Asian Journal of Agricultural Extension, Economics & Sociology

Volume 42, Issue 3, Page 41-47, 2024; Article no.AJAEES.110187
ISSN: 2320-7027

A Study on the Constraints faced by the Vegetable Growers in Mallawan Block of Hardoi District in Uttar Pradesh, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJAEES/2024/v42i32376

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/110187

Original Research Article

Received: 13/10/2023
Accepted: 18/12/2023
Published: 19/02/2024

ABSTRACT

Training is the analytical process for human resource development as well as also playsan essential role in hastening of particular attitude among human behaviours. Moreover, training is a tool for accomplishingintervention of thelevel of human resource, that becomesincreasingly and pivotalfor the development substantially in all fields with an extending satisfaction in technology.

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The present investigation was aimed to observe the constraints faced by the vegetable growers in the production of vegetable cultivation. The data of constraints were assembled and analysed by using Garret's ranking methodology to develop a quantitative position of each constraint. Likewise, data findings were showed that thevegetable growersfacedtechnological, resource, market and miscellaneous constraints. Among technological constraints, lack of knowledge about improved varieties, seed rate including sowing time were prominent. Similarly,regarding resource constraints, high costs of pesticides were more dominant. Furthermore, in case of market constraints, non-remunerative price and poor marketing facilities results, high risk which wasdominant. And last one is miscellaneous constraint, non-availability of labour during peak season and high wages. Therefore, numerous field level constraints faced by the vegetable growers had been recognized as well as categorized into the circumstances for training needs.

Keywords: Market; non-remuneratiVeprice; pesticide; resource; technology.

1. INTRODUCTION

Vegetables play a predominant role for the maintenance of human health as well as fulfil the requirement of nutritive as well as balanced diet. However, balanced diet is essential for sustainedhealth. For a well-balanced diet, about 300 grams of vegetables are neededwhich encompasses both green leafy vegetables and root & tubers, butonly 130 gramsof vegetablesper day per capitaareavailable (ICMR). These arecommon in human diet, without a vegetable meal is supposed to beincomplete. Daily consumption of sufficient vegetables could help to prevent major diseases such as cardiovascular diseases and certain cancers [1]. Likewise, they are rich source of micronutrients like: calcium, iron, phosphorus, copper, folate, zinc including vitamin A, C and B-complex respectively. Globally, India is the second largest country in terms of vegetables production (surpassonly by China) accounting for about 10.90 per cent of the world's production. Indian farmers grow an amazing number or various varieties of vegetables, but potato, tomato, onion, cabbage and cauliflower accounts only approximately 60.00 per cent of the total production. Among all states, Uttar Pradesh is the first largest vegetable growing state in India. In U.P.the total area covered by vegetable crops is around 1,307.25 thousand hectares and production are 197.23millionmetric tonnes (2020-21). In Hardoi district, area covered by vegetable crops is 17049 ha [2-5]. However, it exists a big gap between the yield level attained by the scientists and the vegetable growers. This underlines the fact that the convenient technology has the possibilities for plentiful yield though the farmers demand to be given necessary knowledge and powerful skills for its omnipresent use by delivering continuous training lectures [6-8]. Thus, training becomes a critical element principally in view of growing sophistication in agricultural technology together with its cost intensive nature. Farmer training is directed towards improving their job efficiency in farming. The kind of education we call as training is not for knowing more but behaving differently [9]. Never the less, no training programmes would bring preferable changes with regard to their knowledge, skill, attitude including other behavioural components unless; it is a need-based programme. Lynton and Pareek [10] stated that training consists largely of well-organized opportunities for participants to acquire necessary understanding and skill. A lot can be achieved in the direction of increasing vegetable production as well as productivity if the farmers are trained subsequent to their level of training needs and requirement. Hence, an attempt was made to evaluate the requirement of training for vegetable growers with respect to the contents, time, duration, place and method of training for efficient and production-oriented use of farm technology.

2. METHODOLOGY

The present investigation was conducted in purposively selected Hardoi district. It comprises 19 blocks among them only one block was opted purposively for study named Mallawan because in this larger area are covered in vegetable production. Total 120 vegetable growers were selected by multistage random sampling. Likewise, data were gathered by means of structured interview schedule. Garret's score method was applied to ascertain the most supreme constraints among the four groups as perceived by farmers. The formula for percent position suggested by garret (1980) is given below:

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

Where,

Rij = Rank given for the i^{th} variable by j^{th} respondent
Nj = Number of variables ranked by j^{th} respondent

3. RESULTS AND DISCUSSION

The results revealed that lack of knowledge about improved varieties, seed rate and sowing time (70.18) was assigned an overall third ranked and first group rank. Though, lack of knowledge about IPM (Integrated Pest Management) technologies (69.86) was allocated overall ranked fifth and second group ranked. Lack of training of scientific vegetable production technology (68.82) was attributed an overall nine ranked and third group ranked. The non-availability of facilities of soil testing (68.07) was assigned overall seventeen ranked and fourth group ranked. Lack of publication (68.23) was assigned an overall fifteen ranked and fifth group ranked.The above results were similar to the findings of Gupta et al. [11] found that the lack of knowledge regarding IPM. Kumar et al. [12] found that the Lack of information about high yielding varieties and their seed/planting materials.

