SHORT COMMUNICATION

ANALYSIS OF FACTORS ASSOCIATED WITH THE TECHNOLOGICAL GAP IN ADOPTION OF RECOMMENDED PRODUCTION TECHNOLOGY OF BLACK GRAM AMONG TRIBAL FARMERS OF JASHPUR DISTRICT (CHHATTISGARH)

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Abstract: Present study was conducted in Jashpur district (Chhattisgarh) among tribal farmers. Total three blocks were purposively selected for the study; four villages were selected randomly from each selected block to make a total of 12 villages in the sample. Ten black gram producing tribal farmers were selected randomly from each selected village. Thus the total 120 black gram growers (10X12=120) were considered as respondent for this study. The results of the study revealed that the technological gap of respondents was found to be negatively and significantly related with the independent variables viz.:- extension participation, land holding, annual income, credit acquisition, source of information, contact with extension personnel, knowledge level.

Keywords: Technological gap, black gram

INTRODUCTION

Though India is the world's largest producer of pulses but still it imports a large amount of pulses to meet the growing domestic needs. During 2009-10, India imported 3.5 million tons of pulses from the countries like Australia, Canada and Myanmar. (FAOSTAT 2010), Black gram (*Vigna mungo*) which belongs to Fabaceae (Leguminoceae) family, originated from India. Urd is an important food legume widely consumed in India. It is one of the most widely cultivated pulse crops in the country. It is grown over an area of about 30 lakh ha with a production of about 13 lakh tones, the average productivity of about 0.4 t/ha. Is still a challenge which has to be increased, Black gram is mainly cultivated in Indian subcontinent. Black lentil is nothing but the split black gram and after removing black skin it is sold as white lentil. In India Black gram is popular as "Urad dal" and it is highly prized pulse among all the pulses. Black gram, also known as urdbean, mash, black maple etc. an important short-duration pulse crop grown in many parts of India. This crop is grown in cropping systems as a mixed crop, catch crop, sequential crop besides growing as sole crop under residual moisture conditions after the harvest of rice and also before and after the harvest of other summer crops under semi-irrigated and dry land conditions. Its seeds are highly nutritious with protein (25-26%), carbohydrates (60%), fat (1.5%), minerals, amino acids and vitamins. Seeds are used in the preparation of many popular Indian dishes. It is one of the most important components in the preparation of famous south Indian dishes, e.g. dosa, idli, vada etc. besides, it adds about 42 kg Nitrogen per hectare in soil. It is also valued as a green manure crop. Its dry stalks along with pod husk forms a nutritive fodder especially for milch cattle. Black gram possesses deep root system, which binds soil particles and thus prevents soil erosion.

In Chhattisgarh, black gram is cultivated in 177.77 thousand ha area with production of 73.51 tons in the year 2011 (Agridept.cg.gov.in), Raigarh is 1st rank in cultivating area of 17.30 thousand ha with production of 4 thousand metric tons, Surguja accounts 14.81 thousand ha with 4.01 metric tons production followed by Jashpur district with area 14.42 thousand ha and production of 5.11 metric tons. The productivity of black gram in the state is only 0.41 t/ha which is far behind than the potential. The study is therefore concerned about assessment of such technological gap in production of black gram particularly among tribal farmers and the findings will throw light on these aspects to meet out the challenges in Jashpur district.

RESREARCH METHODOLOGY

The study was conducted in Jashpur district of Chhattisgarh, during the year 2013-14. Out of total 8 blocks in the district (Jashpur, Bagicha, Pharsabahar, Pathalgaon, Kunkuri, Kansabel, Manora and Duldula), only three blocks i.e, Pharsabahar, Bagicha and Jashpur were selected purposively because of maximum area under black gram cultivation. Villages were selected randomly from each selected block to make a total of 12 villages in the sample. Randomly selected villages are following: Baro, Mahuwadih, Khutsera, Jamtoli, Kutma, Bamba, Pasiya, Sanna, Lodam, Putrichaura, Koleng and Jabla. Ten black gram producing tribal farmers were selected randomly from each selected village. Thus the total 120 black gram growers (10X12=120) were considered as respondent for this study. The data were collected personally through pre-tested interview schedule. Collected data were tabulated and processed by using appropriate statistical tools and methods.

