

Production and Marketing Constraints Faced by Vegetable Growers in Ayodhya District of Uttar Pradesh, India

Km. Deepshikha, R. R. Kushwaha, Supriya, Anil Kumar, Manish Kumar, Monmath Gopal

Received 19 April 2026, Accepted 17 June 2026, Published on 29 June 2026

ABSTRACT

The present study was conducted in the Ayodhya district of Uttar Pradesh to identify the constraints in the Production and Marketing of vegetable. The Garrett ranking technique was employed to analysed the data. A multistage stratified purposive cum random sampling technique was applied for the selection of the district, blocks, villages, and respondents. The primary data were collected through a survey on schedule with the help of personal interviews. A list of all the blocks falling under the selected Maya Bajar, Bikapur, Tarun, and Milkipur was prepared, and 20 villages were randomly selected. A total of

200 respondents were selected to conduct the detailed survey. Data acquired for the study covering the years 2025-26. The main production constraints reported by vegetable growers were high cost of inputs (71.75), Lack of improved varieties (64.55), and production loss due to unexpected animal activity (60.14). The major marketing constraints noticed were lack of market infrastructure (69.61), perishable nature of the vegetable (62.87), menace of middleman (58.20) and high cost of transportation (55.09).

Keywords Constraints, Garrett, Marketing, Production, Vegetables.

INTRODUCTION

Vegetables play a major role in improving food, income and nutritional security at household (Panwar *et al.* 2019) as well as national level. The nutrients which are present in vegetables are chemical components present in food that help human stay nourished (Chakroborty *et al.* 2022). In India, most of the population is vegetarian and hence vegetable play a significant role in food and nutritional security (Amit *et al.* 2023). Though the vegetable requirement is 400g/day/person (WHO). Vegetable cultivation has become highly commercialized. But still, there is a wide gap between current production and potential productivity (Rohit *et al.* 2017). Most of the vegetables being short-duration crops fit very well in the intensive cropping system

Km. Deepshikha^{1*}, R. R. Kushwaha², Supriya³, Anil Kumar⁴, Monmath Gopal⁶

^{1,6}PhD Research Scholar, ^{2,4}Professor, ³Associate Professor

Department of Agricultural Economics, Acharya Narendra University of Agriculture and Technology, Kumarganj, Ayodhya 224229, Uttar Pradesh, India

Manish Kumar⁵

Assistant Professor, Department of Agricultural Statistics, Acharya Narendra University of Agriculture and Technology, Kumarganj, Ayodhya 224229, Uttar Pradesh, India

Email: vermadeepshikha049@gmail.com

*Corresponding author

and are capable of giving very more yields with high economic returns to the growers.

Major vegetables grown in India are Potato, Onion, Tomato, Cauliflower, Cabbage, Beans, Egg Plants, Cucumber and Gherkin, Frozen Peas, Garlic and Okra. India is the largest producer of Onions and Okra among vegetables and ranks second in the production of Potatoes, Tomatoes, Cauliflowers, Brinjal, Cabbages. India is the world's second-largest producer of vegetables, trailing only China. As of 2024–25, India's vegetable production is estimated at over 219 million tonnes. The country contributes roughly 12–13% to the total global vegetable production, highlighting its strength in this sector. (APEDA 2024-25)

More over India is a prominent exporter of fresh vegetables in the world. The country has exported 912,466.60 MT of Fresh Vegetables other than Onion to the world, worth Rs. 3,085.14 crores/ 365.05 USD Millions during the year 2024-25. Major Export Destinations (2024-25): United Arab Emts, Bangladesh, Nepal, U.K, Oman, Qatar and Maldives. (Source DGCIS).

The major states producing fresh vegetables are Uttar Pradesh, West Bengal, Madhya Pradesh, Bihar, Gujarat, Maharashtra, Odisha, Tamil Nadu, Punjab, Chhattisgarh, Andhra Pradesh, Karnataka and Haryana. The area under vegetable cultivation is 11.2 million hectare and production are 207.21 metric million in the year 2023-24. (Ministry of Agriculture and Farmer's Welfare). With this background the study was conducted to identify the constraints faced by vegetables grower in Ayodhya district of Uttar Pradesh.

Research Methodology

The study was conducted in Ayodhya district of Uttar Pradesh. Purposive followed by multistage random sampling design was adopted to select the district, villages and the respondents. The Ayodhya district is comprising of 11 blocks, out of four blocks, namely Maya Bazar, Bikapur, Milkipur and Tarun blocks were selected. 200 respondent constitutes the sample of the study from 20 villages. All the identified con-

straints were categorized into two groups: Production and Marketing constraints. The collected data were analyzed using the Garrett's Ranking technique. Garrett's formula for converting ranks into percent was given by,

$$\text{Percent position} = 100 * (\text{Rij} - 0.5) / \text{Nj}$$

Where,

Rij= Rank given for ith constraint by jth individual

Nj= Number of constraints ranked by jth individual

The percent position of each rank was converted into corresponding scores based on the standardized scale developed by Garrett and Woodsworth (1969).

