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Understanding the effect of socio-economic characteristics and psychological factor influencing the adoption level of organic farming practices

V. Kalirajan¹, M. Natarajan^{2*} and R. Jeya³

^{1,2}Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu, India

³Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu, India

*Corresponding author: mnrajpriya@gmail.com

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Abstract

The present investigation on organic farming practices among farmers in the Krishnagiri district of Tamil Nadu” was aimed to study the level of adoption in organic farming practices. Krishnagiri District of Tamil Nadu State in South India was chosen for the study. Krishnagiri District is predominantly an agricultural district with more than 75 percent of the population directly or indirectly associated with agriculture. Nearly 44 organic farming practices followed for the cultivation of different crops like paddy, pulses, coconut, sugarcane, groundnut, vegetables, and flower crops were identified. The majority of the practices were adopted by more than 70.00 % of the sample. There was a positive and significant relationship between the variables of annual income, social participation, mass media exposure, economic motivation, and the extent of adoption of organic farming practices. Several benefits are associated with organic farming practices. It is the right time for academicians, administrators, scientists, policymakers to promote organic farming in reality for leading a new scenario in agriculture. Based on the results the study implication was drawn for promoting organic farming practices and suggestions were made for future research.

Keywords Psychological factor, Socio-economic characteristics, Adoption level, and Organic farming practices.

Introduction

To address the associated challenges of achieving food security and adapting to the environment, agriculture in developing countries must undergo a major transformation. Agricultural production needs to improve by more than three seventy percent and the projections focused on population growth and trends of food consumption imply that to satisfy demands by 2050. Most forecasts also suggest that in some areas where food insecurity is already high, climate change is likely to decrease agricultural productivity, production stability, and income. Therefore, organic farming is perceived to achieve potential food security. Organic farming is very old in India and has been practiced since ancient times. It is a method of the agricultural system mainly aimed to improve the soil fertility and growing crops in such a way that the soil is kept alive and healthy by using organic waste (crop, animal and farm waste, aquatic waste) and other biological materials

together with beneficial microbes (bio-fertilizer) to discharge micro-nutrients for plants to increase sustainable production. Environmental organizations, particularly in our countries, often promote increased awareness among consumers of the environmental costs of agriculture by the way of increasing knowledge of the quality and health of the environment. The resulting determination about the organic products provides an opportunity to sell at premium prices, allowing organic farmers to continue and expand frequently. The Government has considered the fact that it could be easier to help organic agriculture by rectifying the problems associated with all those resource destruction activities. For this reason, the government has implemented subsidies for organic farming where the use of this input was prohibited after a period of pesticide subsidies, although many attempts have been made in IPM programs and their problems with pesticides in both domestic

and export goods have rectified to the result in certification organizations for 'green food'.

Methodology

Krishnagiri District was thus purposively selected for the study. Out of 10 blocks, the Bargur block was selected for this study based on the availability of all agro-climatic zones. In Bargur block ten villages were randomly selected for the study. Out of ten villages, 120 respondents were selected based on the proportionate random sampling method. The analysis was tested by an interview schedule by using appropriate statistical tools to interpret the valid data. The salient findings of the study are as follows. Nearly 44 organic farming practices followed for the cultivation of different crops like paddy, pulses, coconut, sugarcane, groundnut, vegetables, and flower crops were identified with the help of judges' opinions in various universities and research institutes.

Results and Discussion

Relationship between the psychological characteristics of the extensive reach of respondents with the adoption of organic farming practices.

Zero-order correlation of the attributes of the sample to their extent of various adoption methods of organic farming cultivation are discussed clearly from the below table 1. The relationship of the socioeconomic and psychological characteristics of respondents to the adoption of organic cultivation practices are given in Table 1.

Table 1. Zero-order correlation of respondent characteristics with their degree of extent adoption level in organic farming practices

Var. No	Variables	Correlation coefficient
X ₁	Age	0.125NS
X ₂	Educational status	0.150NS
X ₃	Occupation status	0.153NS
X ₄	Farm size	0.709**
X ₅	Annual income	0.641**
X ₆	Social participation	0.402**
X ₇	Mass media exposure	0.662**
X ₈	Scientific orientation	0.133NS
X ₉	Risk orientation	0.004NS
X ₁₀	Economic motivation	0.505**
X ₁₁	Extension agency contact	0.048NS

**Significant at one percent level of probability

* Significant at five percent level of probability

NS-Non-significant

Table 1 showed that five variables, namely farm size, annual income, social participation, mass media exposure, and economic motivation, were denoted to a positive significant relationship with the level of adoption in organic farming practices, among the eleven independent variables. The other variables were showed that non-significant variables; the result indicated that five variables were significant at one percent probability in farm size, annual income, social participation,

mass media exposure, and economic motivation. The positive and significant relationship between farm size (X₄) and the adoption level of organic farming practices only because of the farm size would enhance the adoption level in various organic farming practices.

