MANAGERIAL EFFICIENCY OF SERICULTURISTS: AN ANALYSIS

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Abstract : The present study was investigated in Raigarh and Korba districts of Chhattisgarh during 2012-13. Data were collected personally from 270 sericulturists practicing tasar silkworm rearing to analyze the relationship of Managerial efficiency of sericulturists with selected independent variables. The analysis of the selected variables revealed that age, education, experience in sericulture, social participation, participation in training programme, occupation, annual income, land holding, credit availability, sources of information, contact with sericulture personnel, extension participation, level of aspiration, scientific orientation, economic motivation and knowledge about improved tasar silk cultivation were found significant relationship with managerial efficiency of sericulturists.

Keywords: Management efficiency, Tasar silkworm rearing, Sericulturists

INTRODUCTION

The word "Sericulture" has been derived from the word "Su" (Si) which means silk. Sericulture, the art and science of growing silkworm, food plants, rearing silkworms and production of silk is basically an agro-industry. It is divided in two sectors namely farm and industry. The farm sector involves growing silkworm's food plants, rearing silkworm to produce cocoons and producing eggs. Reeling, twisting, dyeing, printing, finishing, Knitting and felting form the industry sector (Dewangan *et. al., 2012).*

Sericulture plays a vital role in rural development, as it integrates well with the farming systems and has the potential to generate attractive income throughout the year. It needs low capital and provides year round employment (Hanumappa and Erappa, 1985). India is the second largest producer of raw silk after China and the biggest consumer of raw silk and silk fabrics. An analysis of trends in international silk production suggests that sericulture has better prospects for growth in the developing countries rather than in the advanced countries.

According to Harbison and Myers (1964) Managerial efficiency is doing right things at the right time by effectively utilizing the resources for productive purposes. Nagaraj (1989) has pointed out ten components of management efficiency - knowledge of improved sericulture, skill acquired, ability in planning, ability to make rational decisions, ability to co-ordinate activities, ability to mobilize resources, timely adoption, efficient use of resources, ability to rational marketing and competence in evaluation. These components are responsible to make an individual sericulturist as efficient manager of the sericulture.

The study was framed with the objective to measure the relationship of managerial efficiency of sericulturists with all the selected independent variables.

MATERIAL AND METHOD

The present study was conducted in Raigarh and Korba districts of Chhattisgarh during 2012-13. From each selected district 3 blocks i.e. Sarangarh, Baramkela and Gharghoda blocks from Raigarh district and Korba, Kartala and Podi Uparoda blocks from Korba district were selected. From each selected block 3 villages were selected on the basis of maximum availability of sericulturists. From each of the selected villages, 15 sericulturists were selected randomly through simple random sampling method. Thus the total 270 (15X18=270) sericulturists practicing tasar silkworm rearing were selected as respondents. Primary data from sericulturists were collected personally through personal interview with the help of pre-tested structured interview schedule. Managerial efficiency of sericulturists was measured through managerial efficiency index specifically developed for the study on the basis of normalized rank approach method recommended by *Nagaraj (1989).* Managerial efficiency of sericulturists with selected independent variables were analysed by using appropriated statistical tools i.e. coefficient of correlation and multiple regression, etc.

RESULT AND DISCUSSION

Correlation coefficient and multiple regression analysis of independent variables with managerial efficiency of sericulturists towards tasar silk cultivation

To determine the relationship of selected independent variables with the managerial efficiency of sericulturists, the correlation analysis was worked out and results are presented in Table 1. The findings revealed that out of 22 independent variables, 16 variables i.e. education, annual income and level of aspiration were found to be positive and significantly correlated at 0.05 level of probability; and age,

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experience in sericulture and credit availability were found to be negative and significantly correlated at 0.05 level of probability; social participation, participation in training programme, sources of information, contact with sericulture personnel, extension participation, scientific orientation, economic motivation and knowledge about improved tasar silk cultivation were found to be positive and highly significantly correlated at 0.01 level of probability and occupation and land holding were found to be negative and highly significantly correlated at 0.01 level of probability. The other variables like; caste, type of family, size of family, cosmopoliteness, self confidence and attitude towards improved tasar silk cultivation showed statistically non significant relationship with managerial efficiency of sericulturists.

