



Constraints Analysis in Production and Marketing of Organic Vegetables Using Garrett's Ranking Technique

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJAEES/2023/v41i82001

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/100706>

Original Research Article

Received: 05/04/2023

Accepted: 08/06/2023

Published: 14/06/2023

ABSTRACT

The present study focuses on livelihood status of organic vegetable growers as an integral part of rural society, hence the research objective was formulated to study the constraints faced by vegetable growers in production and marketing of organic vegetables. Study was conducted in the Akola, Amravati, Yavatmal, Buldhana, and Washim districts of Western Vidarbha region of Maharashtra state in the year 2021 with 240 respondents. Garrett's ranking technique was used to study the opinions of the farmers regarding the major constraints associated with production and marketing of organic vegetables. The organic vegetable growers reported major constraints that were being faced by them during production in the study area were lack of published information regarding various practices of organic vegetable farming with Garrett's score 57.80 followed by shifting to pure organic farming is a very time consuming and labours methods with Garrett's score is 54.22 and during marketing of organic vegetables lack of marketing facility for organic produce

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with Garrett's score 54.87 rank first followed by lack of bulk local demand for organic vegetables with Garrett's score 53.87. These factors highlight the weak links, which need to be strengthened for promoting organic farming.

Keywords: Constraints; organic farming; vegetables; Garret's ranking.

1. INTRODUCTION

"Organic farming systems have attracted increasing attention over the last one decade because they are perceived to offer some solutions to the problems currently besetting the agricultural sector. Organic farming has the potential to provide benefits in terms of environmental protection, conservation of non-renewable resources and improved food quality" [1].

"Organic farming is an agricultural approach that advocates healthy products free from components that may harm humans and nature. They include but are not limited to industrial pesticides, insecticides, fertilizers, clones, GMOs, chemical medications, hormones, growth-boosters, etc. Organic agriculture in India is one of the fastest growing systems of agricultural production and the last two decades have shown sharp increase in organic products consumption and market demand with regards to expansion in area under organic cultivation, as well as, diversity of products With increasing awareness about health, changing life styles and increased GDP" [2].

"The basic idea of organic agriculture is to provide food with optimum nutritional value and minimum dangerous ingredients, with only permitted substances used. The principle also requires 100% natural forage for livestock and its further processing without synthetics. Agriculture related goods are now marketed on the worldwide market as a result of liberalization, privatization and globalization. Farmers need to know how to produce products free of chemical residues that may easily satisfy international quarantine requirements for export in order to command a fair price in this competitive market. The necessity of organic farming is being brought to the farmers attention in these conditions" [3].

1.1 Objective of the Study

To study the constraints faced by organic vegetable growers in production and marketing of vegetables.

2. METHODOLOGY

For the present study an exploratory research design of social research was used. The present study was conducted in all the five districts of Western Vidarbha region of Maharashtra state. i.e. Akola, Amravati, Yavatmal, Buldhana and Washim. On the basis of maximum number of organic vegetable growers from the selected districts it was decided to select two tahsils purposively from each district to carried out the study. Hence from Akola district two tahsils namely Barshi Takli and Patur, from Amravati district Chandur Railway and Teosa tahsils, from Yavatmal district Mahagaon and Yavatmal tahsils, from Buldhana district Deulgaon Raja and Chikhali and from Washim district Washim and Karanja tahsils were selected. Three villages from each selected tahsil were selected purposively. Eight organic vegetable growers from each selected village were selected randomly. Thus a total of 240 respondents were selected as sample respondents for this study. Data have been collected from the selected organic vegetable growers with intensive visits at farm level through personal interviews with the help of well structured interview schedule.

