



## **Relationship Between Profile Characteristics Of The Farmers With Extent Of Adoption Of Indigenous Agricultural Practices In Rayalaseema Region Of Andhra Pradesh**

**B. Kranthi Kumari, S.V. Prasad, V. Sailaja, B. Aparna and G. Mohan Naidu**

Department of Agricultural Extension,  
S.V. Agricultural College, Tirupati-517 502  
Email: [kranthi200860.bommu@gmail.com](mailto:kranthi200860.bommu@gmail.com)

### **ABSTRACT**

*The study was undertaken to understand the relationship between profile characteristics of the farmers and the extent of adoption of indigenous agricultural practices in Rayalaseema region of Andhra Pradesh. A sample of 180 farmers was selected from two districts i.e. Ananthapur and Kurnool in Andhra Pradesh. The step down regression analysis revealed that, of 16 independent variables only age, farming experience, fatalism and attitude towards indigenous agricultural practices were found to be the important variables positively influencing the extent of adoption to the tune of 66.69 per cent.*

**Key words:** Profile characteristics, Farmers, Extent of adoption, Indigenous agricultural practices

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### **INTRODUCTION**

Indigenous technical knowledge may be denoted mainly as a tacit type of knowledge that has evolved within the local (grassroots) community and has been passed on from one generation to another. The indigenous knowledge is dynamic, changing through indigenous mechanism of creativity and innovativeness as well as through contact with other local and international knowledge systems. Indigenous knowledge systems often are collaborating and adapted to local cultural and environmental conditions. Indigenous knowledge systems are found to be suitable to the needs of local people, pertain to various cultural norms, social roles or physical conditions. Experience and trial and error, tested in the rigorous laboratory of survival of local communities constantly reinforce indigenous knowledge. It is learned through repetition, which is a defining characteristic of tradition even when new knowledge is added. Hence the present study was undertaken with an objective to find out the relationship between the profile characteristics of farmers and the extent of adoption of indigenous agricultural practices.

### **MATERIALS AND METHODS**

An Ex-post research design was adopted in the present investigation. Rayalaseema region of Andhra Pradesh state was selected purposively for the study as the researcher hails from the same area and was familiar with local language and culture. Two districts were selected purposively based on the highest cultivated area viz., Ananthapur and Kurnool. From Kurnool district, Bandi Atmakur, Devanakonda and Krishnagiri mandals were selected. From Ananthapur district, Kalyanadurgum, kudair and Atmakur mandals were selected based on the highest cultivated area. Two villages were selected from each of the 6 mandals by following simple random sampling thus making a total of 12 villages. From each village, 15 farmers were selected by following simple random sampling procedure, thus making a total of 180 respondents who were cultivating three crops i.e. paddy, groundnut and red gram.

### **RESULTS AND DISCUSSION:**

An attempt has been made to find out the association between independent variables and dependent variables through correlation coefficient (r) values. The results are presented in Table 1.

**Table 1. Relationship between the selected profile characteristics of the farmers with the extent of adoption of indigenous agricultural practices**  
N=180

S. No.	Variables	Correlation coefficients (r values)
1.	Age	0.793**
2.	Education	-0.325**
3.	Farm size	0.141 <sup>NS</sup>
4.	Farming experience	0.582**
5.	Family size	0.153*
6.	Family income	0.057 <sup>NS</sup>
7.	Extension contact	-0.236**
8.	Mass media contact	-0.004 <sup>NS</sup>
9.	Innovativeness	-0.278**
10.	Fatalism	0.605**
11.	Social participation	0.131 <sup>NS</sup>
12.	Achievement motivation	-0.423**
13.	Scientific orientation	-0.484**
14.	Economic orientation	-0.133**
15.	Market orientation	0.004 <sup>NS</sup>
16.	Attitude towards indigenous agricultural practices	0.698**

\*: Significant at 0.05 level of probability

\*\* : Significant at 0.01 level of probability

NS: Non Significant

The r values in Table 1. indicated that age (0.793), farming experience (0.582), family size (0.153), fatalism (0.605) and attitude towards indigenous agricultural practices (0.698) were positively correlated with the extent of adoption of indigenous agricultural practices. Whereas education (-0.325), extension contact (-0.236), innovativeness (-0.278), achievement motivation (-0.423), scientific orientation (-0.484), economic orientation (-0.133) were negatively correlated with the extent of adoption of indigenous agricultural practices. The r values of farm size (0.141), family income (0.057), social participation (0.131), market orientation (0.04) were positive and non significant and mass media contact (-0.04) was negative and non significant with the extent of adoption indigenous agricultural practices.