RESULT AND DISCUSSION

Correlation analysis of sixteenth independent variables i.e.: age, education, family size, social participation, extension participation, farming experience, occupation, land holding, annual income, credit acquisition, irrigation facility, source of information, contact with extension personnel, scientific orientation, risk orientation and knowledge level with technological gap in adoption of recommended production technology of black gram.

Table 1 depicts that out of sixteen variables only seven variables were negatively and significantly correlated at 0.01 level of probability with technological gap in production of production technology of black gram among tribal farmers these variables are: - extension participation, land holding, annual income, credit acquisition, source of information, contact with extension personnel and knowledge level of recommended production technology of black gram, of which only occupation had positively and significantly correlated with technological gap. It's meant technological gap in adoption of recommended production technology of black gram decrease by increasing of extension participation, land holding, annual income, and credit acquisition, source of information, contact with extension personnel and knowledge level of recommended production technology of black gram, where as occupation and technological gap increase or decrease in similar direction. Whereas remaining eight variables i.e. age, education, family size, social, participation, farming experience, irrigation facility, scientific orientation and risk orientation non-significantly correlated with technological gap in adoption of recommended production technology of black gram. It is therefore required to intervene the significant factors for reducing the technological gap in adoption of blackgram production technology.

Table 1: Coefficient of correlation of independent variables with the Technological gap in adoption of recommended production technology of black gram (n=120)

S.N.	Independent variables	Coefficient of correlation "r" value
1.	Age	-0.058NS
2.	Education	-0.047NS
3.	Family size	-0.006NS
4.	Social participation	-0.050NS
5.	Extension participation	-0.434**
6.	Farming experience	-0.128NS
7.	Occupation	0.381**
8.	Land holding	-0.338**
9.	Annual income	-0.445**
10.	Credit acquisition	-0.363**
11.	Irrigation facility	0.012NS
12.	Source of information	-0.266**
13.	Contact with extension personnel	-0.597**
14.	Scientific orientation	-0.162NS
15.	Risk orientation	-0.112NS
16.	Knowledge level	-0.702**

**Significant at 0.01 level of probability *Significant at 0.05 level of probability NS=Non significant

Multiple regression analysis of independent variables with the technological gap in adoption of recommended production technology of black gram is compiled in Table 2. It revealed that out of the sixteen variables under study, two variables viz. contact with extension personnel and knowledge level had significant contribution with technological gap at 0.01 per cent level of probability. Whereas age, education, family size, social participation, extension participation, farming experience, occupation, land holding, annual income, credit acquisition, irrigation facility, source of information, scientific orientation and risk orientation had shown non-significant contribution to the technological gap in adoption of recommended production technology of black gram.

Table 2: Multiple regression analysis of independent variables with the technological gap in adoption of recommended production technology of black gram (n=120)

S.N.	Variables	"t' value	Regression coefficient "b" value
1.	Age	1.146	0.082 NS
2.	Education	1.031	0.375 NS
3.	Family size	-0.190	-0.125 NS

4.	Social participation	0.087	0.118 NS
5.	Extension participation	-1.165	-0.532 NS
6.	Farming experience	-0.858	-0.066 NS
7.	Occupation	1.464	1.246 NS
8.	Land holding	-0.282	-0.098 NS
9.	Annual income	-1.388	-0.763 NS
10.	Credit acquisition	-0.564	-0.618 NS
11.	Irrigation facility	1.271	0.753 NS
12.	Source of information	1.743	0.404 NS
13.	Contact with extension personnel	-4.690	-2.709**
14.	Scientific orientation	-1.535	-0.103 NS
15.	Risk orientation	-0.002	0.006 NS
16.	Knowledge level	-5.986	-0.337**

** Significant at 0.01 level of probability $R^2 = 0.657$

* Significant at 0.05 level of probability F value of R = 12.37 NS = Non significant

CONCLUSION

The technological gap among tribal farmers was found to be negatively and significantly related with the extension participation, land holding, annual income, credit acquisition, source of information, contact with extension personnel and knowledge level of recommended production technology of black gram. Occupation was positively and significantly related with the technological gap in adoption of recommended production technology of black gram.

Whereas age, education, family size, social, participation, farming experience, irrigation facility, scientific orientation and risk orientation non-significantly correlated with technological gap in adoption of recommended production technology of black gram.

Regarding multiple regression analysis, only two variables were negative significantly contribution towards technological gap at 0.01 level of probability.

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