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Extent of Technological Gap and its Relationship with Different Characteristics of Vegetable Growers

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ABSTRACT

This research study was undertaken in Kullu district of Himachal Pradesh under ex-post facto research design. A sample of 600 vegetable growers representing 20 villages of Kullu and Manali was drawn by using purposively random sampling technique. The results of the study indicated that the technological gap was found high in seed treatment, plant protection measures, water management, hoeing and weeding, field preparation and manure and fertilizer application. While low technological gap was observed in recommended varieties and harvesting. The overall technological gap of the respondents in respect of vegetable production technology was found about 35 per cent. The independent variables viz. cropping intensity, infrastructural experience, education, social participation, farm size, nature of irrigation, socio-economic status, economic motivation, innovativeness, knowledge about vegetable production technology, attitude towards vegetable production technology, source of information and extension participation were found statistically significant and negatively correlated with technological gap, whereas, 'age' didn't show any relationship with technological gap.

Key words: Technological gap; Social participation; Economic motivation; Innovativeness,

INTRODUCTION

Vegetables are vital for human health, because they possess high nutritive value and are rich source of carbohydrates, proteins, vitamins and minerals. Selection of research area in Kullu Valley of Himachal Pradesh was due to the very good conditions for temperate vegetable production as well as their seeds. Hence the area was suitable for the vegetable production of temperate vegetables. Mild summer of Kullu valley is suitable for many sub-tropical vegetables. In spite of this the vegetable production is low, because improved vegetable production technologies are not fully adopted by the farmers at their own fields (Suman, 20014). Marketing of produce arises when production is more. Therefore, this research programme was aimed to find out the attitude of the farmers towards sustainability of vegetable cultivation.

It is indicated from the previous research, that the farmers were less devoted for vegetable production because the area is dominated by apple orchards and the economy of the farmers of the area depends in general on the apple production. The adoption level of the vegetable production was very low (9.33 %) (Suman, 2010). In spite of the fact, that the area is suitable for both vegetables and their seed production. The valley is variable paradise for off-season cultivation of vegetable and flowers and this vast potential is under exploited. The summer being mild is suitable for many sub-tropical important vegetables. The farmers will be educated to harvest the gift of nature to raise their socio-economic status. So, the study is proposed to undertake with the above objectives. The outcomes of this study will decide the strategies to be adopted for the improvement of adoption level of the farmers for vegetable and their seed production leading to raise the economic condition of the farmers for better life.

To study the demographic situations, socio-economic conditions of the farmers, to study the technological gap between the recommended technologies and technologies adopted by the farmers as well as to assess the constraints in vegetable production technologies and suggest remedial measures the present study was designed and carried out.

MATERIALS AND METHODS

The present study was conducted in the Kullu and Manali blocks of Kullu district of Himachal Pradesh selected purposively because of the dominance of vegetable production system in Kullu Valley. Thereafter, twenty villages, ten from each block were selected on random basis. From each village, 15 rich resource farmers (RRF) and 15 poor resource farmers (PRF) were selected on the basis of stratified random sampling.

Thus, a sample of 600 respondents (vegetable growers) in total was selected for the final interview. The data were collected personally with the help of pretested scheduled. The technological gap was computed on a three-point scale of full, partial and no gap.

RESULTS AND DISCUSSION

Average Technological gap

The data regarding average technological gap in different practices of vegetable cultivation (Multiple crops i.e. cabbage, cauliflower, radish, brinjal, summer squash, tomato, cucumber) is summarized in Table 1.

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Table 1: Average technological gaps in different components of vegetable production technology (N= 600)

Different components of vegetable production technology	Average tech. gap	Rank
Field preparation	35.29	V
Recommended varieties	6.24	X
Sowing time	9.52	VII
Seed rate	8.51	VIII
Seed treatment	89.12	I
Spacing	7.45	IX
Manure and Fertilizers application	31.25	VI
Water management	53.46	III
Hoeing and Weeding	51.26	IV
Plant protection	86.57	II
Harvesting	3.64	XI
Overall gap	**34.75**	

Data present in Table 1 revealed that the average technological gap was found varies from component to component and could be ranged from 3.64 per cent to 89.12 per cent. The maximum gap was observed in seed treatment (89.12 per cent) followed by plant protection (86.57 per cent), water management (53.46 per cent), Hoeing and weeding (51.26 per cent), field preparation (35.29 per cent), manure and fertilizers application (31.25 per cent), sowing time (9.52 per cent), seed rate (8.51 per cent).

Whereas, the minimum average gap was observed in recommended varieties (6.24 per cent) followed by harvesting (3.64 per cent). It could be further inferred that there was a high (above 66 per cent) technological gap in seed treatment and plant protection. There was a medium technological gap (between 33 to 66 per cent) in water management, Hoeing and weeding and field preparation. While a low technological gap (Below 33 per cent) was observed in field preparation, manure and fertilizers application, sowing time, seed rate, recommended varieties and harvesting. The overall technological gap against recommended production technology was found to be 34.75 per cent. The finding was similar to the findings reported by and Shriballabh *et al.* (1991).

Relationship of situational, personal, socioeconomic, psychological and communication characteristics of vegetable producers and technological gap

The data on cause and effect relationship between technological gap and selected 14 situational, personal, socio-economic, psychological and communication characteristics of vegetable producers are presented in Table 2. That out of 14 independent variables, 13 variables were observed to be negatively and significantly related to technological gap in adoption of vegetable production technology.