RESULT AND DISCUSSION

Constraints in production

Production constraints include factors that have affected the production of vegetable crops on farms. Several production constraints were faced by producers in the region, as shown in Table 1. Results obtained using Garrett's ranking technique showed that high cost of inputs was the most significant production constraint. which received the highest Garratt score of 71.75 (1st ranked), followed by scarcity of labors, which were ranked 2nd with Garratt score of 64.55, Lack of improved varieties ranked 3rd (60.14 score), crop damage due to unforeseen animal intrusion ranked 4th (58.07 score), incidence of pests and diseases ranked 5th score of 53.11, uncertain weather phenomena ranked 6th Garratt score of 49.09, lack of knowledge about advance production technology ranked 7th with score of 45.59, and lack of awareness about govt. schemes & incentives events 42.65 (Rank 8th). Apart from the above problems, the minor problems faced by vegetable growers in the study area included lack of irrigation facilities 37.62 (Rank 9th), cultivation of vegetables on marginal lands 35.48 (10th) and lack of farm machinery 31.97 (11th). Although these factors were considered less severe than others, they still pose challenges to sustainable vegetable production in the study area. Shah *et al.* (2022) identified that the major constraints in production of vegetable was

Table 1. Production Constraints Faced by Vegetable Farmers in Ayodhya.

Sl. No.	Constraints	Percent position	Value	Score	Rank
1	Infestation of insect pest & disease	59.09	45	53.11	V
2	High cost of inputs	4.55	83	71.75	I
3.	Cultivation of vegetables on marginal lands	68.18	41	35.48	X
4	Lack of farm machinery	31.82	59	31.97	XI
5	Uncertain weather phenomena	40.91	55	49.09	VI
6	Scarcity of labors	13.64	72	64.55	II
7	Lack of awareness about Govt. schemes & incentives	22.73	65	42.65	VIII
8	Lack of improved varieties	77.27	35	60.14	III
9	Lack of knowledge about advance production technology	86.36	28	45.59	VII
10	Crop damage due to unforeseen animal intrusion	50.00	50	58.07	IV
11	Lack of irrigation facilities	95.45	17	37.62	IX

the high cost of seed and fertilizers (65%). Kang'ethe *et al.*, (2007) also reported that major constraints to urban agriculture were illegality and lack of access to input. Fertilizer unavailability at the time of application leads farmers to buy fertilizers at much higher rate. According to Saikia *et al.* (2024), the biggest technical obstacle faced by vegetable growers was a lack of suitable vegetable varieties for every season (Garrett score 78.95). This was ranked I, followed by the unavailability of inputs at the appropriate time and a lack of knowledge about scientific cultivation practices (Garrett scores of 69.05 and 50.97, respectively).

Constraints faced by growers in marketing of vegetables

The use of the Garrett's ranking technique aided in the process of prioritizing and ranking several factors. The research looked at the marketing challenges that vegetables farmers face. In the Table 2. The results reveal considerable challenges related to market infrastructure, perishability, transportation, and price

instability, which significantly affect the efficient marketing of vegetables. The primarily limitation as indicated by a mean score of 69.61 is Lack of market infrastructure emerged as the most severe marketing constraint, ranked 1st. This reflects inadequate availability of regulated markets, storage facilities, grading and sorting units, and other essential market amenities, which limit farmers' ability to market their produce efficiently and obtain remunerative prices.

The 2nd most important constraint, with a Garrett score of 62.87, is perishability, which results in losses after harvest due to nature of perishability of vegetables, the absence of adequate cold storage and processing facilities, farmers are compelled to sell their produce immediately after harvest, often at unfavorable prices, followed by problems related to the menace of middleman, which ranked 3rd with a Garrett score of 58.20, high cost of transportation emerged as the 4th major constraint, securing a Garrett score of 55.09. Rising fuel prices and poor connectivity to markets substantially increase marketing costs,

Table 2. Marketing Constraints faced by Vegetables Growers in Ayodhya.