Among resource constraints as viewed by vegetable growers viz. unavailability of improved seeds of vegetables (69.25) overall eighth ranked and first group ranked, high costs of pesticides (68.76) overall tenth ranked and second grouped ranked, lack of irrigation facilities (68.69) overall eleven ranked and third group ranked, scattered and small size land holding (68.62) overall thirteen ranked and fourth group ranked, lack of cold storage (66.93) respectively. The above result obtained is similar to the findings of Pandit and Basak et al. [6] indicated that the lack of quality seed. Kumar et al. [12] found that the lack of suitable cold storage facilities.

The results related to market constraints as viewed by vegetable growers viz. non remunerative price (70.99) was entrusted an overall first ranked and group ranked is also first, poor marketing facilities results high risk (69.59) was assigned as overall sixth ranked and second group ranked. Markets are distantly located (68.61) overall fourteen ranked and third group ranked. Lack of transportation facilities and high charges (68.17) overall fifteen ranked and fourth group ranked. Approach roads not in good conditions (64.98) overall twenty ranked and fifth group ranked consequently. The result was alike to the findings of Pandit and Basak et al. [13] indicated that the low-price during harvesting. Gupta et al. [11] found that the lack of proper marketing facilities. Azad et al. [14] found that the lower price of vegetable.

Among miscellaneous constraints as viewed by vegetable growers inaccessibility of labours atthe time of peak season and high wages (70.41) overall second ranked and first group ranked, high risk of natural hazards (70.06) overall fourth ranked and second group ranked, lack of subsidy (69.48) overall seventh ranked and third group ranked, Lack of information sources of vegetables production technology at village level (67.39) overall eighteen ranked and fourth group ranked, poor extension contacts (66.68) overall twelve ranked and fifth group ranked respectively. Gupta et al. [4] found that the Lack of regular visit of extension worker/scientist and VLWs at farmer's field.

Table 1. Distribution of the vegetable growers according to the Technological Constraints faced in growing vegetables

(n=120)

S. No.	Particulars	Sum of the Garrett's score	Mean	Overall rank	Group ranks
A.	**Technological Constraints**				
1	Lack of knowledge about improved varieties, seed rate and sowing time	8422	70.18	III	I
2	Lack of knowledge about IPM technologies	8383	69.86	V	II
3	Lack of training of scientific vegetable production technology	8258	68.82	IX	III
4	Non- availability of facilities of soil testing	8168	68.07	XVII	IV
5	Lack of publication	8187	68.23	XV	V

Table 2. Distributionof the vegetable growers according to the resourceconstraints faced in growing vegetables

(n=120)

S. No.	Particulars	Sum of the Garrett's score	Mean	Overall rank	Group ranks
B.	**Resource Constraints**				
1.	Unavailability of improved seeds of vegetables	8311	69.25	VIII	I
2.	High costs of pesticides	8252	68.76	X	II
3.	Lack of irrigation facilities	8243	68.69	XI	III
4.	Scattered and small size land holding	8253	68.62	XIII	IV
5.	Lack of cold storage	8032	66.93	XIX	V

Table 3. Distributionof the vegetable growers according to the Market Constraints faced in growing vegetables

(n=120)

S. No.	Particulars	Sum of the Garrett's score	Mean	Overall rank	Group ranks
C.	**Market Constraints**				
1.	Poor marketing facilities resulting high risk	8351	69.59	VI	II
2.	Markets are distantly located	8233	68.61	XIV	III
3.	Approach roads not in good conditions	7797	64.98	XX	V
4.	Non remunerative price	8519	70.99	I	I
5.	Lack of transportation facilities and high charges	8180	68.17	XVI	IV

Table 4. Distributionof the vegetable growers according to themiscellaneousconstraints faced in growing vegetables

(n=120)

S. No.	Particulars	Sum of the Garrett's score	Mean	Overall rank	Group ranks
D.	**Miscellaneous Constraints**				
1.	High risk of natural hazards	8407	70.06	IV	II
2.	Lack of subsidy	8338	69.48	VII	III
3.	Non-availability of labour during peak season and high wages	8449	70.41	II	I
4.	Poor extension contacts	8001	66.68	XII	V
5.	Lack of information sources of vegetables production technology at village level	8087	67.39	XVIII	IV