2.1 Constraints Analysis: Garrett's Ranking Technique

As per this method, respondents were asked about their opinions to assign the rank for all factors and the outcomes of such ranking was converted into score value with the help of the following formula:

$$\text{Per cent Position} = (R_{ij} - 0.5) / N_j$$

Where:

$$R_{ij} = \text{Rank given to } i \text{ position by the } j^{\text{th}} \text{ Individual}$$
$$N_j = \text{Numbers of problems ranked by } j^{\text{th}} \text{ Individual}$$

The percent position is converted into scores by referring to the table given by Garrett and Woodworth (1969). Then for each factor, the scores for each individual was added and then

total value of scores and mean values of score were calculated. These mean scores for all the factors were arranged in descending order and the most influencing factors were identified through ranks assigned. The factors having highest mean value was considered to be the most important factor.

3. RESULTS AND DISCUSSION

3.1 Constraints Faced in Production and Marketing of Organic Vegetables

Opinion survey is conducted to know the production and marketing constraints of organic vegetable growers.

3.2 Constraints Faced in Production of Organic Vegetables

The constraints faced by the organic vegetable growers in the production of organic vegetables are presented in Table 1. The production constraints faced by organic vegetable growers are presented in rank according to Garrett's ranking technique. There are eleven major constraints in production of organic vegetables as stated by the respondent farmers. The results from the table reveals that lack of published information regarding various practices of organic vegetable farming which is ranked first with Garrett's score 57.80. It is found to be a major constraint in the study area. The second major constraint faced by the sample farmer is shifting to pure organic farming is a very time consuming and labours methods and their Garrett's score is 54.22 Lack of knowledge of recommended package of practices on organic

vegetable production another major constraint faced by the organic vegetable growers with Garrett's score 53.01 and ranked third by the organic vegetable growers, followed by non availability of sufficient quantity of organic inputs ranked fourth with Garrett's score 51.57, followed by more incidence of pest and diseases on organic vegetables crops with Garrett's score 51.33 ranked fifth, followed by yield of organic vegetables comparatively lower than conventional ranked sixth with Garrett's score 50.12. It recognizes that lengthy organic certification procedure and required high cost having Garrett's score 49.14 occupy seventh ranks, cattle dung, urine and farm wastes are to handle manually ranks eighth positions having Garrett's score 46.10.

Number of cattle households decreased gradually day by day causing scarcity of FYM is another constraint faced by organic vegetable growers in the study area which ranks ninth with Garrett's score 46.01, higher prices of manures and biofertilizers and lengthy procedure of organic manure preparation are also the constraints faced by the organic vegetable growers ranked tenth and eleventh with Garrett's score 45.98 and 44.73 respectively. The findings are similar to Patil [4], Dwivedi [5], Pimpalkar [6], Singh [7], and Chaudhary [8].

3.3 Constraints Faced in Marketing of Organic Vegetables

The constraints faced by the organic vegetable growers in the marketing of organic vegetables are presented in Table 2. Six major constraints are reported by the respondent farmers.

Table 1. Constraints faced in production of organic vegetables

S. No.	Constraints faced in production of organic vegetables	Mean Score	Rank
1.	Lack of published information regarding various practices of organic vegetable farming	57.80	I
2.	Shifting to pure organic farming is a very time consuming and laborious methods	54.22	II
3.	Lack of knowledge of recommended package of practices on organic vegetable production	53.01	II
4.	Non availability of sufficient quantity of organic inputs	51.57	IV
5.	More incidence of pest and diseases on organic vegetables crops	51.33	V
6.	Yield of organic vegetables comparatively lower than conventional	50.12	VI
7.	Lengthy organic certification procedure and required high cost	49.14	VII
8.	Cattle dung, urine and farm wastes are to handle manually	46.10	VIII
9.	Number of cattle households decreased gradually day by day causing scarcity of FYM	46.01	IX
10.	Higher prices of manures and biofertilizers	45.98	X
11.	Lengthy procedure of organic manure preparation	44.73	XI

Table 2. Constraints faced in marketing of organic vegetables

S. No.	Constraints faced in production of organic vegetables	Mean Score	Rank
1.	Lack of marketing facility for organic produce	54.87	I
2.	Lack of bulk local demand for organic vegetables	53.87	II
3.	Insufficiency of minimum support price for organically grown	53.38	II
4.	Insufficient infrastructure facilities like transportation, cold storage	50.50	IV
5.	Lack of information regarding price of organic vegetables	44.48	V
6.	High cost of transportation, cold storage and processing unit	42.86	VI

Lack of marketing facility for organic produce is the most important constraint to the organic vegetable growers with Garrett's score 54.87 ranked first. Second major constraint faced by the respondents is that lack of bulk local demand for organic vegetables with Garrett's score 53.87. Insufficiency of minimum support price for organically grown vegetables with Garrett's score 53.38 ranked third followed by insufficient infrastructure facilities like transportation, cold storage and processing unit for organic vegetables ranked fourth with Garrett's score 50.50.

