Indian Journal of Ecology (2022) 49(5) (SI): 1921-1924
DOI: https://doi.org/10.55362/IJE/2022/3758

Manuscript Number: 3758
NAAS Rating: 5.79

Constraints Faced by Farmers in Commercial Cultivation of Vegetables in Samba district, Jammu and Kashmir, India

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***Abstract*:** Vegetable farmers of district Samba are facing various constraints in vegetable production and therefore present study was conducted in three vegetable growing villages covering marginal, small, and big farmers (20 from each category totaling 60 in number). A pre tested interview schedule was prepared to collect the data and appropriate statistical procedure was employed to analyze the data for different constraints like social, organizational, technology transfer and economic. The mean score for all these constraints were higher among marginal farmers as compared to small and big farmers for vegetable production in Samba district. The study has confirmed that lack of proper follow up service, lack of location specific recommendations, lack of community awareness and lack of effective supervision are also contributing to low production. Thus there is a need to organize training programmes, proper demonstration of improved technologies, and introduction of post-harvest technologies to encourage the farmers for vegetable production so that the farmers become more economically independent. Based on these training needs, farmers, public and private organizations may organize various training cum awareness programmes.

***Keywords*:** Vegetable production, Social, Economic, Organizational constraints, Technology transfer

Vegetables are important constituents of agriculture for attaining food and nutritional security has ability to generate on-farm and off-farm employment. An increase in availability, affordability and consumption of nutrient dense vegetables is one of the ways to prevent malnutrition. India is bestowed with huge diversity of vegetables and is the largest contributors (59.20%) of the total horticultural produce in the country in 2017-18 (Kumar et al 2017). India, with its wide variability of climate and soil, has good potential for growing a wide range of vegetable crops. Since the mid eighties, Government identified horticultural crops as a means of diversification for making agriculture more profitable through efficient land use, optimum utilization of natural resources and creating skilled employment for rural masses, especially women folk with the past efforts rewarding. Area under vegetable cultivation is continuously increasing, mainly due to higher productivity, shorter maturity cycle, high value and greater income leading to improved livelihoods. Production of vegetables is touching new records every year, making it the most favoured agricultural commodity by the farmers. Production during 2017-18 was recorded 184 million tons from 10.3 million hectares, whereas it was less than 20 million tons during independence. This manifold increase needs to be sustained to meet the demand of 1.5 billion people by 2030 (Horticultural Glance, 2018 and https://apeda.gov.in/apedawebsite/six_head_product /FFV.htm). Even though the productivity level of our crops have increased still it will not be sufficient to feed the increasing population. By adopting improved techniques and high yielding varieties, production and productivity can be increased (Sahu et al 2009). In vegetable cultivation, a number of technologies have been developed, but farmers do not show keen interest in adopting this technology. So, to enhance the production and adoption of new farming technology it is imperative to know, why farmers are reluctant in adaptation of this technology. So, to know that what are the constraints faced by farmers in adoption of Modern practice of vegetable cultivation. This study was undertaken at district Samba. Samba has a longitude of 75.1108^{0}E and latitude of 32.553^{0}N and is situated on range of Shivalik hills alongside the bank of river. About two third of the area of Samba is Kandi & rainfed. The area on southern side downside the national highway is irrigated through Ravi Tawi irrigation canal network.

MATERIAL AND METHODS

The study was under taken in three vegetable growing villages of Rajpura, Ghagwal and Nud Blocks of district during the year 2020-21. The block and villages were selected purposively where random sampling technique was followed to select the respondent. It was decided to draw samples from all categories of farmer's i.e., small (<0.5 ha),

marginal (0.5-0.9 ha) and large (>0.9 ha) farmers. The criteria of selection were based on the consideration that farmers were growing vegetables constantly and sell them to earn income. The farmers growing vegetables for commercial purpose were selected. A random technique was followed to select 20 vegetable growers from each village. Thus, a total of 60 vegetable growers were finally selected. For analysis of data responses were secured on 3-points scales fitting to the statements as very much (3) much (2) not so much (1). The results were calculated as mean score for each of the constraint (Sharma et al 2010).

$$\text{Mean Score (MS)} = \frac{\text{No. of VM} \times 3) + (\text{No. of M} \times 2) + (\text{No. of NM} \times 1)}{\text{Total No. of VM + M + NM}}$$

The climate of the district being sub-tropical zone is hot and dry in summer and cold in winter and provides enough scope to grow a variety of vegetables in different parts of the district. Being in the foot hills of the mountains nights are bit cooler than that of neighbouring areas of Punjab the scope of vegetable export has also increased. The temperature ranges between 6 degree Celsius and 47 degree Celsius. The average annual rainfall of district Samba is 1100-1250 mm. A number of vegetable crops like knol-khol, peas, beans, tomato, brinjal, chilli, cauliflower, cabbage, onion, okra etc. are grown in the district. The farmers of the area are facing lot of constraints like, social, organizational, economic, technology transfer in cultivation of vegetables. Keeping this in view, the study was made related to constraints associated with vegetable cultivation and to overcome these constraints.

RESULTS AND DISCUSSION

The constraints in vegetable production are many, diversified and differs from individual to individual depending upon their social status, family, requirement, family obligation, cultural background and economic position. For analysis of data the constraints were classified into four groups' namely social, organizational, technology transfer and economic.

