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Association of characteristics of farmers with adoption of improved chickpea production technology

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ABSTRACT

India is the largest producer of chickpea in the world accounting for 67% of global production. Chickpea is grown on about 7.29 million ha area with annual production of 5.77 MT grain which represent 30% and 38% of pulses acreage and production in India. Its production has gone up from 3.65 to 5.77 MT between 1950-51 to 2003-04 registering an annual growth rate of 0.58%, which is far less than the population growth causing a wide gap in the demand and supply of chickpea. The major chickpea growing states are Madhya Pradesh, Rajasthan, Uttar Pradesh, Maharashtra, Andhra Pradesh, Gujarat and Karnataka. Chickpea productivity in the country is almost static (750-800 kg/ha) mainly due to poor adoption of improved varieties and scientific production techniques by the farmers. The investigation was carried out in Bhagyanagar block of Auraiya district (U.P.) in the year 2008-09. A total of 80 farmers were selected from two villages namely Kuthra & Parghaipur through proportionately random sampling technique. The data were collected from the respondents with the help of a well structured interview schedule. The correlation was computed to know the relation of characteristics of respondents with their extent of adoption of recommended cultivation practices of chickpea. It was concluded that the characteristics namely education, size of farm holding, knowledge, social participation and socio-economic status had a positive and significant relationship with adoption whereas farming experience and risk orientation were found non-significant with level of adoption of chickpea. Hence, keeping these variables in mind, farmers will have to be trained properly about improved production technology of chickpea that would be able to educate and transfer the technology more electively among the chickpea growers.

Key words: Chickpea, characteristics, association, farmers, adoption, production technology.

India is the largest producer of chickpea in the world accounting for 67% of global production. Chickpea is grown on about 7.29 million ha area with annual production of 5.77 MT grain which represent 30% and 38% of pulses acreage and production, respectively in India. Its production has gone up from 3.65 to 5.77 MT between 1950-51 to 2003-04 registering a growth of 0.58% annually, which is far less than the population growth causing a wide gap in the demand and supply of chickpea. The major chickpea growing states are Madhya Pradesh, Rajasthan, Uttar Pradesh, Maharashtra, Andhra Pradesh, Gujarat and Karnataka. Total productivity of chickpea in the country is almost static (750-800 kg/ha) mainly due to poor adoption of improved varieties and production technologies by the farmers. There is not much scope for increasing the area under pulses until the other most viable approach to increase the productivity of pulses through popularization of high yielding varieties along with their improved production & adoption practices. Appreciable untapped yield gaps suggest a clear cut scope for enhancing the production & productivity of pulses in India as well as in Uttar Pradesh. The situation appears to be much worse in Uttar Pradesh where chickpea is being replaced by

major *Rabi* wheat crop which is the staple food of almost all the people of the villages and in the cities also. Adoption of improved cultivation practices assumes great importance in agricultural development since the new technology developed through farm research is the key of getting higher yields and incomes thus improving the socio-economic status of the people in villages.

Research Methodology

The investigation was carried out in Auraiya district of U.P. in which Bhagyanagar block was selected purposively. A sample of 80 farmers was selected from two villages namely Kuthrra and Pargaipur through proportionately random sampling technique. The data were collected from the respondents with the help of a well structured interview schedule. The correlation was computed to know the relationship among the characteristics of the respondents with their extent of adoption of improved and recommended cultivation practices of chickpea.

Findings and Discussion

The results of correlation analysis are presented in Table 1 and the relationship of characteristics of farmers for adoption of chickpea production technology in the form of empirical model is given in Fig. 1. It is evident from the Table 1 that education has significant and positive relationship with adoption of recommended practices. It is quite clear that educated persons could learn the technologies faster and completely in comparision to non-educated person.

Education and land holdings of the respondents showed a positive and highly significant relationship with the adoption of chickpea technologies. It is quite logical that educated farmers are well aware and inclined to adopt improved technology of chickpea cultivation. The study revealed that it was not possible to adopt the latest and improved technologies for chickpea growers among the farmers having small size of farm holdings since it involves higher investment and also market price fluctuation. This might be the probable reason for the positive relationship of land holdings and adoption techniques of the chickpea. This finding is in line with the finding of Karthikeyan *et al.* (1995).

