



Research Article

Correlation of gap in adoption of improved vegetable production technologies

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SUMMARY : The vegetables are the most important to the human diet for better health, because they possess high nutritive value and are rich source of carbohydrates, proteins, vitamins and minerals. This study was conducted to find out the gap in adoption of new practices in vegetable production technologies and to ascertain the correlates of gap in adoption. The study was conducted in ten villages of one block in district Kullu, Himachal Pradesh. The sample for the study was 600 (large, small and marginal farmers) comprising 200 farmers from each category. The study concluded that there was high gap in adoption of improved vegetable production practices among all the categories of farmers. Difference in gap was also observed from practice to practice and among various categories of farmers. Out of 14 characteristics of vegetable growers, except age all were found significantly and negatively associated with gap in adoption among all categories of farmers.

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KEY WORDS :

Gap, Adoption, Vegetable production technologies

BACKGROUND AND OBJECTIVES

The vegetables are the most important to the human diet for better health, because they possess high nutritive value and are rich source of carbohydrates, proteins, vitamins and minerals. The selection of research area in Kullu Valley of Himachal Pradesh was due to the very good conditions for temperate vegetable production and seed production of the same. Hence, the area was suitable for both that the vegetable production and their breeding for most of the temperate types of vegetables. The summer being mild was suitable for many sub-tropical important vegetables. Before the establishment of Katrain station, there was no vegetable growing in the valley, but there after it has picked up. Still in this area the vegetable production is low, because Improved Vegetable and Seed Production Technologies (IVSPT) are not fully adopted by the farmers at their own field (self reviewed). Even if they produce, the marketing problems are faced by them. Therefore, this research programme is aimed to find out the current adoption level of the IVSPT at the farmers field, technological gap between the farmers and

Institute. With this point in view, the present investigation was undertaken with the following specific objectives : to find out the gap in adoption of improved vegetable production practices among various categories of farmers and to analyze the relationship between certain characteristics of vegetable growers and their level of gap in adoption of improved vegetable production technology.

RESOURCES AND METHODS

The study was conducted in twenty randomly selected villages of two randomly selected development blocks out of total five development blocks in district Kullu of Himachal Pradesh. Ten villages were selected from each block. Thirty vegetable growers (ten small, ten medium and ten large holding farmers) were selected from each of the selected villages randomly. Thus the sample for the study constituted 600 vegetable growers. Data were collected by personal interview with the help of structured schedule constructed for the purpose after pre-testing. For analysis and interpretation

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of data, the appropriate statistical measurements were used.

Technological gap index developed by the 'All India Coordinated Research Programme in Extension Education', I.A.R.I. New Delhi was used to measure the technological gap. The following formula was used:

$$\text{Technological Gap Index} = \frac{R-A}{R} \times 100$$

where

R = Recommended practices

A = Practice actually adopted by the farmers

The technological gap index was treated in this study as dependent variable. In all 14 independent variables were included in this study in order to analyse their relationship with the dependent variable (technological gap) index. These independent variables were age, income, extension participation, knowledge of improved vegetable production practices, caste, education, farm power, social participation, social economic status, level of aspiration, risk preference, economic motivation, cosmopolitanism and attitude towards new farm practices. Zero-order correlation coefficient was used to determine the relationship between dependent and independent variables.

OBSERVATIONS AND ANALYSIS

The main findings and discussion of the research have been presented below:

Extent of gap in adoption of improved vegetable production practices:

The frequency distribution of the respondents on the

basis of their technological gap index is presented in Table 1. It is evident from the Table 1 that adoption gap was found higher in case of marginal farmers than the small and large farmers. Further, the adoption gap was higher in small farmers than that of large farmers.

Practice wise extent of gap in the adoption of improved vegetable production practices

The results of the study with regard to the practice wise extent of gap in the adoption of improved vegetable production technologies are presented in Table 2.

The results regarding adoption gap of large, small and marginal farmers presented in Table 2 indicate that all most all the categories of farmers had high adoption gap in the improved vegetable production technologies. It is also evident from the findings of this study that the adoption gap was found to be higher in case of marginal farmers than small farmers and at the same time the adoption gap of small farmers was higher than large farmers in all the selected nine improved vegetable production practices.

