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Regression Analysis of Adoption Behaviour of Trained and General Farmers in Some Adopted Villages of KVK System of Adilabad

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A B S T R A C T

Krishi Vigyan Kendra (KVK) is an Institutional Project of the Indian Council of Agricultural Research (ICAR) to demonstrate the "Application" of Science and Technology input of agricultural research and education on the farmers field and in the rural area with the help of a multi-disciplinary team of scientists. This study has been conducted during Sep'2015 to Dec. 2015 at Adilabad block of Adilabad district in Telangana. Simple random sampling technique was followed for the selection of respondents. Forty trained and forty general farmers were selected randomly from the areas of four Gram panchayats and Adilabad municipal corporation areas. The statistical tool Multiple Regression Analysis was used. From the study it is clear that income, holding size, social participation, production orientation, extension contact, attitude towards improved practices have profound effect on adoption of scientific farm innovations in case of general farmers.

Introduction

The Indian Council of Agricultural Research has a well-established frontline extension system in the form of Krishi Vigyan Kendras for effective dissemination of new technologies for the benefit of farmers in the country. Krishi Vigyan Kendras (KVK) is the district level farm science institutes for speedy transfer of technology to the farmer's fields. Krishi Vigyan Kendras aim to reduce the time lag between generation of technology at the research institutions/university and its transfer to the farmer's fields for increasing productivity and income from the agriculture and allied sectors on a sustained basis. It is, therefore, also called as a frontline transfer of technology or frontline extension system in the country. The agricultural technology is transferred through imparting vocational training programs conducted to the farmers, farm-women, rural youths and grass-root level extension workers in broad-based agricultural production.

The emphasis is given to provide critical skills so that the participants may confidently use on their farms to increase agricultural

productivity and also become economically self-reliant through gainful self-employment.

The trainings offered in KVKs follow the principles of "Learning by doing" and "seeing is believing". The first KVK, on a pilot basis, was established in 1974 at Pondicherry under the administrative control of Tamil Nadu Agricultural University, Coimbatore on the basis of recommendation made by a committee constituted by ICAR, New Delhi, under the chairmanship of Dr. Mohan Singh Mehta (1973). In this context this study has been conducted with the objective of Regression analysis of adoption behaviour of trained and general farmers in some adopted villages of KVK system.

Materials and Methods

This study was conducted in the district of Adilabad, Telangana during 2015 to 2016. On the basis of my objectives of the study, this district has been selected purposively. The study was conducted at the Adilabad block of Adilabad district. This block was purposively selected, because this block comes under the lateritic belt of the district and it is not so agriculturally developed like other blocks of the district. The area is easily accessible to the investigator. These lead to purposively selection of this block. This block consists of twenty-three gram panchayats and Adilabad Municipal Corporation area. Four gram panchayats namely Mavala, Pochera, Jamdapur, Rampur and Adilabad municipal corporation area were selected purposively as per recommendation of agricultural development officer of the block. Simple random sampling technique was followed for the selection of respondents. Forty trained and forty general farmers were selected randomly from the areas of four Gram panchayats and Adilabad municipal corporation areas. The statistical method Multiple Regression Analysis was used.

Results and Discussion

The regression analysis of trained farmers and general farmers are presented by B-values (un-standardised partial regression coefficients), standard errors of un-standardised partial regression coefficients, β-values (standardised partial regression coefficients), the coefficients of multiple regression determination (R^2) and the corresponding F-values.

From table-1 it is clear that education, occupation, income, family type, holding size, social participation, attitude towards improved farm practices have substantial effect on adoption of farm innovations by trained farmers. The same result was found by Obasi *et al.,* (1994).

From the table-1, a unit change in risk orientation has contributed to a proportion -.024 units to the level of adoption of farm innovations by trained farmers. Thus unit change in education, occupation, income, family size, holding size, material possession, and social participation will contribute a change in level of adoption behaviour of trained farmers are .093, .132, .240, .056, .430, .554, .390 units respectively as shown in table-1. This study confirms the study of researchers like Singh *et al.,* (1989), Nataraju (1989), Gaikwad. The other values of standardized partial regression coefficients in table 1, depending the other independent variables contribution to the adoption of farm innovation in case of trained farmers.

The variable of market orientation explains highest variation (.945), as shown in Sig. value. So it indicates that holding size plays most important role for the adoption of farm innovations in case of trained farmers. Results founded are in line with the Sunil N.K. (2010). The R^2 value is found 0.308 that is all casual variables put together, the amount of

variation in the consequent variable has been the tune of 30.80% and its F-value is 0.638 which is significant in both 5% and 1% level of significance with 39 degree of freedom. So the unexplained part remains 69.20%.

So, on the basis of this regression analysis the following model can be suggested for trained farmers.

$Y = 1.598 - .308\ X_1 + 1.206\ X_2 + 9.270\ X_3 + 4.00\ X_4 + 1.661\ X_5 + 6.944\ X_6 + 1.788\ X_7 + 3.473\ X_8 + .936\ X_9 + 3.457\ X_{10} + .491\ X_{11} - .025\ X_{12} + .019\ X_{13} - .018 X_{14} - .514\ X_{15} - 1.536\ X_{16}$

Where, $X_1, X_2, X_3 \ldots\ldots\ldots\ldots\ldots X_{16}$ are the independent variables and Y is dependent variable.

