FACTORS AFFECTING TECHNOLOGICAL GAP OF RICE GROWERS OF KURNOOL DISTRICT IN ANDHRA PRADESH

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ABSTRACT

The study was conducted in the Kurnool district of Andhra Pradesh during the year 2014-15. The study has focused on factors affecting technological gap of rice growers in adoption of recommended rice production technology. A sample of 120 farmers of six villages was included by random sampling and their responses were analyzed with relevant statistical tools. Findings of the study revealed that independent variables viz., age, education, annual income, cosmopoliteness, social participation, extension contact, mass media exposure, innovativeness, scientific orientation, management orientation and risk orientation were found negatively and significantly correlated with technological gap of rice farmers. Farming experience was found to have positive and significant relation with technological gap where as farm size had non- significant relation with technological gap of rice farmers with overall technological gap of rice growers.

KEY WORDS: Technology gap, Adoption, Rice growers production technology

INTRODUCTION

Rice is life, for most people of Asia. Rice has shaped the cultures, diets and economies of thousands of millions of people. It is a time honored crop to the Asian way of life; deeply embedded in the cultural heritage, spirituality, traditions and norms. A Chinese proverb says that "Precious things are not pearls and jades but the five grains, of which rice is the finest". The adoption or acceptance of recommended agricultural technology is a unit that acts but a complex process is involving in the sequence and thought of action. The action of individual farmers is governed by their profile characteristics and situational factors. Some farmers adopt new agricultural technology more quickly than others because of the differences in profile characteristics. Hence, considering the importance of these characteristics and review of past research studies, an attempt has been made in this investigation to ascertain the relationship if any, between selected profile characteristics of the rice growers and their technological gap in adoption of rice production technology.

The present study was conducted to analyze the factors affecting the technological gap in adoption of recommended cultivation practices by the farmers in rice production, with an objective of studying the

technological gap in adoption of recommended cultivation practices by the rice growers.

METHODOLOGY

The study was conducted using expost- facto research design to study the factors affecting the technological gap in adoption of recommended cultivation practices by the growers in Kurnool district of Andhra Pradesh during the years 2014-15. Kurnool district was selected as the researcher hails from the same area and had the familiarity with social conditions, local language and culture of the people. Kurnool district comprises of 54 mandals out of which three mandals namely Mahanandi, Sirivella and Rudravaram were purposively selected for the study. From each of the selected mandals, two villages were selected based on random sampling procedure. Thus, a total of six villages were selected for the study. A total sample of 120 rice farmers were selected by selecting 20 farmers from each village through simple random sampling procedure. Keeping the objective of the study in view, a semi structured interview schedule was developed and pretested. This was administered to sample respondents through personal investigation. The data obtained were coded, classified and tabulated. The technological gap of rice cultivation determined and tested with help of Karl Pearson (1978) co efficient correlation test.

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RESULTS AND DISCUSSION

Considering the importance of characteristics of the respondents and review of past research studies, the relationship between selected profile characteristics of rice growers and technological gap was calculated and presented in Table 1.

Age Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = 0.4674) between age and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was a significant relationship between age and technological gap of rice farmers. Most of the respondents belonged to middle and old age categories, as the youth in the rural areas were not interested in doing agricultural because of various reasons. The youth preferred academic and business careers. Hence this trend was noticed. This finding is similar with the result of Singh (2007) and Chouhan *et al.* (2013).

Education Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.3905) between education and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was a negative and significant relationship between education and technological gap of rice farmers. It is evident that farmers with more education will reach the latest technologies by using different media. These farmers also were able to understand clearly the use of the technology and were able to practically apply to their field situation as compared to the less educated farmers, hence this relation was noticed. This finding was in line with Roy *et al.* (2013).

Farm size Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.0764) between farm size and the technological gap of respondents was less than the table value of 'r'. Hence, null hypothesis was accepted and empirical hypothesis was rejected. It could, therefore be inferred that there was non-significant relationship between farm size and technological gap of rice farmers. The different categories of farming community were almost having similar income. The respondents were using the similar resources, cultivation practices and technology and hence this trend was noticed.

Farming experience Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = 0.3807) between farm experience and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was a significant relationship between farming experience and technological gap of rice farmers. The more experienced farmers were having the better knowledge of latest recommendations and technology. They were using minimum of the technologies were critical in the cultivation of rice crop when compared to the farmers with less experience and hence this trend was noticed.