Correlates of gap in adoption:

In all there were 14 independent variables in the study. The relationship of these 14 independent variables with the dependent variable gap in adoption of farmers was found by computing correlation coefficient (r). The results presented with this regard in Table 3.

The results of zero order correlation coefficient presented in Table 3 indicated that out of the 14 personal, socio-economic and psychological independent variables, 13 variables were found to be significantly and negatively related with the gap in adoption of improved vegetable production practices except

Table 1: Distribution of respondents according to their technological gap index about improved vegetable production technologies

Technological gap \ Category	Marginal farmers		Small farmers		Large farmers		Total	
Low	180	75	100	50	44	22	324	54.00
Medium	110	55	80	40	36	18	226	37.67
High	30	15	12	8	8	4	50	8.33

Table 2: Adoption gap in large, small and marginal farmers on improved vegetable production technologies

(n= 600)

Sr. No.	Improved vegetable production practices	Adoption gap		
		Marginal farmers	Small farmers	Large farmers
1.	Field preparation	72.32	65.24	51.26
2.	Sowing time and seed rate	62.31	52.34	46.25
3.	Planting	68.54	49.56	42.98
4.	Irrigation	73.51	67.25	56.12
5.	Hoeing - weeding	76.29	61.78	54.59
6.	Manure and fertilizers	81.25	68.56	57.45
7.	Harvesting time and crop position	79.58	62.37	48.56
8.	Grading and packaging	86.54	71.59	64.45
9.	Marketing	85.76	73.25	50.12

Table 3 : Correlates of gap in adoption of improved vegetable production technologies

Sr. No.	Characteristics	Correlation co-efficient ('r')		
		Marginal farmers	Small farmers	Large farmers
1.	Age	0.14 ^{NS}	0.16 ^{NS}	0.11 ^{NS}
2.	Education	-0.51**	-0.59**	-0.43**
3.	Caste	-0.42**	-0.45**	-0.28*
4.	Income	-0.38**	-0.75**	-0.63**
5.	Farm power	-0.22*	-0.42**	-0.34*
6.	Socio-economic status	-0.85**	-0.75**	-0.78**
7.	Extension participation	-0.78**	-0.68**	-0.55**
8.	Social participation	-0.58**	-0.67**	-0.52**
9.	Level of aspiration	-0.67**	-0.64**	-0.66**
10.	Knowledge of improved practices of vegetable production technologies	-0.82**	-0.72**	-0.69**
11.	Risk preference	-0.88**	-0.83**	-0.78**
12.	Economic motivation	-0.61**	-0.74**	-0.52**
13.	Cosmopolitaness	-0.51**	-0.45**	-0.48**
14.	Attitude towards new farm practices	-0.73**	-0.62**	-0.72**

* and ** indicate significance of values at P=0.05 and 0.01, respectively

NS=Non-significant

age in all the three categories of farmers. This indicated that with the increase in the independent variables, the gap in adoption of improved vegetable production practices decreased correspondingly. However, age had nothing to do with the gap in adoption amongst all the categories of farmers' viz., large, small and marginal. Similarly Salasya *et al.* (1998) conducted an assessment of adoption of seed and fertilizer packages and role of credit in small holder maize production.

Conclusion:

The findings of the study concluded that overall extent of gap in adoption of improved vegetable production practices was quite high among all the categories of farmers. Practice wise gap in adoption of improved vegetable production practices was also found high among all the categories of farmers. Difference was also observed in the gap in adoption from practice to practice. Adoption gap was found higher among marginal farmers than small farmers and at the same time the adoption gap was found to be higher among small

farmers than large farmers. Out of 14 selected independent variables, except age, all the 13 independent variables were found to be significantly and negatively correlated with the gap in adoption among all the categories of farmers. This, for example, indicated that with the increase in the knowledge about improved vegetable production practices of the farmers there was corresponding decrease in the gap in adoption.

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