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Training needs of Hamirpur farmers in vegetable cultivation

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Abstract

The study was carried out in a purposively selected Hamirpur district of Himachal Pradesh to find out training needs of vegetable growers in vegetable cultivation and the relationship of attributes of vegetable growers with their training needs. A multistage simple random sampling technique was used to draw a sample of 120 vegetable growers proportionately from 12 villages of three development blocks of the district. The relevant data were collected through personal interview technique with the help of a well developed interview schedule from the sampled respondents. Results of the study revealed that vegetable growers required high extent of training in improved seed and plant protection measure areas of vegetable cultivation. However, medium extent of training was required in manure & fertilizer management, sowing of crops, weed management, transplanting of seedlings, and miscellaneous area. Further, a large majority of the vegetable growers (67.50 %) had medium to high level of training needs in vegetable cultivation. There was negative and significant correlation between training needs in vegetable cultivation of the respondents with their socio-economic status, social participation, and knowledge of vegetable farming.

Introduction

Himachal Pradesh has shown an impressive increase in area under vegetable cultivation from 29,958 hectare in 1995-96 (Anonymous 1995) to 46,213 hectare in 2004-05 with an annual production of 8,32,442 metric tonnes (Anonymous 2005). But area under vegetable cultivation in Hamirpur district has been increased far rapidly from a meagre 202 hectare in 1995-96 (Anonymous 1995) to 1,247 hectare in 2004-05 with an annual production of 22,457 metric tonnes (Anonymous 2005). It is also true that size of land holding in Himachal Pradesh is very small and there is no scope of bringing additional land under cultivation. In order to meet the growing demands of vegetables, more emphasis need to be laid on increasing the cropping intensity and production of vegetables per unit area. Therefore, there is an urgent need to impart training among farmers in various aspects of vegetable cultivation. Training is an indispensable instrument for the development of skill and knowledge. Training has also become a critical input especially in view of the ever growing sophistication in vegetable production technology as well as its cost intensive nature.

However, no training programme would bring desirable change in knowledge, skill, attitude and other behavioural components of the farmer unless it is need based. Therefore, to make vegetable training programme meaningful and effective for the farmers, it must be preceded by proper training needs assessment of the trainees. Keeping this in view, the present study has been conducted with the twin objectives of assessing the training needs of vegetable growers in vegetable cultivation and to find out the relationship of selected characteristics of vegetable growers with their perceived training needs.

Material and Methods

The study was carried out in a purposively selected Hamirpur district of Himachal Pradesh as number of vegetable growers as well as area under vegetable cultivation has shown a rapid increase in this district. Three development blocks with maximum area under vegetable farming namely; Nadaun, Bijhari, Bhoranj were selected from six development blocks of Hamirpur district. Further, a list of villages having at least 15 vegetable growers falling under these selected blocks was prepared and four villages from each selected block were selected randomly. A sample of 120 vegetable growers who had put at least five *kanal* (0.5 acre) area under vegetable cultivation during the study period was drawn through population proportionate sampling technique from 12 villages of three selected development blocks of the district. The relevant data of the study were collected through personal interview technique from the respondents with the help of a well developed and pre-tested interview schedule.

The training needs of the vegetable growers were determined in 12 areas of vegetable cultivation. Each area was further splited in several sub-areas or items of training needs. The vegetable growers were asked to express their training needs on four point continuum, i.e. highly needed, moderately needed, partially needed, and not needed with respect to each training item of the 12 areas of vegetable cultivation and the scores of 4, 3, 2, and 1 were awarded, respectively. The training needs score (TNS) of a particular area of vegetable cultivation for each respondents was computed by summing-up the scores on this four point continuum for each training item. Further, the total training needs score (TTNS) in vegetable cultivation for each respondent was also ascertained by summing-up the TNS of all areas of vegetable cultivation. The training needs in an area of vegetable cultivation was assessed on the basis of mean training needs score (MTNS) as follows

$$\text{MTNS of an area} = \frac{\text{Total TNS of the area}}{\text{No. of respondents X No. of training items in the area}}$$