Social constraints: The lack of awareness (2.30) followed by Groupism in village, low adoption by neighbours, traditional norms and adverse socio-political system in the villages are the most important constraints which do not permit farmers to accept and adopt new technology in vegetable farming (Table 1). Mostly these constraints are being faced by marginal farmers of the area as compared to small and big farmers except co-ordination among farmers (2.50) which have observed more in the small farmers of the area. Similar findings were reported by Samantaray et al (2009).

Organizational Constraints: Focusing attention towards vegetable farming six important organizational constraints were observed (Table 2). Lack of effective supervision (2.48), irregular visit of extension workers (2.23), lack of timely technical advice (2.16), poor co-ordination among grass root level workers (2.16) was recorded in the marginal farmers while non-availability of production inputs timely (2.0) and low credibility of extension worker (2.06) were identified in both marginal and small farmers as the constraints in vegetable farming system. However, most of them are related to government actions that need to be stream lined to make vegetable farming profitable. These findings have been supported by Samantaray et al (2009) who have observed similar types of constraints being faced by the farmers of Orissa.

Constraints in technology transfer*:* The absence of proper post-harvest technology (2.36), followed by inadequate training programmes, lack of approach to demonstration, non-communication of location specific recommendations, inadequate follow up services for vegetable are the major constraints being faced by the marginal farmers as compared to small and big farmers of the area (Table 3). The other constraints were of low level like non-exposure to mass media lack of land consolidation etc. However, most of them are related to Government actions that need to be stream lined to make vegetable farming profitable. These findings were supported by Meena (2003) and Rai et al (2010).

Economic constraints: The eight economic constraints were identified which seemed to be barrier in increasing

Table 1. Social constraints in vegetable production

Social constraints	Farmers			Mean score		
	Marginal	Small	Large	Marginal	Small	Large
Lack of community awareness	30	18	12	2.30	2.00	1.90
Traditional norms of farmers	35	20	5	2.50	1.75	1.50
Adverse socio-political interference	28	24	8	2.33	1.93	1.73
Low-adoption of by neighbours	32	20	8	2.40	1.80	1.80
Lack of co-ordination of farmers	26	22	12	1.34	1.93	1.83
Groupism	29	20	11	2.30	1.85	1.85

production and productivity of vegetables. Poor marketing facility (2.33) is the most important constraint followed by poor economic status of the farmers (2.26), low risk bearing capacity (2.26), poor transport facility (2.20), absence of storage facility (2.12) and high cost of production (2.12) are being faced by the marginal farmers. The subsequent factors were non-availability of agriculture loan and complicated procedures to avail loan mentioned by the sample under study. Corroborative results have been given by Sharma et al (2008) and Samantaray et al (2009).

The constraints like lack of post harvest technologies, absence of storage facilities, inadequate training programme and inadequate demonstration of new technology are faced by the growers. The study has confirmed that lack of proper follow up service, lack of location specific recommendations, lack of community awareness and lack of effective supervision are also contributing to low production. Thus there is a need to organize training programmes, proper demonstration of improved technologies, and introduction of post harvest technologies to encourage the farmers for vegetable production so that the farmers become more economically independent. Moreover, it will improve nutritional status of the family. Based on these training needs, farmers, public and private organizations may organize various training cum awareness programmes.

Table 2. Organizational constraints in vegetable production

Organizational constraints	Farmers			Mean score		
	Marginal	Small	Large	Marginal	Small	Large
Poor co-ordination and co-operation among extension worker	22	26	12	2.16	2.06	1.76
Low credibility of extension worker	20	24	16	2.06	2.06	1.86
Lack of timely advice and guidance by extension personnel	24	22	14	2.16	1.96	1.86
Timely non availability of inputs for production	20	20	20	2.0	2.0	2.0
Irregular visit of extension worker	26	22	12	2.23	1.93	1.83
Lack of effective supervision	28	23	9	2.48	1.91	1.76

Table 3. Constraints in transfer of technology to farmers

Technology transfer	Farmers			Mean score		
	Marginal	Small	Large	Marginal	Small	Large
Inadequate training of farmers	24	26	12	2.26	2.10	1.83
Inadequate demonstration of new technology	21	24	15	2.10	2.05	1.85
Inadequate follow-up services	23	23	14	2.15	2.00	1.85
Lack of location specific recommendation	24	22	14	2.16	1.96	1.86
Lack of technical know-how	28	22	10	2.30	1.90	1.80
Lack of soil testing facilities	19	22	19	2.0	2.0	1.95
Inadequate availability of mass media sources of information	21	20	19	2.03	1.98	1.98
Lack of land consolidation	18	22	20	1.96	2.06	1.96
Lack of post-harvest technology	28	26	6	2.36	1.96	1.66

Table 4. Economic constraints in increasing production

Economic constraints	Farmers			Mean score		
	Marginal	Small	Large	Marginal	Small	Large
High cost of technology	22	23	15	2.12	2.02	1.86
Poor economic condition of farmers	28	26	6	2.26	1.96	1.66
Non-availability of Argil. Credit	20	20	19	1.98	1.96	1.95
Complicated procedure to avail loans	20	20	19	1.98	1.96	1.95
Low risk bearing capacity	28	26	6	2.26	1.96	1.66
Poor transportation	24	24	12	2.20	2.00	1.80
Poor marketing facility	27	26	7	2.33	1.98	1.68
Absence of storage facility	22	23	15	2.12	2.02	1.86

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Received 25 August, 2022; Accepted 15 September, 2022