Relationship of situational variables with technological gap

It is revealed from the Table 2 that cropping intensity and infrastructural experience were found negative but they had significant relationship with the technological gap having "r" value -0.42615 and -0.35812 respectively. It indicates that as the cropping intensity and infrastructural experience increases, the technological gap decreases in adoption of vegetable production technology.

Table 2: Relationship between technological gap and independent variables

S. No.	Independent variables	Correlation coefficient ('r' value)
A.	**Situational Variables**	-0.42615 **
1	Cropping intensity	-0.35812 **
2	Infrastructural experience	
B	**Personal Variables**	-0. 00497 N.S.
3	Age	-0. 23546 **
4	Education	
C	**Socio-economic Variables**	-0. 19865 *
5	Social participation	-0. 41256 **
6	Farm Size	-0. 39658 **
7	Nature of irrigation	-0. 55325 **
8	Socio – economic status	
D	**Psychological Variables**	-0. 39657 **
9	Economic motivation	-0. 55698 **
10	Innovativeness	-0. 71546 **
11	Knowledge about vegetable production	-0. 36589 **
12	technology	
E	Attitude towards vegetable production	-0. 35624 **
13	technology	-0. 58625 **
14	**Communication Variables**	
	Sources of information	
	Extension participation	

* = Significant at 5 per cant level.
** = Significant at 1 per cent level.

Relationship of personal variables with technological gap

Table 2 revealed that out of two personal variables education was found significant relationship with technological gap having "r" value -0.23546. It means education level of the vegetable producers' increases, the technological gap decrease in adoption of vegetable production technology. The variable 'age' was not significant relationship with technological gap. The education opens the faculty of thoughts and knowledge for an individual which in turn helps individual to take rational decisions. They use education to get themselves more exposed to scientific farming, have more efficiency and more interest which resulted in high adoption. Social participation might have contributed towards formulation of favourable attitude and use, reflecting in lowering down the technological gap.

Relationship of socio-economic variables with technological gap: In the table 2 results shown that three variables viz. farm size (r = -0.41256), nature of irrigation (r = -0.39658) and socio-economic status (r = -0.55325) at 5 per cent level and one social participation (r = -0.19865 at 1 per cent level) had negative and

significant correlation with technological gap indicated that as the farm size, nature of irrigation, socio-economic status and social participation of vegetable producers' increases, the technological gap in adoption of vegetable production technology decreases. Socio-economic status of farmers enhances his extent of adoption of various innovative technologies resulting in automatic reduction in technological gap.

Relationship of psychological variables with technological gap

It is clear from the Table 2 that four psychological variable like economic motivation, innovativeness, knowledge about vegetable production technology and attitude towards vegetable production technology were found negative and significant relationship with the technological gap having their "r" value -0.39657, -0.55698, -0.71546 and -0.36589 respectively. It means economic motivation, innovativeness, knowledge about vegetable production technology and attitude towards vegetable production technology of the farmers' increases, the technological gap in adoption of vegetable production technology decreases. 2.5. Relationship of communication variables with technological gap: It is observed from the Table 2 that two communication variables viz.

Source of information (r = -0.35624) and extension participation (r = -0.58625) were found negative and significant correlated with technological gap in adoption of vegetable production technology. It indicates that source of information and extension participation of vegetable producers' increases, the technological gap decreases in adoption of vegetable production technology. The use of various communication sources and thereby it motivates to adopt technology, which in turn lowers down the technological gap.

CONCLUSION

The average technological gap in different components ranged from '3.64' per cent to '89.12' per cent. The minimum average gap was observed in harvesting (3.65 per cent), whereas maximum average technological gap was observed in seed treatment, followed by plant protection (86.57 per cent), water management (53.46 per cent), Hoeing and weeding (51.26 per cent), field preparation (35.29 per cent), manure and fertilizers application (31.25 per cent), sowing time (9.52 per cent), seed rate (8.51 per cent). Whereas, the minimum average gap was observed in recommended varieties (6.24 per cent) followed by harvesting (3.64 per cent).

Out of 14 independent variables, 13 variables namely, cropping intensity, infrastructural experience, education, social participation, farm size, nature of irrigation, socio-economic status, economic motivation, innovativeness, knowledge about vegetable production technology, attitude towards vegetable production technology, source of information and extension participation were found negatively and significantly related with technological gap indicating that any increase in these was found to decrease technological gap whereas, age did not show any significant relationship with technological gap indicating that there was no significant influence of age on technological gap in adoption of vegetable production technology. The remedial measures had been suggested by the vegetable producers as they want the proper training as per their requirement, availability of quality seeds at affordable rates and proper help in marketing,

REFERENCES

Shriballabh, Shrivastava JP and Pal M. 1991. Technological gap in adoption of oilseed crops. *Maha. J. of Extn. Edn*. **10** (2): 340-42.

Suman RS. 2010. Technological gap in vegetable production in Kullu Valley. *Agriculture Update* **5** (3-4): 269-270.

Suman RS. 2014. Attitude of Farmers towards sustainability of vegetable cultivation. *Journal of AgriSearch* **1** (1):1-3

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