Sl. No.	Constraints	Percent position	Value	Score	Rank
1	Menace of middleman	94.44	19	58.20	III
2	Lack of market infrastructure	16.67	69	69.61	I
3	Lack of market awareness among the farmers	27.78	62	46.58	VI
4	Delay & deduction of Payments	38.89	56	27.11	IX
5	Improper loading and unloading	50.00	50	36.91	VIII
6	Highly perishable nature of vegetable	61.11	44	62.87	II
7	High cost of transportation	72.22	38	55.09	IV
8	Price fluctuation	83.33	31	50.53	V
9	Problems of bulkiness of the product	5.56	81	43.13	VII

thereby reducing net returns to farmers. Price fluctuation ranked 5th (Garrett score 50.53) highlighting the instability of vegetable prices and the absence of effective price support mechanisms. Further, lack of market awareness among farmers was ranked 6th with a Garrett score of 46.58, suggesting limited access to real-time market information, prices, and demand trends. Problems of bulkiness of the product ranked 7th (Garrett score 43.13), indicating difficulties in handling, storage, and transportation of large volumes of vegetables. The relatively less severe constraints included improper loading and unloading ranked 8th (Garrett score 36.91,) and delay and deduction in payments ranked 9th (Garrett score 27.11, Rank). Although these constraints received lower ranks, they continue to adversely affect farmers' confidence in the marketing system and their overall income stability. Rohit *et al.* (2017) also reported in their study highly perishable nature of product was the number one constraint with the score of 58.12 among all marketing constraints followed by market and price fluctuation (Garrett score 55.53). Similar constraints were also found by Kumar *et al.* (2020) and Kumar *et al.* (2023).

CONCLUSION

Overall, the findings suggest that inadequate market infrastructure, perishability of produce, transportation costs, and price volatility are the most critical marketing challenges faced by vegetable growers. Strengthening market infrastructure, promoting cold chain facilities, improving market intelligence systems, and encouraging direct marketing channels could substantially enhance marketing efficiency and farmer's income in the study area.

ACKNOWLEDGMENT

We express our gratitude to the Department of Agricultural Economics, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya, for providing academic support and necessary facilities. We are highly thankful to all the farmers of Ayodhya district (respondents) for their valuable

cooperation and time during the study. I also extend my heartfelt thanks to my guide and faculty members for their constant guidance and encouragement.

REFERENCES

- Agricultural and Processed Food Products Export Development Authority (APEDA). (2025). Fresh fruits and vegetables. Ministry of Commerce and Industry, Government of India. Retrieved June 17, 2026, from <https://apeda.gov.in/FreshFruitsAndVegetables>
- Amit, B. S., Yadav, V. P. S., & Chahal, P. K. (2023). Knowledge status of onion growers regarding pre- and post-harvest management practices. *Indian Research Journal of Extension Education*, 23(1), 59-63.
- Chakroborty, K., Gupta, D. S., & Pal, P. (2022). Nutritional status of rural households: A case study in Cooch Behar district of West Bengal. *Indian Research Journal of Extension Education*, 22(1), 97-102.
- Garrett, E. H., & Woodworth, R. S. (1969). Statistics in psychology and education. Vakils, Feffer and Simons Pvt. Ltd., Bombay, pp -329.
- Kumar, R., Bishnoi, D. K., Sumit., & Singh, A. (2020). Constraints in production, marketing and processing of onion (*allium cepa* L.) in Nuh district of Haryana. *Economic Affairs*, 65(4), 653-657.
- Kang'ethe, E. K., Grace, D. and Randolph, T. F. 2007. Overview on urban and periurban agriculture: definition, impact on human health, constraints and policy issues. *East African Medical Journal*, 84(11):S48-56.
- Kumar, R., Ekta., Kumar, A., & Vishnoi, S. (2023). Constraints in production, marketing and processing of cauliflower (*brassica oleracea*) in Sonapat district of Haryana. *The Pharma Innovation Journal*, 12(3), 3945-3948.
- Panwar, A. S., Babu, S., Noopur, K., Tahasildar, M., Kumar, S., & Singh, S. (2019). Vertical cropping to enhance productivity and profitability of dry terraces in North Eastern Indian Himalayas. *Indian Journal of Agricultural Sciences*, 89(12), 114-118.
- Rohit, J., Dubey, S. K., Singh, P., Singh, B. K., & Kumbhare, N. V. (2017). An Assessment of Constraints Faced by the Farmers in Peri-Urban Vegetable Cultivation. *International Journal of Current Microbiology and Applied Sciences*, 6(10), 2245-2251.
- Saikia, P., Das, P., Deka, P., & Barman, S. (2024). Constraints experienced in commercial vegetable production by growers of Assam. *Vegetable Science*, 51(2), 301-305.
- Shah, P., & Ansari, M. A. (2020). A Study of Marketing and Production Constraints Faced by Vegetable Growers. *Asian Journal of Agricultural Extension, Economics & Sociology*, 38(11), 257-263.