Annual income Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.4346) between annual income and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between annual income and technological gap of rice farmers. The farmers with more income were able to sustain in the rice cultivation and they got the income because of use of latest production recommendations and hence this result was noticed.

Cosmopoliteness Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.3647) between cosmopoliteness and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between cosmopoliteness and technological gap of rice farmers. It is evident that the farmers having the trait of cosmopliteness would eventually search the different channels of information outside their community also. Usually the information about the latest technologies in the own community would be similar at different angles, but the information gained through the outside channels may sometimes prove to be new and fit well to solve an existing problem. Hence this trend might have been observed.

Table 1. Relationship between selected profile characteristics of respondents and their technological gap

S. No.	Variable No.	Independent variables	Correlation coefficients ('r' value)
1.	X_1	Age	0.4674**
2.	X_2	Education	-0.3905**
3.	X_3	Farm size	-0.0764NS
4.	X_4	Farming experience	0.3807**
5.	X_5	Annual Income	-0.4346**
6.	X_6	Cosmopoliteness	-0.3645**
7.	X_7	Social participation	-0.5274**
8.	X_8	Extension contact	-0.3253**
9.	X_9	Mass media exposure	-0.5248**
10.	X_{10}	Innovativeness	-0.3794**
11.	X_{11}	Scientific orientation	-0.3224**
12.	X_{12}	Risk orientation	-0.3294**
13	X_{13}	Management orientation	-0.5115**

* : Significant at 0.05 level of probability
** : Significant at 0.01 level of probability
NS : Non-significant

Social participation Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.5274) between social participation and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between social participation and technological gap of rice farmers. The above finding was in line with Chouhan *et al.* (2013). The respondents with more social participation as compared to others, have definitely more channels of information about the latest technologies, they are better to change their attitudes towards new technologies and adopt them soon. Hence this trend might have been noticed.

Extension contact Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.3253) between extension contact and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between extension contact and technological gap of rice farmers. Good extension contact keeps the farmers aware of the agricultural innovations, which are essential to minimize

the gaps of using the latest technologies with regard to rice cultivation. Rice being the prime crop, usually a continuous series of technologies would be there. So as compared to farmers with less extension contact these farmers have fewer gaps in the use of technology. Hence this result might have been observed.

Mass media exposure Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.5248) between mass media exposure and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between mass media exposure and technological gap of rice farmers. Mass media especially at present is having a definite impact on the farmers to use the latest technologies in agriculture. As time to time the number television channels separately for agriculture, news paper columns, Information and Communication Tools are added up very frequently. Hence this trend might have been noticed.

Innovativeness Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.3793) between innovativeness and the technological gap of respondents was more than the table

value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between innovativeness and technological gap of rice farmers. An innovative farmer always try to cultivate the crop differently from others by using new methods of cultivation and he searches for new varieties which are resistant to pests and diseases and tolerant to other micro climatic factors. Hence this result was observed.

Scientific orientation Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.3224) between scientific orientation and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between scientific orientation and technological gap of rice farmers. Respondents with more scientific orientation had more belief in the latest technologies recommended by the extension personnel. They adopted more recommended technologies when compared to other rice farmers. Hence this trend might have been noticed. This finding is in similar to the results of Bhatia *et al.* (2011).

Risk orientation Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.3294) between risk orientation and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between risk orientation and technological gap of rice farmers. Farmers were knowing that there was a prevalent risk in the cultivation of rice and they were more interested to avoid the pitfalls in the cultivation of crops and use mostly the recommended technologies in comparison to other farmers, hence this trend was noticed.

Management orientation Versus Technological gap

From the Table 1 it is evident that co-efficient of correlation (r = -0.5115) between management orientation and the technological gap of respondents was more than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It could, therefore be inferred that there was negative and significant relationship between management

orientation and technological gap of rice farmers. The farmers with management orientation will definitely use more accurate and latest technologies in the rice farming. They have the planning ability to foresee the difficulties in the cultivation of the crop and meet the contingencies effectively in comparison to other farmers, hence this trend might have been observed.

CONCLUSION

It is concluded from the above findings that independent variables like age, education, annual income, cosmopoliteness, social participation, extension contact, mass media exposure, innovativeness, scientific orientation, management orientation and risk orientation were found negatively and significantly correlated with technological gap of rice farmers. Farming experience was found to have positive and significant relation with technological gap where as farm size had non significant relation with technological gap of rice farmers. More efforts should be made by the extension agencies to establish in-depth extension contact with the farmers and their traits which influence the technological gap of the rice growers in terms of change in behavioural components must be reckon within training programme.

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