Annual income (X₅) denoted that a positive degree of relationship with the extensive adoption of various organic farming practices. It is quite natural to expect a greater degree of adoption because of the increased level of annual income. Social participation (X₆) was noted to a positive degree with the extent of adoption of organic farming practices. The more social participation in the adoption of organic farming cultivation enhances them to acquire skills on recommended practices and enabled them to adopt organic farming practices.

Mass media exposure (X₇) was noted a highly positive degree relationship with the extent of adoption level in organic cultivation. Farmers get adequate knowledge from various mass media sources like radio, television, newspaper, magazines, leaflets, agricultural films, and an exhibition which might have resulted in greater adoption of organic farming practices of the respondents. Economic motivation (X₁₀) noted a positive degree relationship with the extent of adoption level in organic cultivation. Economically motivated respondents would play an active role in adopting organic farming practices.

Regression analysis of psychological characteristics of the farmers with their extent of adoption level on organic farming practices

Regression was analyzed to view the relationship between the characteristics of the respondents with their adoption level of organic cultivation practices are given in Table 2. Table 2 indicates that 67.00 percent of the adoption variance accounted for all the eleven independent variables added together. Therefore, it could be inferred that to create a functional linear relationship between the independent variable and the dependent variable. Of the eleven variables taken from the analysis five variables farm size (X₄), annual income (X₅), social participation (X₆), economic motivation (X₁₀), and extension agency contact (X₁₁) were significant at one percent level of probability towards adoption. The one variable age (X₁) was significant at a five percent level of probability.

The strength of the contribution of these variables can be inferred as ceteris paribus i.e. one unit increase in age (X₁), farm size (X₄), annual income (X₅), social participation (X₆), economic motivation (X₁₀), and extension agency contact (X₁₁) would bring about 2.045, 2.640, 3.593, 4.859, 3.860, and 3.301 units increasing in adoption respectively. From the table, the age denoted a positive degree relationship with adoption. This means that young farmers are naturally interested in adopting organic farming practices. Farm size in crop practices was denoted a positive sign with the adoption of more experienced farming would help them to adopt the recommended practices in organic cultivation. Annual income denoted a positive sign with the extent of adoption. As most of the respondents belonged to the medium to a high level of

income category which would have resulted in a higher level of adoption of practices. This view agrees with the findings of Smitha (2002).

Table 2. Regression of psychological characteristics of the respondents with their adoption level of organic cultivation practices

Var. No	Variables	'r' value	Standard error	't' value
1.	Age	0.107NS	0.053	2.045*
2.	Educational status	-0.088NS	0.043	-2.041
3.	Occupation status	0.147NS	0.093	1.582
4.	Farm size	0.195*	0.074	2.640**
5.	Annual income	0.359**	0.100	3.593**
6.	Social participation	0.403**	0.083	4.859**
7.	Mass media exposure	-0.234NS	0.118	-1.988
8.	Scientific orientation	-0.048NS	0.087	-0.554
9.	Risk orientation	-0.109NS	0.083	-1.302
10.	Economic motivation	0.323**	0.084	3.860**
11.	Extension agency contact	0.276**	0.091	3.031**

R²=0.670

F=27.16

**-Significant at one percent level of probability

*Significant at five percent level of probability

NS-Non-significant

Social participation denoted a positive sign with the relationship of adoption. Better social participation provides more change for a farmer to interact and exchange farm information with other farmers. This is because of the respondents adopting more organic farming practices.

It could be seen that variable economic motivation had noted a high level of positive sign in the adoption level. Farmers with a higher degree of economic motivation would tend to acquire precise ad, complete information about the organic farming practices by resulting in higher adoption. These findings are supportive of the findings of Jayalakhmi (2008).

In other words, it can be viewed that more social participation contributes to a high level of interaction between the extension agency and organic farming, which will lead to higher levels of acceptance of organic farming.

Conclusion

From the above results, it could be vividly concluded the 11 variables studied in a correlation of the psychological characteristics among the respondents in organic cultivation, five variables, namely farm size, annual income, social participation, mass media exposure and economic motivation were noted a positive degree of relationship with the extent of adoption of recommended organic farming practices. In the regression analysis the factors denoted that the five variables like farm size (X4), annual income (X5), social participation (X6), economic motivation (X10), and extension agency contact (X11) were significant at 0.01 per cent level of probability towards adoption. The one variable age (X1) was significant at a 0.05 per cent level of probability. It is the right time for academicians, administrators, scientists, policymakers to enhance organic cultivation in reality for leading a new scenario in agricultural sectors. The findings of the study implication were drawn for promoting organic farming practices and suggestions were made for future research in a different area to analyse the recommendation.

Authors' contributions

All authors have contributed significantly to the conception and design of the study, the interpretation of data, and the drafting and revision of the manuscript. All authors read and approved the final manuscript.

Conflict of interest

The authors hereby declare no conflict of interest.

Consent for publication

The authors declare that the work has consent for publication.

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