Based on the accumulated experience gained by the farmers through their age, they would prefer to adopt environmentally friendly, economically viable and ever sustainable IAPs. Most of the old age farmers opined that IAPs are reliable and economically more significant than the use of chemicals in cultivation of crops. Hence this trend was noticed. This finding is in conformity with Maraddi *et al.* (2007) and Sakeer Husain (2010).

Most of the farmers were middle to old aged and the fact that the old aged farmers would have generated and as well as received the IAPs from their fore fathers, thereby increasing usage of IAPs. This finding is in conformity with Maraddi *et al.* (2007), Sakeer Husain (2010) and Venkatesan and Sundaramari (2013).

If the family size happens to be bigger with joint family system, the old aged persons in the family would have transferred their knowledge of IAPs to their offspring's at the needed stage and also family labour helps in reducing labour cost and creates formidable basis for improved production. The result is in conformity with those of Salehin *et al.* (2009) and Ijioma and Osondu (2015).

Farmers who are having traditional orientation would prefer to adopt low cost, viable, eco-friendly and sustainable practices like IAPs. When the fatalism increases, the adoption of IAPs would also increase. This is in conformity with the results of Sakeer Husain (2010) and Venkatesan and Sundaramari (2013).

Educational system leads to much exposure to modern technologies and the level of literacy would enable the farmer to be able to adopt modern method of better farming and hence decrease the level of use of traditional methods. The young farmers who had more education were inclined to use modern varieties, hybrids and practices and thinking to get more yield and income in short span of time hence this trend was noticed. This finding is in conformity with Venkatesan and Sundaramari (2013).

Extension workers disseminate the modern technologies obtained from the research stations. Farmers also depend on those technologies. Hence increased extension contact would disfavour the adoption of IAPs. The result goes in the same relationship as derived by Ramesh and Govind (2008).

As the extension agencies often advocate the farmers to be more innovative with the modern technologies, they have neglected the indigenous technologies to a considerable extent and even they

compare the IAPs in terms of the benefits obtained from modern techniques. Moreover person with innovativeness would try new technologies before others in the social system. Hence, the innovativeness and adoption of IAPs were found to be negatively related to each other. This is in conformity with the results of Sakeer Husain (2010) and Singha and Baruah (2011).

Farmers with more achievement motivation had a strong desire to have higher yields and better living conditions. So, they have urge to know about innovations and new technologies. Adoption of IAPs give less yields when compare to new technologies. Hence, there was negative significant relationship between achievement motivation and with the extent of adoption of indigenous agricultural practices.

Farmers with high scientific orientation have belief on science, will prefer to cultivate the crops as per the production recommendations given by the scientists and extension personnel. Hence, there was negative significant relationship between scientific orientation and with the extent of adoption of indigenous agricultural practices. The result goes in the same relationship as derived by Ramesh and Govind (2008) and Venkatesan and Sundaramari (2013).

Farmers with more economic orientation would always try to increase their financial background through increase their yields by adopting the modern technologies. So, farmers with high economic orientation are less interested in adoption of IAPs. This is in conformity with the results of Singha and Baruah (2011).

Farmers adopt IAPs to reduce the cost of cultivation by decreasing the usage of fertilizers and pesticides in order to maintain pollution free environment and sustainable agriculture. Most of the farmers had almost similar farm size. Hence, there was non significant relationship between the farm size and extent of adoption of indigenous agricultural practices. This finding is in conformity with Venkatesan and Sundaramari (2013).

Indigenous agricultural practices are less costly, viable and locally available materials. Most of the farm families were having income in a close range. Hence, there was no significant relationship between family income and with the extent of adoption of indigenous agricultural practices.