Ranks were assigned to each area on the basis of its MTNS. The first rank was assigned to the area that obtained highest MTNS and the last rank was given to the area that received lowest MTNS. Thus based on ranks, the training needs hierarchy of different areas of vegetable cultivation was developed. Extent of training needs of the vegetable growers with respect to different areas of training needs was worked out by applying cumulative frequency cube root technique developed by Singh (1975) and expressed in terms of low, medium, and high training needs. Further, on the basis of total training needs score (TTNS), level of perceived training needs was also assessed and expressed as low, medium, and high by applying cumulative frequency cube root technique.

Results and Discussion

Extent of training needs in vegetable cultivation

Information pertaining to extent of training needs along with rank and MTNS of various training areas of vegetable cultivation are recorded in Table 1. Results and their discussion are presented as below. The table clearly revealed that "improved seeds" and "plant protection measures" secured first and second rank in the hierarchy of training needs with their MTNS of 3.44 and 3.41, respectively. The vegetable growers perceived "high" extent of training needs in these two areas of vegetable cultivation.

Quality seed is one of the most critical inputs for any crop. As new seeds of vegetable crops are developing regularly, therefore, farmers also need regular training to know about the availability of improved seeds and its performance in their field might be the possible reason of high training needs in this area. Bonny and Prasad (1999) reported that farmers need training in improved varieties.

Table 1. Extent of training needs in different areas of vegetable cultivation

Sr. No.	Areas of training	MTNS	Rank	Extent
1.	Land preparation	2.62	7	Low
2.	Improved seeds	3.44	1	High
3.	Nursery raising	2.68	6	Medium
4.	Transplanting of seedlings	2.53	8	Low
5.	Sowing of crops	2.96	4	Medium
6.	Manure and fertilizer management	3.05	3	Medium
7.	Irrigation management	2.51	9	Low
8.	Weed management	2.86	5	Medium
9.	Plant protection measure	3.41	2	High
10.	Harvesting, storage and marketing	2.47	10	Low
11.	Handling and maintenance of farm machinery and equipments	2.38	11	Low
12.	Miscellaneous	3.05	3	Medium

Low 2.37 – 2.65, Medium 2.66 – 3.08, High 3.09 – 3.44

Plant protection measure is one of the most important areas of vegetable cultivation as vegetable crops are prone to heavy damage due to insect-pests and diseases. Therefore, adequate plant protection knowledge and skill is required on the part of farmers. The plant protection measure is more technical oriented area and farmers probably did not have adequate knowledge and skill. Thus, this could be the possible reason of high training needs in this area. Verma and Singh (1994), Bonny and Prasad (1989) and Singh (1999) also identified high extent of training needs in plant protection measures.

The MTNS of "manure and fertilizer management" and "miscellaneous" areas was observed 3.05 and secured third rank jointly. "Flower and fruit drop and their control," "pre and post harvest spray for increasing shelf-life," "processing and value addition in vegetables,"

"physiological disorder," and "vegetable seed production" were the training items included in miscellaneous area in which vegetables growers required training. Further, the fourth, fifth, and sixth, rank was awarded to "sowing of crops," "weed management," and "nursery raising" due to their MTNS, which were observed 2.96, 2.86 and 2.68, respectively. The perceived extent of training needs of vegetable growers in these five areas was observed to be "medium." The perceived medium training needs might be due to inadequate knowledge and skills of farmers in these five areas of vegetable cultivation. Further, poor knowledge and skill of vegetable growers in these areas might be due to their poor extension participation.

The last five areas in the hierarchy of training needs were "land preparation", "transplanting of seedlings", "irrigation management", "harvesting, storage and marketing," and "handling and maintenance of farm machinery and equipments" with their MTNS of 2.62, 2.53, 2.51, 2.47, and 2.38, respectively. Further, vegetable growers perceived low training needs in these five areas of vegetable cultivation. The low training needs might be due to respondents' sufficient knowledge and experience in carrying out various activities falling under these areas of vegetable cultivation.

