers-sellers	23 (19.17)	41 (34.17)	56 (46.67)	17 (14.17)	42 (35.00)	61 (50.83)	40 (16.67)	83 (34.58)	117 (48.75)
4.	Acceptance to latest production technologies	44 (36.67)	39 (32.50)	37 (30.83)	35 (29.17)	45 (37.50)	40 (33.33)	79 (32.92)	84 (35.00)	77 (32.08)
5.	Market information & market intelligence	33 (27.50)	66 (55.00)	21 (17.50)	28 (23.33)	60 (50.00)	32 (26.67)	61 (25.42)	126 (52.50)	53 (22.08)
6.	Productivity to profitability	37 (30.83)	57 (47.50)	26 (21.67)	30 (25.00)	50 (41.67)	40 (33.33)	67 (27.92)	107 (44.58)	66 (27.50)
7.	Subsistence to commercial agriculture	43 (35.83)	54 (45.00)	23 (19.17)	37 (30.83)	50 (41.67)	33 (27.50)	80 (33.33)	104 (43.33)	56 (23.33)
8.	Commodity-oriented to farming systems orientation	37 (30.83)	72 (60.00)	11 (9.17)	32 (26.67)	68 (56.67)	20 (16.67)	69 (28.75)	140 (58.33)	31 (12.92)
9.	Local market to export markets	89 (74.17)	24 (20.00)	7 (5.83)	84 (70.00)	25 (20.83)	11 (9.17)	173 (72.08)	49 (20.42)	18 (7.50)
10.	Mono-cropping to crop diversity	41 (34.17)	71 (59.17)	8 (6.67)	36 (30.00)	72 (60.00)	12 (10.00)	77 (32.08)	143 (59.58)	20 (8.33)
11.	Sensitized towards produce quality	87 (72.50)	33 (27.50)	0 (0.00)	81 (67.50)	39 (32.50)	0 (0.00)	168 (70.00)	72 (30.00)	0 (0.00)
12.	Prospects of Contract Farming	24 (20.00)	67 (55.83)	29 (24.17)	17 (14.17)	57 (47.50)	46 (38.33)	41 (17.08)	124 (51.67)	75 (31.25)

FA: Fully Aware; PA: Partially Aware; NA: Not Aware;

**Categorization of Vegetable Growers on the basis of awareness on Market-led Extension System.** All the respondents of the Cuttack, Puri, and overall were categorised into three differential levels of awareness of the market-led extension system, *i.e.*, low, medium, and high on the basis of the obtained scores by the respective farmers in Fig. 1. According to Fig. 1, 71.67 percent of respondents in the Cuttack District had a

medium level of awareness, followed by 20.83 percent and 7.50 percent who had a high and low level of awareness, respectively. Similarly, in Puri District, 66.67 per cent of the respondents are in the medium level category, followed by 20.83 per cent in the low-level category, and 12.50 per cent in the high-level category on awareness of market-led Extension System. Likewise, on an overall basis, the majority of the respondents (69.17 %) had a medium level of

awareness followed by a high (16.67%) and a lower (14.16%) level of awareness of the market-led Extension System.



**Fig. 1.** Distribution of the respondents (reflected in percentage) on the basis of awareness Level.

## CONCLUSIONS

Present study focused on assessing the awareness level of vegetable growers on market-led Extension System. It was found that the majority of the sampled vegetable growers had a medium level of awareness as most of the respondents had partial awareness towards components of the market-led Extension System. So, there is a need to provide information and education related to different aspects of the marketing of vegetables through different extension functionaries at different market channels. Action could be taken by government authorities to develop awareness of the respondents to make the market-led extension system effective.

## FUTURE SCOPE

The findings of this research will be helpful for policymakers while formulating any strategies for vegetable growers regarding market-led extension in Odisha. This study will help the government to plan location-specific support for vegetable growers in Odisha to make market-led extension a sustainable one.

**Acknowledgment.** The authors are indebted to the Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, and the Department of Agriculture and Farmers' Empowerment, Government of Odisha, for providing support for undertaking this experiment. The authors would like to gratefully acknowledge the farmers' help during the data collection process.

