

Factors Influencing Adoption of Pigeonpea Production Technology by Farmers

A. B. Chahande and R. M. Ghadge*

Abstract: The study was conducted to know the extent of adoption and to delineate relationship between profile of respondents with the adoption of pigeonpea production technology by farmers of Parbhani district in Maharashtra. The study was conducted in Parbhani district comprising 120 respondents from twelve villages. The result showed that majority (61.66 per cent) of the respondents had medium level of adoption. Education, annual income, Economic motivation, risk orientation and extension contact of respondent had positive and significant relationship with adoption of recommended package of practices of pigeonpea. The present study revealed that risk orientation extension contact and sources of information had significant effect on adoption of recommended package of practices of pigeonpea. Therefore, these variables need to be considered while disseminating the knowledge of improved agricultural practices concerned.

Keywords: Adoption, Knowledge, Package of practices

INTRODUCTION

India is largest producer of pulses in the world with 25 per cent share in global production. Chickpea, pigeonpea, mungbean, uradbean, linter, and field pea are important pulses crop contributing 39 per cent, 21 per cent, 11 per cent, 10 per cent, 7 per cent and 5 per cent to the total production of pulses in the country. The percent share of total pulses in the gross cropped area has declined at the national level by 29 per cent, while it has increased by 26 per cent in Maharashtra during past 45 years.

Pigeonpea is an important pulse crop in India. It is also known as Red gram, Arhar and Tur. Red gram is mainly cultivated and consumed in developing countries of the world. This crop is widely grown in India. India is the largest producer and consumer of Pigeonpea in the world. Pigeonpea accounted for about 21 percent of the total production of pulses in the country during the year 2010-2011. But the yield and productivity of pigeonpea is not satisfactory as compared to area under cultivation.

The adoption has been defined by Rogers (1962) as decision to continue full use of innovation. One does not adopt as soon as he hears of a recommended farm practices, as adoption is a mental process which take certain time. It was therefore, necessary to probe into the various dimensions particularly on adoption of recommended package of practices of pigeonpea cultivation and to come with certain concrete findings. Adoption of new technologies has always been the major aim of our development.

Hence the present study was proposed to be undertaken with the following specific objectives.

1. To study the extent of adoption of recommended pigeonpea package of practices by the growers.
2. To delineate relationship between profile of respondents with the adoption.

METHODOLOGY

The present study was undertaken in Parbhani district of Maharashtra. Three talukas namely

* E-mail: rmghadge2011@rediffmail.com

Manwat, Selu and Pathri from Parbhani district were randomly selected. and from each talukas four villages were selected randomly. Ten farmers from each village who were cultivating this crop were selected randomly. Thus, the total numbers of respondents were one hundred and twenty. The data pertaining to the objectives of the study were collected with the help of structured interview schedule by personal interview method.

The data thus collected were subjected to the statistical analysis by using, frequency, percentage and statistical test such as Karls Pearson co-efficient of correlation and multiple regression analysis for assessing the relationship of the independent variables with the dependent variable.

The extent of adoption was based on the weightage given to the recommended practices followed by respondents. If respondent adopts recommended practice fully two score was given, for partial adoption one score was given and for non adoption zero score was given. Thus the respondents were classified into three categories on the basis of mean \pm SD.

The adoption index of each practice was calculated by using following formula.

$$\text{Adoption index} = \frac{\text{Actual score obtained}}{\text{Total obtainable score}} \times 100$$

On the basis of this adoption index, the respondents were classified and categorized as low, medium and high adoption categories as below.

RESULTS AND DISCUSSION

The results of the present research work are presented below.

Overall adoption level

The results from Table 1 showed that majority (61.66 per cent) of the respondents had medium level of adoption, 22.50 per cent of them had low level of adoption and 15.84 per cent of the respondents had high level of adoption regarding recommended package of practices of pigeonpea.

Table 1
Distribution of respondents according to their overall adoption level

(n=120)			
Sr. No.	Adoption level	Frequency	Per cent
1.	Low (Upto 16)	27	22.50
2.	Medium (17 to 19)	74	61.66
3.	High (20 and above)	19	15.84
	Total	120	100.00

This clearly indicates the need to put more efforts for enhancing the adoption of recommended package of practices of pigeonpea. To increase adoption level emphasis should on elimination or reduction of major constraints encountered.