Level of training needs in vegetable cultivation

The results and discussion pertaining to level of training needs in vegetable cultivation are presented as follows.

Table 2. Level of training needs in vegetable cultivation

N=120

Sr. No.	Level of training needs	TTNS range	No. of vegetable growers	Per cent
1.	Low	107-153	33	27.50
2.	Medium	154-176	43	35.83
3.	High	177-200	44	36.67

TTNS= Total Training Needs Score

A perusal of Table 2 clearly elucidated that overall 36.67 per cent of vegetable growers perceived high level of training needs followed by 35.83 per cent medium and 27.50 per cent low level of training needs in vegetable cultivation.

Further, it can be concluded that a large majority of the vegetable growers (72.50%) required medium to high level of training in vegetable cultivation. The possible reason might be attributed to the vegetable growers' poor knowledge and lack of effective training in vegetable cultivation. These findings are in conformity with those of Bonny and Prasad (1999) and Singh (1999).

Relationship of characteristics of vegetable growers with their training needs in vegetable cultivation

The nature and strength of relationship of various characteristics of vegetable growers with their training needs was determined. Results so obtained are presented (Table 3) and discussed as follows.

The table clearly revealed that socio-economic status was negatively and significantly ($p \leq 0.01$) correlated with the training needs in vegetable cultivation. It means higher the socio-economic status of the vegetable growers, lower their training needs in vegetable cultivation and *vice-versa*. It is a general expectation that individual with high socio-economic status might have more access to various sources of knowledge in vegetable cultivation. Therefore, vegetable growers with high socio-economic status required less training. This finding is in agreement with the studies conducted by Rai *et al.* (2000) and Chander and Singh (2004).

Results further indicated that there was negative and significant ($P \leq 0.05$) correlation between social participation and training needs in vegetable cultivation. It means higher the social participation of the respondents, lower their training needs. Involvement of the vegetable growers in various social organisations might have provided them an opportunity of interaction and sharing of varied rich experience with other members of the organisation. This might have increased farmers' knowledge hence they required less training in vegetable cultivation. Similar finding was also reported by Ali and Karim (1999) and Chander and Singh (2004).

Similarly, results also highlighted that there was negative and highly significant ($p \leq 0.01$) correlation between knowledge of vegetable farming and training needs of the farmers in vegetable cultivation. It might be interpreted as knowledge of vegetable growers increases, their training needs decreases. The finding lends support to the assumption that farmers with good knowledge in vegetable farming should have low training needs in vegetable cultivation and *vice-versa*. Ali and Karim (1999) and Singh (2003)

Table 3. Correlation co-efficient of characteristics of vegetable growers with their training needs in vegetable cultivation

Sr. No.	Characteristics	r-value	t-value	Level of significance
1.	Age	-0.003	-0.033	NS
2.	Socio-economic status	-0.259	-2.913	**
3.	Formal education	-0.171	-1.885	NS
4.	Social participation	-0.234	-2.614	*
5.	Area under vegetable farming	-0.133	-1.458	NS
6.	Family income	-0.135	-1.480	NS
7.	Extension participation	-0.023	-0.249	NS
8.	Information sources utilisation	0.134	1.469	NS
9.	Knowledge of vegetable farming	-0.390	-4.600	**

* 5% level of significance ** 1% level of significance NS Non significant

were also reported similar results in their respective studies.

The other attributes of vegetable growers such as age, formal education, area under vegetable farming, family income, and extension participation showed negative but non-significant correlation with the training needs in vegetable cultivation. However, there was positive and non-significant correlation between information sources utilisation and training needs in vegetable cultivation observed. It can be concluded that these attributes of the vegetable growers are not influencing their training needs in vegetable cultivation.

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