Relationship between Selected Characteristics of the Sericulturists and their Extent of Adoption of Sericulture Practices

B.C. Naik[1], **J.C. Trivedi**[2] **and R.D. Pandya**[3]

INTRODUCTION

Sericulture has been practised in the country since a long time, however, it has come into limelight with the major technological developments in the recent past. But, the technology is itself does not create any dent unless millions of farmers spread over vast areas try to understand and adopt it.

There are very few farmers who have adopted recommended mulberry cultivation technology in very short time after first hearing about it, whereas, there are some farmers who have taken years together to reach the present stage. Thus, there are many factors responsible for adoption of sericulture technology. Hence, it is worthwhile to find out the relationship between personal, socio-economic and psychological characteristics of the sericulturists and their extent of adoption of sericulture practices.

METHODOLOGY

The present investigation was conducted with 55 sericulturists, who were residing in Surat and Bharuch districts of Gujarat State. The data were collected with the help of personal interview schedule. The psychological variables, viz. economic motivation and risk preference were measured with the help of scale developed by Supe (1969). Knowledge of the respondents was measured by using the teachers made scale. Adoption quotient was measured to find out the extent of adoption, while adoption level was measured with the help of scale developed by Sengupta (1967). For ascertaining the extent and direction of the relationships, the correlation coefficient test was applied. Further the multivariate linear path model was applied (Wright, 1921) to explain the direct effect of independent variables on dependent variable on adoption of sericulture practices.

RESULTS AND DISCUSSION

I. Correlation between selected characteristics and their adoption

Adoption behaviour of an individual is influenced by the different independent variables. Based on the past literature reviewed, the following independent variables were selected, analysed with related statistics and presented in Table 1.

1) Age and Adoption

The result revealed in Table 1 that the age was negatively correlated (- 0.3525*) with adoption of recommended sericulture practices.

1   Information Officer, Sardar Smruti Kendra, G.A.U., Navsari.
2   Extension Educationist, Extension Education Institute, G.A.U., Anand.
3   Assistant Professor (Extension), N.M. College of Agriculture, Navsari.

Table 1. Correlation between the selected characteristics and level of adoption of the respondents.

N = 55

Sr. No.	Characteristics (Independent variables)	Correlation coefficient value with adoption quotient.
1.	Age	- 0.3525*
2.	Caste	0.0242 NS
3.	Education	0.8075*
4.	Occupation	0.1040 NS
5.	Social participation	0.7374*
6.	Family type	0.0153 NS
7.	Family size	0.0670 NS
8.	Land size	0.5954*
9.	Annual Income	0.6059*
10.	Mulberry plantation	0.5528*
11.	Knowledge	0.9817*
12.	Economic motivation	0.8832*
13.	Risk preference	0.8088*
14.	Socio-economic status	0.7813*

* = Significant at 5% level
NS = Non significant

This may be due to the fact that the old aged farmers might have had a set of mind in view of their experiences. It is difficult to change one's mind at matured old age, whereas the younger farmers being energetic and enthusiastic lacked experience to try new technology.

2) Education and Adoption :

As observed in Table 1, the education level of sericulturists had positive and significant association (0-8075*) with their adoption of sericulture practices.

Favourable attitude due to formal schooling and sufficient knowledge are bound to influence the adoption. This may be the reason for the positive relationship.

3) Social participation and Adoption

The data presented in Table 1, indicate that social participation was found to be significantly associated (0.7374*) with the adoption of sericulture practices.

Formal organisations are expected to provide opportunities for the farmers to meet others and developed close contact through social interaction which may motivate them for higher adoption.

4) Land size and adoption

It is observed from the results (Table 1) that the size of land holding had positive and significant relationship (0.5954*) with the adoption of sericulture practices.

Farmers having large size of land holding are likely to have more mass media contacts, cosmopolitness and more extension contact and better economic position of the respondents to take risk in

investment of capital for adoption of sericulture practices.

5) Annual income and Adoption

Table 1 indicate that there was significant and positive relationship (0.6059*) with adoption of sericulture practices.

The probable reason for this might be that respondents who have high income per annum are always ready to take or adopt new technology as they are capable to incidental risk and invest in the new practices which leads to better adoption.

6) Area under mulberry plantation and Adoption :

The result of the study pointed out that the area under mulberry crop had positive and significant relationship (0.5528*) with adoption of recommended sericulture practices.

The possible reason for this kind of situation is that the farmers who have large area of mulberry crop have more interest in cultivation of mulberry as it is the most remunerative enterprise with high income.

7) Knowledge level and Adoption

It is obvious from Table 1 that the adoption quotient of sericulturists had significant positive correlation (0.9817*) with the knowledge.

The probable reason for this might be that those who having better knowledge about new technology and knowing their importance will select economical and feasible technology and will adopt the same very quickly.

8) Economic motivation and Adoption

The results of the study showed that there was significant relationship (0.8832*) between economic motivation and adoption of sericulture practices.

This might be due to the fact that the farmers who predisposed to rational value like economic motivation easily invest the costly inputs and also possess high risk bearing capacity.

9) Risk preference and Adoption

The results of the study showed that there was positive and significant relationship (0.8088*) between risk preference and adoption of sericulture practices.

Risk orientation played very important role in input use behaviour of the farmers. Every new thing is a matter of risk and people having small holding do not want to bear risk in adoption of it.

10) Socio-economic status and Adoption

The data presented in Table 1 indicated that socio-economic status of sericulturists was significantly (0.7813*) related with adoption of sericulture practices.