**Conflicts of Interest.** None.

## REFERENCES

- Das, P. (2006). Cropping pattern (agricultural and horticultural) in different zones, their average yields in comparison to national average/critical gaps/reasons identified and yield potential. *New Delhi: IASRI, Government of India, Ministry of Agriculture, Department of Agriculture & Cooperation*, 33-47.
- Dastagiri, M. B., Chand, R., Immanuelraj, T. K., Hanumanthaiah, C. V., Paramsivam, P., Sidhu, R. S., Sudha, M., Mandal, S., Singh, B., Chand, K. and Kumar, B. G. (2013). Indian vegetables: Production trends, marketing efficiency and export

competitiveness. *American Journal of Agriculture and Forestry* 1(1): 1-11.

- Ferris, S., Robbins, P., Best, R., Seville, D., Buxton, A., Shriver, J., & Wei, E. (2014). Linking smallholder farmers to markets and the implications for extension and advisory services. *MEAS Brief*, 4(10): 13-14.
- Gayathri, G. N., Sahana, S., Basavaraj, I., and Adivappan, N. (2020). Farmers Knowledge on Emerging Marketing Interventions of Fruits and Vegetables in Karnataka, India. *International Journal of Current Microbiology and applied Science*, 9(5): 720-728.
- Johnson, L. K., Bloom, J. D., Dunning, R. D., Gunter, C. C., Boyette, M. D., & Creamer, N. G. (2019). Farmer harvest decisions and vegetable loss in primary production. *Agricultural systems*, 176, 102672: 1-11.
- Kumar, A., Kumar, P., & Sharma, A. N. (2012). Crop diversification in Eastern India: Status and determinants. *Indian Journal of Agricultural Economics*, 67: 600-615.
- Kumar, A., Singh, H., Kumar, S., & Mittal, S. (2011). Value chains of agricultural commodities and their role in food security and poverty alleviation-A synthesis. *Agricultural Economics Research Review*, 24(347-2016-16892): 169-181.
- Matsane, S. H., & Oyekale, A. S. (2014). Factors affecting marketing of vegetables among small-scale farmers in Mahikeng Local Municipality, North West Province, South Africa. *Mediterranean journal of social sciences*, 5(20): 390-397.
- Nedumaran, S., Selvaraj, A., Nandi, R., Suchiradipta, B., Jyosthnaa, P., & Bose, D. (2020). Digital integration to enhance market efficiency and inclusion of smallholder farmers: a proposed model for fresh fruit and vegetable supply chain. *International Food and Agribusiness Management Review*, 23(1030-2020-1727): 319-337.
- Nwafor, S. C., Agba, S. A., Fatty, L. K., & Arumun, J. S. (2022). Roots and Tubers Market Expansion and Inclusion through Marketing Extension Services: A Conceptual Framework. *Journal of Marketing and Consumer Research*, 85: 62-70.
- Phukan, P., Avasthe, R., Lepcha, B., & Singh, R. (2018). Marketing behaviour of vegetable growers in East Sikkim. *Progressive*, 6(2): 157-162.
- Roy, R., Shivamurthy, M., & Radhakrishna, R. B. (2013). Impact of value addition training on participants of

- farmers training institutes. *World Applied Sciences Journal*, 22(10): 1401-1411.
- Shitu, G. A., Sakia, R., Meti, S. K., & Maraddi, G. N. (2013). Market led extension: prospects and challenges for agricultural sustainability in the 21st Century. Proceeding of International Conference on “Extension Educational Strategies for Sustainable Agricultural Development – A Global Perspective” University of Agricultural Sciences, Bangalore, India.
- Singh, P. K., Barman, K. K., & Varshney, J. G. (2016). Adoption behaviour of vegetable growers towards improved technologies. *Indian Research Journal of Extension Education*, 11(21), 62-65.
- Singh, S. (2012). Marketing channels and their implications for smallholder farmers in India. In *The Transformation of Agri-Food Systems* (pp. 303-334). Routledge.
- Thakur, A. K. (2017). Market Led Agricultural Extension: Concept, Prospects and Challenges. *Market Led Agricultural Extension-Concept & Practices: Training Manual ICAR Research Complex for Eastern Region*, Patna -800 014, 13-17.
- Thakur, S. (2019). *Farmers' Attitude towards adopting Marketled Production in Vegetable Production at Solan District of Himachal Pradesh* (Unpublished master's thesis). Dr Yashwant Singh Parmar University of Horticulture & Forestry Solan (Nauni). Himachal Pradesh.

**How to cite this article:** Jeebanjyoti Behera, Sarbani Das, Bibhuti Prasad Mohapatra, Abhiram Dash and Ashish Anand (2022). Awareness of the Vegetable Growers on Market-led Extension System in Odisha. *Biological Forum – An International Journal*, 14(3): 1110-1114.