Occupation was also found positive and highly significant with the adoption of technologies for chickpea cultivation. Social participation showed significant and positive relationship with adoption. Vijay Kumar (1991) also reported that social participation enhanced adoption of the new and improved technologies. Socio-economic status was also found positively and highly correlated with adoption techniques among the respondents. This finding support the findings of Sudha *et al.* (1991).

Extension agency contact and the knowledge level of the agencies working in the field of agriculture were also found significant and positively correlated with adoption of chickpea production technology. Knowledge showed a positive & highly significant relationship with its adoption, because knowledge is recognized as one of the most important components of human behaviour which gives impetus to adopt a technology.

Table 1. Correlation between characteristics of respondents with adoption of recommended chickpea production technologies

S. no.	Variables	Correlation coefficient (R)
1.	Age	0.069
2.	Education	0.0532**
3.	Land holding	0.0496**
4.	Occupation	0.0336**
5.	Farming experience	0.031
6.	Social participation	0.0223*
7.	Socio-economic status	0.04221**
8.	Extension agency contact	0.0321**
9.	Economic motivation	0.032
10.	Risk orientation	0.0281
11.	Knowledge level	0.480**

* Significant at 0.05 probability level
** Significant at 0.01 probability level

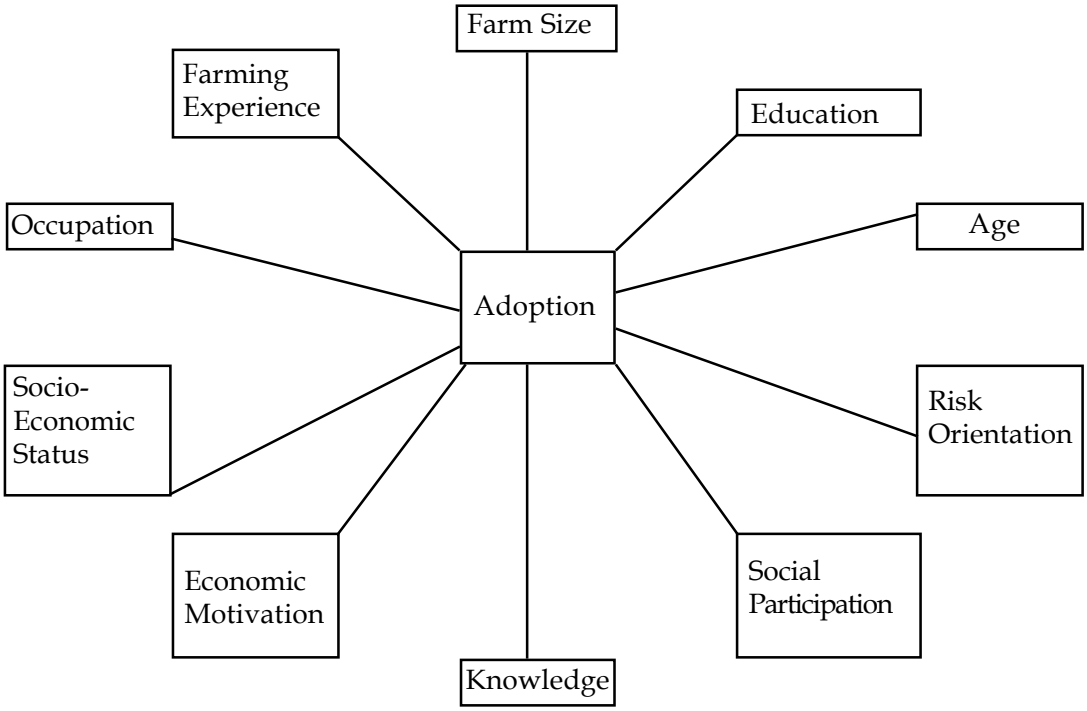

Fig. 1. Empirical model showing the relationship between characteristics of farmers and adoption of recommended chickpea production technology

However, age, farming experience and risk orientation were found non-significant with adoption whereas economic motivation was also found non-insignificant and negative relationship with chickpea production technology.

Conclusion

It may be inferred from the findings, that the characteristics namely education, size of farm holding, knowledge, social participation and socio-economic status of the farmers had a positive and significant relationship with adoption. whereas farming experience and risk orientation were found non-significant with level of adoption of improved techniques. Hence keeping these variables in mind, farmers should be trained properly about improved production technology of chickpea and these trained farmers would be able to educate and transfer the technology more effectively among the other chickpea growers of the district.

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