It is obvious from the Table 1 that the non-significant association was found to exist between adoption quotient and caste (0.0242), occupation (0.1040), family type (0.0153) and family size (0.0670).

II. Effects of variables on adoption

To know the direct, indirect and substantial indirect effect of various independent variables on the dependent variable (extent of adoption) the method of path coefficient analysis was employed. The results are given in Table 2.

1) Direct effect

It was observed from Table 2 that out of 10 selected significant independent variables tried, five variables had exerted positive direct effects and remaining five exerted negative direct effect on adoption of sericulture practices by the farmers. The knowledge (0.8552) exerted largest direct

Table 2. **Direct and indirect effect of selected independent variables on level of adoption with sericulturists.**

Sr. No.	Exogeneous variables	Direct effect	Total indirect effect	Substantial indirect effect	
				First order	Second order
1.	Age	-0.0337	-0.3188	0.2572	0.0365
2.	Education	-0.0771	0.8846	0.7107	0.1311
3.	Social participation	0.0890	0.6485	0.6192	0.1177
4.	Land size	-0.0635	0.6588	0.5417	0.1111
5.	Annual Income	0.0126	0.5933	0.5400	0.0829
6.	Mulberry plantation	-0.0669	0.6197	0.5144	0.0992
7.	Knowledge	0.8552	0.1266	0.1680	0.0644
8.	Economic motivation	0.1922	0.6910	0.7475	0.0545
9.	Risk preference	-0.0551	0.8638	0.6797	0.1768
10.	Socio-economic Status	0.0808	0.7007	0.6813	0.1231

and positive effect, followed by economic motivation (0.1922), social participation (0.0890) and socio-economic status (0.0808). The annual income had minimum direct effect on adoption.

The education (-0.0771) exerted largest negative direct effect followed by area under mulberry production (-0.0669) land size (- 0.0635) and risk preference (-0.0551) respectively. The age (- 0.0337) has negatively minimum effect on adoption.

2) Total indirect effect

So far as the total indirect effect concerned, education (0.8846) exerted maximum positive effect on adoption followed by risk preference (0.8638), socio-economic status (0.7007), economic motivation (0.691), land size (0.6588), social participation (0.6588), area under mulberry plantation (0.6197), annual income (0.5933) and knowledge (0.1266). It is worthwhile to note that the variable age had negative (-0.3188) indirect effect on

adoption of sericulture practices.

From the above discussion, it can be said that the knowledge and economic motivation are the important variables exerted in adoption of sericulture practices.
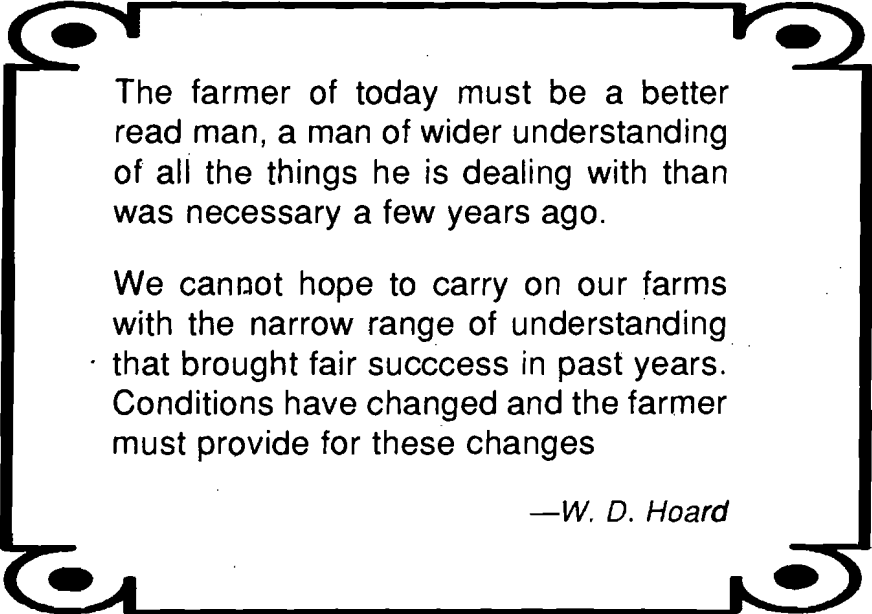
CONCLUSION

Knowledge, economic motivation, risk preference, socio-economic status, education, social participation, land size, area under mulberry crop and annual income had found significant relationship with extent of adoption of recommended sericulture practices. Among all variables knowledge, and economic motivation played vital role in extent of adoption of sericulture practices.

IMPLICATION

Farmers knowledge and adoption of recommended sericulture practices were not found up to the desired level and therefore, special training should be imparted through such agency to those farmers who belong to medium socio-economic status.

REFERENCES

Garret, H.E. (1967), Statistics in psychology and education, Vakils, Feffer and Simons Pvt. Bombay, p. 143.

Sengupta, T. (1967), A simple adoption scale used for farmers for high yielding variety programme for Rice, *Ind. Jr. Extn. Edn.* 3(3), 107-115.

Supe V.S. (1969), Factors related to different degree of rationality in decision making among farmers, Unpublished Ph.D. thesis, IARI, New Delhi.

Wright, S.A. (1921), Correlation and causation, *Jr. Ag. Res.* 20, 557-585.

The farmer of today must be a better read man, a man of wider understanding of all the things he is dealing with than was necessary a few years ago.

We cannot hope to carry on our farms with the narrow range of understanding that brought fair succcess in past years. Conditions have changed and the farmer must provide for these changes

—*W. D. Hoard*