Lack of information regarding price of organic vegetables and high cost of transportation, cold storage and processing unit ranked fifth and sixth with Garrett's score 44.48 and 42.86 respectively [9]. The findings are similar to Sangwan [10], Thakur [11] and Chaudhary [8].

4. CONCLUSION

Present study shows that, organic vegetable growers faced more constraints in the production of vegetables, lack of published information regarding various practices of organic vegetable farming, shifting to pure organic farming is a very time consuming and laborious methods, Non availability of sufficient quantity of organic inputs, more incidence of pest and diseases on organic vegetables crops, yield of organic vegetables comparatively lower than conventional, while in case of marketing of organic vegetables lack of marketing facility for organic produce, lack of bulk local demand for organic vegetables, insufficiency of minimum support price for organically grown vegetables etc. Therefore, it is implied that establishment of assured markets for their produce, establishment of organic input agencies at local places, arrangement of sensory evaluation at farmers places of organic and conventional vegetables, so the consumers of organically grown vegetables can believe that the organic produce in taste and in all terms better than conventional

produce so ultimately they will gives satisfactory returns to the farmers.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

- Charyulu DK, Dwivedi AK. Economics of organic farming vis- 'vis conventional farming in India; 2016. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2859912
- FIBL. Growth of organic agricultural land in India; 2021. Retrieved on September 28, 2018. Available: https://statistics.fibl.org/world/key-indicators/world.html?tx_statisticdatapi1%5Bcontroller%5D=Element2Item&cHash=ba0aa70d46b2bb18dca4638c75aa654
- NN Chavan, NR Koshti, VS Tekale, PP Bhopale, NV Shende and VA Khadse. Profile of organic vegetable growers in Western Vidarbha. The Pharma Innovation Journal. 2023;12(1):303-307.
- Patil M. A study on production and marketing management behavior of organic vegetable growers in Belgaum district, M. Sc. (Agri.) Thesis (Unpub.), Univ. Agric. Sci., Dharwad; 2008.
- Dwivedi A. Study on production and marketing behavior of organic vegetable growers in Indore district (M.P.). M.Sc. (Agri.), Thesis (Unpub.), RVSKVV, Gwalior; 2012.
- Pimpalkar MD. Knowledge and adoption of organic farming practices by the vegetable growers, M.Sc. (Agri.) Thesis (Unpub.), Dr. PDKV, Akola; 2015.
- Singh AP. Study on awareness, adoption extent and attitude towards organic farming among the farmers in eastern Uttar Pradesh, Ph.D. (Agri.), Thesis (Unpub.),

- A.N.D. University of Agriculture & Technology, Ayodhya; 2020.
8. Chaudhary A. Comparative economic analysis of organic and inorganic vegetable farming in low hill zone of Himachal Pradesh. M.Sc. (Agri.), Thesis (Unpub.), NAUNI, HP; 2020.
 9. Garrett HE, Woodworth RS. Statistics in psychology and education. Vakils, Feffer and Simons Pvt. Ltd., Bombay. 1969;329.
 10. Sangwan J. A comparative study of organic and non-organic farming: Empirical evidences from Haryana. Ph.D. Thesis. (Unpub.), MDU. Rohatak; 2019.
 11. Thakur N. Comparative economic analysis of organic and inorganic vegetable farming in mid hill zone of Himachal Pradesh. M.Sc. (Agri.), Thesis (Unpub.), NAUNI, HP; 2020.

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Peer-review history:

The peer review history for this paper can be accessed here:
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