Results is in line with findings of Deshpande (1994), Rambasu and Punna Rao, P. (1997) respectively.

Relationship between profile of respondents with the knowledge and adoption of recommended package of practices of pigeonpea.

It was observed from Table 2 that out of eight independent variables viz., education, annual income, Economic motivation, risk orientation and extension contact of had positive and significant relationship with adoption of recommended package of practices of pigeonpea. Whereas, farm experience, land holding did not show any relationship with adoption of recommended package of practices of pigeonpea.

Table 2
Relationship between profiles of respondents with adoption of recommended package of practices of pigeonpea

Sr. No.	Independent variables	Correlation coefficient 'r'
1.	Farm experience	-0.143
2.	Education	0.271**
3.	Land holding	-0.105
4.	Annual income	0.485**
5.	Economic motivation	0.390**
6.	Risk orientation	0.691**
7.	Extension contact	0.413**
8.	Sources of information	-0.143

Note : ** Significant at 1 per cent level of probability.

* Significant at 5 per cent level of probability.

This finding is in consonance with the findings of Dhage (1992), Sakharkar *et al.* (1992), Patil (1998) and Deshmukh (2006).

Multiple regression analysis of adoption

The regression analysis was done to appraise the contribution of selected independent variables to the dependent variables i.e. adoption of pigeonpea production technology.

An analysis presented in table 3 indicated that 59.90 per cent variation in adoption of the technology of farmers was explained by eight independent variables. From the regression analysis it was seen that out of eight independent variable, only three variables i.e. Risk orientation Extension contact and sources of information had significant effect on adoption of recommended package of practices of pigeonpea. The regression coefficient of the variable was 0.0964, 0.2196 and 0.3146s.

Table 3
Multiple regression analysis of adoption of recommended package of practices with independent variables

Sr. No.	Independent variables	Correlation		
		B(l)	SE	't' value
1.	Farm experience	-0.1046	0.0259	-4.03
2.	Education	0.2207	0.1843	1.197
3.	Land holding	0.0686	0.0064	1.59
4.	Annual income	0.868	0.0688	1.261
5.	Economic motivation	0.4072	0.0919	0.884
6.	Risk orientation	0.0964	0.0453	2.127*
7.	Extension contact	0.2196	0.0919	2.389*
8.	Sources of information	0.3146	0.1395	2.255*
R ² = 0.599		F = 20.70		

Note: ** Significant at 1 per cent level of probability.

* Significant at 5 per cent level of probability.

The similar findings were noticed by Dhage (1992), Ramteke (2001).

CONCLUSION

The result showed that majority (61.66 per cent) of the respondents had medium level of adoption. It was revealed that the variables like education, annual income, economic motivation, risk orientation and extension contact had positive significant relationship with adoption of recommended package of practices of pigeonpea. The present study revealed that risk orientation extension contact and sources of information had significant effect on adoption of recommended package of practices of pigeonpea. Therefore, these variables need to be considered while disseminating the knowledge of improved agricultural practices concerned. The conclusions drawn from the present study will serve as a guideline to the planners, administrators, extension workers and researchers. It is hoped that findings would help either directly and indirectly to extension agencies to boost up the adoption of recommended package of practices of pigeonpea.

Referances

- Deshmukh, M.P. (2006), Knowledge and adoption of pigeonpea variety BSMR 736 by the farmers in Jalna district. (M.Sc. Agri.) Thesis, MAU, Parbhani.
- Deshpande, P.V. (1994), A study on innovation decision process among the sunflower growers. Ph.D. Thesis, MAU, Parbhani.
- Dhage, D.H. (1992), A study on impact of first line demonstration on gram. (M.Sc. Agri.) Thesis, MAU, Parbhani.
- Ramteke, A.S. (2001), Adoption of recommended package of practices of pigeonpea. (M.Sc. Agri.) Thesis, MAU, Parbhani.
- Ram Basu, P. and Punna Rao, P. (1997), Extension guidance received by rice followed black gram farmers. Mah. J. Extn. Edn., XVI: 341-343.