

RESEARCH NOTE

Level of Adoption of Chickpea Growers about Chickpea Production Technology

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ABSTRACT

Chickpea is one of the most important legume crops of Gujarat state. In Gujarat, Saurashtra region is one of the most remarkable regions for chickpea cultivation and production. Junagadh district is very good producer district of Saurashtra region and due to consider its importance, the present investigation was conducted to study the relationship between the selected characteristics of the chickpea growers and their level of adoption about recommended chickpea production technology. Four talukas; Maliya, Keshod, Mendarda and Junagadh of Junagadh district were purposively selected for the research. Total three villages were randomly selected from each selected talukas and 10 farmers were randomly selected from each village. Thus, total sample size was 120 farmers. The relationship was studied by statistical tool coefficient of correlation. The study revealed that out of total 14 selected characteristics in term of variables, two variables, i.e. extension participation and yield index were positively and highly significantly associated with the level of adoption. Age and size of land holding were the variables which non- significantly associated, while remaining all the variables i.e. education, farm experience, social participation, annual income, mass media exposure, innovativeness, scientific orientation, risk orientation, irrigation potentiality and cropping intensity had positive and significant association with chickpea growers' level of adoption about recommended chickpea production technology.

Key words: Chickpea growers; Level of adoption; Production technology; Relationship; Coefficient of correlation;

In the process of agricultural development, new farming technology can be considered as the prime mover. The benefits of such technology are actually derived only when it is efficiently utilized by the individual farmers in their local situations. But only a small percentage of new technologies have been adopted by the farmers. As a result of that, wide gap between existing yield and potential yield can be seen. Chickpea is an important and unique food legume crop because of its economic as well as health related importance. The area under the cultivation of chickpea is increasing every year. In Gujarat, Saurashtra region is one of the most remarkable regions for chickpea cultivation and production. In the production of chickpea, the yield of chickpea was 1253 kg/ha in Gujarat in year 2017-18 (Anon., 2018a) which was much lower than the average of the yields (1700 kg/ha for rain fed chickpea and 2450 kg/ha for irrigated chickpea) obtained from

various varieties at demonstration plot and research station (Anon., 2018b). This might be due to lack of adoption of chickpea growers about recommended chickpea production technology. Therefore, it was high time to assess the relationships between the selected characteristics of chickpea growers and their level of adoption of recommended chickpea production technology which worked as the major factors behind their adoption. The objective of study the association between the selected characteristics of chickpea growers and their level of adoption about recommended chickpea production technology

METHODOLOGY

Ex-post facto research design was adopted for the study. The present investigation was conducted in Junagadh district of Gujarat state. Junagadh district is one of the leading chickpea growing districts of South

Saurashtra Agro-climatic zone of Gujarat State. Out of 9 talukas of Junagadh district, 4 talukas viz. Maliya, Keshod, Mendarda and Junagadh were selected purposively for the study due to favorable area of production for chickpea crop and familiar area for researcher. Three villages were selected randomly from the each selected talukas. Thus, total 12 villages were selected for the study. A random sampling procedure was followed for the selection of the respondents and accordingly ten chickpea growers from each village were selected as respondents. Thus, 120 chickpea growers were selected for the study. The data were collected with the help of well structured, pre-tested schedule through personal contact and then they were compiled, tabulated and analyzed to draw valid conclusion. To find out the relationship between independent variables of chickpea growers and their level of adoption, the Pearson's product method suggested by *Chandel (1974)* was used as a statistical tool namely coefficient of correlation.

RESULTS AND DISCUSSION

Relationship between individual independent variable of chickpea growers and their level of adoption about recommended chickpea production technology is described as below;

Age and Adoption : The data presented in Table 1

Table 1. Correlation between selected characteristics with their level of adoption about recommended chickpea production technology (N = 120)

Independent variable	'r' value
Age	0.0791 ^{NS}
Education	0.1859*
Farm experience	0.1842*
Social participation	0.2224*
Size of land holding	0.0580 ^{NS}
Annual income	0.2051*
Extension participation	0.2432**
Mass media exposure	0.2079*
Innovativeness	0.2093*
Scientific orientation	0.2005*
Risk orientation	0.1925*
Irrigation potentiality	0.2102*
Cropping intensity	0.1896*
Yield index	0.3490**

*= significant at 0.05 level, ** = highly significant at 0.01 level, NS= non-significant

reveals that the calculated co-efficient of correlation value ($r = 0.0791$) was found positive and non-significant at 0.05 level. It means there was not found any relation between age of chickpea growers and their level of adoption of recommended chickpea production technology. This finding is in line with the findings of *Verma (2009)*, *Rajput (2010)*, *Divakar (2011)*, *Lohare (2017)* and *Raviya (2017)*.