Among technological constraints (Table 5), it was found that lack of knowledge about improved varieties, seed rate and sowing time was ranked 1st with Garretts mean score of 70.18 followed by lack of knowledge about IPM technologies was accorded 2nd rank with Garretts mean score of 69.86. Among resource related constraints which is faced by vegetable grower, it was found that unavailability of improved seeds of vegetable crops were the major constraints and ranked 1st with Garrett mean score of 69.25 followed by high costs of pesticides ranked 2nd with Garrett means score of 68.76. Constraints related to market (Table 5), it was found that non-remunerative price or low market price of vegetable crops were the major constraints and ranked 1st with Garrett means score of 70.99 followed by poor marketing facilities resulting high riskwas ranked 2nd most serious constraints with Garrett mean score of 69.59. The findings related to miscellaneous constraints, it was found that non-availability of labour during peak season and high wages was the major constraints and ranked 1st with Garrett mean score of 70.41 followed by high risk of natural hazard was ranked 2nd most important constraints with Garrett mean score of 70.06.

Table 5. Distributionof the vegetable growers according to the constraints faced in growing vegetables

(n=120)

S. No.	Particulars	Sum of the Garrett's score	Mean	Overall rank	Group ranks
A.	**Technological Constraints**				
1	Lack of knowledge about improved varieties, seed rate and sowing time	8422	70.18	III	I
2	Lack of knowledge about IPM technologies	8383	69.86	V	II
3	Lack of training of scientific vegetable production technology	8258	68.82	IX	III
4	Non- availability of facilities of soil testing	8168	68.07	XVII	IV
5	Lack of publication	8187	68.23	XV	V
B.	**Resource Constraints**				
6.	Unavailability of improved seeds of vegetables	8311	69.25	VIII	I
7.	High costs of pesticides	8252	68.76	X	II
8.	Lack of irrigation facilities	8243	68.69	XI	III
9.	Scattered and small size land holding	8253	68.62	XIII	IV
10.	Lack of cold storage	8032	66.93	XIX	V
C.	**Market Constraints**				
11.	Poor marketing facilities resulting high risk	8351	69.59	VI	II
12.	Markets are distantly located	8233	68.61	XIV	III
13.	Approach roads not in good conditions	7797	64.98	XX	V
14.	Non remunerative price	8519	70.99	I	I
15.	Lack of transportation facilities and high charges	8180	68.17	XVI	IV
D.	**Miscellaneous Constraints**				
16.	High risk of natural hazards	8407	70.06	IV	II
17.	Lack of subsidy	8338	69.48	VII	III
18.	Non-availability of labour during peak season and high wages	8449	70.41	II	I
19.	Poor extension contacts	8001	66.68	XII	V
20.	Lack of information sources of vegetables production technology at village level	8087	67.39	XVIII	IV

4. CONCLUSION

From the above findings, it was found that vegetable growers faced technological constraints such as: lack of knowledge about improved varieties, seed rate and sowing time, lack of knowledge about IPM technologies, lack of training of scientific vegetable production technology, unavailability of improved seeds of vegetables, high costs of pesticides, Non-remunerative price, poor marketing facilities resulting high risk, inaccessibility of labour at peak season including high wages in addition to high risk of natural hazards as the major constraints faced by the vegetable growers under these four different groups i.e. Technological

Constraints, Resource Constraints, Market Constraints, Miscellaneous Constraints. While, these constraints could be resolved by executing the remedies and suggestions recommended by vegetable growers like; Agricultural Universities/ KVKs/ Research Institutions organized farmers fairs/kisangoshthi / published articles by which farmers could beaware about improved varieties, seed rate and sowing time, knowledge about IPM technology, scientific vegetable production technology etc.

LIMITATIONS

1. Time and finance being the main constraints, the study was restricted to only 120 respondents of Hardoi district of Uttar Pradesh.
2. Implication of the findings of the study will be applicable to the area of investigation and similar situations only.
3. The study is of limited geographical location. So, the results may not lead to broader generalization.

ACKNOWLEDGEMENT

Success is the manifestation of diligence, perseverance, inspiration, motivation and innovations. It is my proud privilege to express a deep sense of gratitude to my guide Dr. H. C. Singh, Professor, College of Agricultural Engineering and Technology, Etwah Campus, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur whose generous help, untiring guidance, supervision, critical suggestions and his positive attitude towards my abilities enabled me to complete this work. I feel immense pleasure in expressing whole-hearted sense of gratitude to Dr. Shani Kumar Singh, Dr. Ashwani Verma and Dr. Arjun P Verma Department of Agricultural Extension, for their valuable co-operations and timely help during the course of investigation.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/110187