Table.1 Regression co-efficient of trained farmers

Variables	B-Value	Standard Error	t Stat	Beta Value	Sig. Value
(Constant)	1.598	16.310	0.098		0.923
Age (X_1)	-0.308	0.191	-1.612	-0.149	0.121
Education (X_2)	1.206	1.448	0.833	0.093	0.413
Occupation (X_3)	9.270	7.208	1.286	0.132	0.211
Income (X_4)	4.00	0.000	1.902	0.240	0.070
Caste (X_5)	1.661	0.935	1.777	0.192	0.089
Family Type (X_6)	6.944	3.465	2.004	0.209	0.057
Family Size (X_7)	1.788	3.467	0.516	0.056	0.611
Holding Size (X_8)	3.473	1.016	3.420	0.430	0.002
Material Possession (X_9)	0.936	1.558	0.601	0.102	0.554
Social Participation (X_{10})	3.457	1.393	2.481	0.390	0.021
Attitude Study (X_{11})	0.491	0.232	2.115	0.410	0.046
Risk Orientation (X_{12})	-0.025	0.183	-0.136	-0.024	0.893
Market Orientation (X_{13})	0.019	0.275	0.070	0.013	0.945
Production Orientation (X_{14})	-0.018	0.246	-0.072	-0.010	0.943
Extension Communication(X_{15})	-0.514	0.295	-1.743	-0.183	0.095
Extension Contact (X_{16})	-1.536	0.787	-1.951	-0.280	0.063

$R^2 = 0.308$

$F = 0.638^{**}$

** Both 5% and 1% level of significance.

Table.2 Regression co-efficient of general farmers

Variables	B-Value	Standard Error	t Stat	Beta Value	Sig. Value
(Constant)	-3.043	4.834	-0.629		0.535
Age (X_1)	0.058	0.047	1.217	0.033	0.236
Education (X_2)	-0.010	0.206	-0.492	-0.015	0.628
Occupation (X_3)	-0.822	1.072	-0.767	-0.026	0.451
Income (X_4)	-4.650	0.000	-0.460	-0.030	0.650
Caste (X_5)	0.634	0.664	0.954	0.057	0.350
Family Type (X_6)	0.578	0.853	0.677	0.018	0.505
Family Size (X_7)	-0.830	1.230	-0.675	-0.075	0.507
Holding Size (X_8)	0.926	0.467	1.984	0.096	0.059
Material Possession (X_9)	0.379	0.760	0.498	0.013	0.623
Social Participation (X_{10})	1.244	0.568	2.191	0.061	0.039
Attitude Study (X_{11})	0.122	0.090	1.357	0.109	0.188
Risk Orientation (X_{12})	0.068	0.063	1.084	0.030	0.290
Market Orientation (X_{13})	-0.064	0.120	-0.528	-0.015	0.603
Production Orientation (X_{14})	0.441	0.115	3.841	0.408	0.001
Extension Communication(X_{15})	0.330	0.102	3.224	0.287	0.004
Extension Contact (X_{16})	2.057	0.916	2.244	0.167	0.035

R^2 =0.277; F =0.552**

** Both 5% and 1% level of significance.

The multiple regression analysis of general farmers is shown in table 2. From table 1 it is clear that, income, holding size, social participation, production orientation, extension contact, attitude towards improved practices have profound effect on adoption of scientific farm innovations in case of general farmers. A unit change in production orientation has contributed to the proportion of.408 units to the adoption of scientific farm innovations. Similarly a unit change in holding size, social participation, attitude study, extension communication, extension contact will yield the change in level of adoption of general farmers in the tune .096, .061, .109, .287, .167 respectively. The variable of income explains the highest variation (.650), as shown in Sig. value. So it indicates that income contribution plays important role for the adoption of farm innovations in case of general farmers.

The R^2 value in case of general farmers is found 0.277, that is all casual variables put together, the amount of variation in the consequent variable has been to the tune of 27.70 and its F-value 0.552 which is significant in both 5% and 1% level of significance with 39 degree of freedom. So the unexplained part remains 72.30%. So, on the basis of this regression analysis the following model can be suggested for general farmers,

$Y = -3.043 + .058\ X_1 - .010\ X_2 - .822\ X_3 - 4.650\ X_4 + .634\ X_5 + .578\ X_6 - .830\ X_7 + .926\ X_8 + .379\ X_9 + 1.244\ X_{10} + .122\ X_{11} + .068\ X_{12} - .064\ X_{13} + .441\ X_{14} + .330\ X_{15} + 2.057\ X_{16}$

Where, $X_1, X_2, X_3 \ldots\ldots\ldots\ldots\ldots X_{16}$ are the independent variables and Y is dependent variable.

From the above study it is concluded that education, occupation, income, family type, holding size, social participation, attitude towards improved farm practices have substantial effect on adoption of farm innovations by trained farmers.

In case of general farmers income, holding size, social participation, production orientation, extension contact, attitude towards improved practices have profound effect on adoption of scientific farm innovations. The variable of income explains the highest variation (.650) value so it indicates that income contribution plays important role for the adoption of farm innovations in case of general farmers. The findings of this study provide valuable information to all public and private extension agents, researchers and policy makers to orient their efforts for greater diffusion and adoption of practices on a large scale.

References

Gaikwad, B. H., Gunjal, S. S. (1999). Knowledge and adoption behaviour of technologies by the beneficiaries of K.V.K. in Maharashtra. *Journal of Maharashtra Agricultural Universities*. Publ., 24 (3):279-281.

Nataraju, M. S. (1989). A study of adoption behaviour of small and marginal farmers in Karnataka. *Livestock Adviser*. 14 (11): 13-19.

Obasi, M.O., Obinne, C. P., Ejembi, E. P. (1994). Appraisal of selected factors that influence the adoption of improved farm practices among soyabean farmers in Benue state, *Nigeria. Journal of Rural Development and Administration.* 26 (3): 78-91.

Sunil, N.K. (2010). Socio-economic, psychological and extension attributes of trained and untrained farmers of K.V.K. Bijapur. *Agriculture Update*. 5 (1-2): 38-42.

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