The main sources of information about IAPs are age old farmers in the villages and fore fathers of the farmers. Hence, there was no relation between social participation and with the extent of adoption of indigenous agricultural practices. This is in conformity with the results of Ijioma and Osondu (2015).

It was not possible in many cases to sell their produce at remunerative price by analysing the variations in market trends. Hence, there was no significant relationship between market orientation and with the extent of adoption of indigenous agricultural practices.

The possible reason might be that increased mass media exposure to different sources provided enormous opportunity to get acquaintance with new technologies. These sources exposed the individual to the improved technology. Hence, there was no significant relationship between mass media exposure and extent of adoption of indigenous agricultural practices. This is in conformity with the results of Sundaramari and Ranganathan (2013).

#### **Influence of independent variables on the extent of adoption of indigenous agricultural practices**

In explaining the variation in the extent of adoption of indigenous agricultural practices, Multiple Linear Regression (MLR) was carried out to find out the extent of influence of independent variables on the extent of adoption of indigenous agricultural practices. Regression was run on SPSS 16.0 and the following model was arrived with the stepwise regression equation.

$$Y = 32.289 + 0.274X_1 + 0.492X_{10} + 0.151X_{16} - 0.435X_7$$

Where Y= extent of adoption of indigenous agricultural practices

X<sub>1</sub>=Age

X<sub>10</sub>=Fatalism

X<sub>16</sub>=Attitude towards IAPs

X<sub>7</sub>=Extension contact

**Table 2. Step wise regression analysis of the selected independent variables with the extent of adoption of indigenous agricultural practices**

S.No.	Independent variables	Regression coefficients (b)	Beta coefficient	t-value
1.	Age (X <sub>1</sub> )	0.274	0.565	7.857**
2.	Fatalism (X <sub>10</sub> )	0.492	0.154	2.686**
3.	Attitude towards IAPs (X <sub>16</sub> )	0.151	0.15	2.124*
4.	Extension contact (X <sub>7</sub> )	-0.435	-0.095	-2.119*

Intercept= 32.289; F=88.45; R<sup>2</sup>= 0.669

\*: Significant at 0.05 level of probability

\*\*.: Significant at 0.01 level of probability

The step wise multiple regression analysis indicated that, of the 16 independent variables, four variables viz., age, fatalism, attitude towards indigenous agricultural practices and extension contact were found to be the important variables in influencing the extent of adoption of IAPs to the tune of 66.69 per cent. Of these four variables, age, fatalism and attitude towards indigenous agricultural practices were found to influence positively and the extension contact negatively influenced the extent of adoption of indigenous agricultural practices.

The table 2. further indicated that one unit increase in age, fatalism and attitude towards IAPs would increase the extent of adoption of IAPs by 0.274, 0.492 and 0.151 units respectively other remaining variables were kept constant. Similarly one unit increase in extension contact would decrease the extent of adoption of IAPs by 0.435 units other remaining variables were kept constant.

As indigenous practices are generally traditional in nature, aged farmers may be expected to have high degree of fatalism and high attitude towards IAPs. Hence, age, fatalism and attitude towards IAPs have positively and significantly influenced the dependent variable.

Generally modern practices are associated with higher extension contact, so it has negatively and significantly influenced the extent of adoption of IAPs. This finding is in line with the results of Venkatesan and Sundaramari (2013)

## CONCLUSION

The correlation analysis revealed that age, farming experience, fatalism and attitude towards indigenous agricultural practices at 1% level of significance and family size is significant at 5% level of significance. Education, extension contact, innovativeness, achievement motivation, scientific orientation and economic orientation were found negative and significant relationship with the extent of adoption of indigenous agricultural practices at 1% level of significance. farm size, family income, social participation and market orientation were exhibited positive and non-significant relationship and mass media contact exhibited negative and non significant relationship with the extent of adoption of indigenous agricultural practices.

The step wise multiple regression analysis indicated that, of the 16 independent variables age, fatalism and attitude towards indigenous agricultural practices were found to influence positively and the extension contact negatively influenced the extent of adoption of indigenous agricultural practices. Hence, the experts involved in technology dissemination may be properly trained with the use and importance of indigenous practices in order to change their attitude towards indigenous agricultural practices.

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