Education and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.1859$) was found positive and significant at 0.05 level. It means level of adoption of chickpea growers increased significantly with increased their education. This result is in line with the findings of *Verma (2009)*, *Rajput (2010)*, *Divakar (2011)* and *Lohare (2017)*.

Farm experience and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.1842$) was found positive and significant at 0.05 level. It can be inferred that level of adoption of chickpea growers increased significantly with increased their farm experience. This result is supported by the findings of *Rajput (2010)* and *Lohare (2017)*.

Social participation and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2224$) was found positive and significant at 0.05 level. This indicates that social participation influenced the level of adoption of chickpea production technology as it provided an opportunity to an individual chickpea grower to interaction with various social organizations. This finding is in line with the findings of *Verma (2009)*, *Dalsaniya (2010)*, *Rajput (2010)*, *Divakar (2011)*, *Humbal (2012)* and *Lohare (2017)*.

Size of land holding and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.0580$) was found positive and non-significant at 0.05 level. It means adoption of chickpea growers was not related with the size of land holding they had. This finding is in line with the findings of *Raviya (2017)* and *Datta (2018)*.

Annual income and Adoption : The data from Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2051$) was found positive and significant at 0.05 level. It can be inferred that level of adoption of chickpea growers increased significantly with increased

their annual income. This finding is supported by findings of Verma (2009), Dalsaniya (2010), Divakar (2011), Gorfad (2012) and Lohare (2017).

Extension participation and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2432$) was found positive and highly significant at 0.01 level. It means level of adoption of chickpea growers increased highly significantly with increased their active extension participation.

The probable reason might be that due to more participation in extension activities, the chickpea growers acquired more knowledge and extension services facilitated and motivated them with respect to higher adoption of chickpea production technology.

This finding is in conformity with the findings of Hadiya (2013) and Raviya (2017).

Mass media exposure and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2079$) was found positive and significant at 0.05 level. It means level of adoption of chickpea growers increased significantly with increased their mass media exposure. This finding is in conformity with the findings of Dalsaniya (2010), Gorfad (2012) and Lohare (2017).

Innovativeness and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2093$) was found positive and significant at 0.05 level. It means level of adoption of chickpea growers increased significantly with an increase in their innovativeness.

The probable reason might be that innovative chickpea growers tried innovative and different recommended practices for more yields which developed significant relationship between innovativeness and adoption.

This finding is in conformity with the findings of Dalsaniya (2010) and Rajput (2010).

Scientific orientation and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2005$) was found positive and significant at 0.05 level. It means level of adoption of chickpea growers increased significantly with increased their scientific orientation.

The probable reason might be that chickpea growers who were having scientific oriented nature tried

to adopt new and recommended chickpea production technology.

This finding is in conformity with the findings of Umretiya (2015) and Lohare (2017).

Risk orientation and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.1925$) was found positive and significant at 0.05 level. It means level of adoption of chickpea growers increased significantly with increased their risk orientation.

The probable reason might be that the chickpea growers who were having with more risk oriented nature took more calculated risk and faced the challenges to get maximum returns and adopted new or recommended chickpea production technology.

This finding is in conformity with the findings of Verma (2009) and Divakar (2011).

Irrigation potentiality and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2102$) was found positive and significant at 0.05 level. It means level of adoption of chickpea growers increased significantly with increased their irrigation potentiality.

The probable reason might be that chickpea growers with good irrigation potentiality became self-motivated towards adopting new and recommended production technology.

This finding is in conformity with the findings of Kumbhani (2009) and Gorfad (2012).

Cropping intensity and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.1896$) was found positive and significant at 0.05 level. It means level of adoption of chickpea growers increased significantly with increased their cropping intensity.

The probable reason for this result might be that increasing in cropping intensity motivated chickpea growers to acquire more adoption about improved production technology.

This finding is in conformity with the findings of Divakar (2011), Gorfad (2012) and Hadiya (2013).

Yield index and Adoption : The data presented in Table 1 reveals that the calculated co-efficient of correlation value ($r = 0.3490$) was found positive and highly significant at 0.01 level. It means level of adoption of chickpea growers increased highly significantly with

increased their yield index. This might be due to the fact that with increase in yield from crop production, motivated the chickpea growers to adopt new and recommended production technology. This finding is in conformity with the findings of *Raviya (2017)* and *Datta (2018)*.

CONCLUSION

On the basis of entire study, it can be concluded that out of total 14 independent variables, two variables, i.e. extension participation and yield index were positively

and highly significantly associated with level of adoption of chickpea growers about recommended chickpea production technology. Age and size of land holding were the variables which non- significantly associated, while remaining all variables i.e. education, farm experience, social participation, annual income, mass media exposure, innovativeness, scientific orientation, risk orientation, irrigation potentiality and cropping intensity had positive and significant association with chickpea growers' level of adoption about recommended chickpea production technology.

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