It clearly indicated that, if the education, annual income, level of aspiration, Social participation, participation in training programme, sources of information, contact with sericulture personnel, extension participation, scientific orientation, economic motivation and knowledge about improved tasar silk cultivation increases then the managerial efficiency of sericulturists correspondingly increase.

In the case of multiple regression analysis, out of selected 22 independent variables only 9 variables i.e. social participation, annual income, extension participation, economic motivation and knowledge about improved tasar silk cultivation showed positive and significant contribution and occupation, land holding, credit availability and level of aspiration were found negative and significant contribution. Remaining 13 variables did not contribute significantly in the managerial efficiency of sericulturists. However, all the selected 22 variables in the model show around 85 per cent contribution in the managerial efficiency of sericulturists and the corresponding F value was found significant with 111.18 and 247 *d.f.* (Table 1).

Therefore, it is suggested that for increasing the managerial efficiency among the respondents, focus should be given to increase social participation, annual income, extension participation, economic motivation and knowledge about improved tasar silk cultivation of the respondents through financial, training support and better exposure of the sericulturists in Chhattisgarh.

Table 1. Correlation coefficient and multiple regression analysis of independent variables with managerial efficiency of sericulturists towards tasar silk cultivation

Independent variables		Correlation coefficient 'r' value	Partial regression coefficient	
			'b' value	't' value
X_1	Age	-0.150*	-0.02876	-0.30079
X_2	Education	0.149*	0.237121	0.805438
X_3	Caste	-0.108	-0.72621	-1.16142
X_4	Type of family	0.048	2.34899	1.029317
X_5	Size of family	0.091	0.603439	1.344749
X_6	Experience in sericulture	-0.138*	-0.09047	-0.68361
X_7	Social participation	0.399**	7.869297	4.582476**
X_8	Participation in training programme	0.252**	-2.12293	-1.00272
X_9	Occupation	-0.203**	-1.43297	-2.95758**
X_{10}	Annual income	0.179*	0.00025	3.65885**
X_{11}	Land holding (Other than agriculture)	-0.339**	-3.46735	-4.81442**
X_{12}	Credit availability	-0.171*	-6.98357	-2.23434*
X_{13}	Sources of information	0.247**	0.961153	0.506283
X_{14}	Contact with sericulture personnel	0.240**	0.458258	0.224812
X_{15}	Extension participation	0.443**	5.43908	3.726965**
X_{16}	Cosmopoliteness	0.033	0.862268	0.814928
X_{17}	Level of aspiration	0.121*	-4.06451	-3.71878**
X_{18}	Self confidence	-0.098	1.513726	1.496053
X_{19}	Scientific orientation	0.241**	1.173342	1.016382
X_{20}	Economic motivation	0.331**	3.191295	2.220062*
X_{21}	Attitude towards improved tasar silk cultivation	0.050	2.980888	0.62697
X_{22}	Knowledge about improved tasar silk cultivation	0.831**	0.914774	22.92698**

*Significant at 0.05 level of probability
**Significant at 0.01 level of probability

Multiple R^2 = 0.8469
F value = 111.18 at 22, 247 *d.f.*
Intercept contact (a) = 70.56

Model wise multiple regression analysis of independent variables for variation in the overall managerial efficiency about tasar silk cultivation
Different models were tested for finding their predicting ability and to determine the best predictors for variation in the managerial efficiency of sericulturists (Table 2). Every time one or more variables were dropped to find out the best model with lowest number of variables explaining highest

variation in managerial efficiency. Model-I revealed that 84.69 per cent managerial efficiency can be explained by considered 22 independent variables and one dependent variable (Managerial efficiency) which have significant 'F' value at 1 per cent level. Model II, III, IV, V, VI and VII explained about contribution of managerial efficiency as 79.46, 78.87, 76.15, 74.07, 72.01 and 69.07 per cent, respectively.

Table 2. Model wise selected independent variables along with their predicting ability for variation in the managerial efficiency

Model No.	Variables included in the models	Multiple R^2	'F' Value
M_1	$X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}, X_{16}, X_{17}, X_{18}, X_{19}, X_{20}, X_{21}, X_{22}$	0.8469	111.18**at 22 (247 $d.f.$)
M_2	$X_2, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}, X_{16}, X_{17}, X_{19}, X_{20}, X_{22}$	0.7946	61.1967** at 16 (253 $d.f.$)
M_3	$X_6, X_7, X_8, X_{11}, X_{12}, X_{13}, X_{14}, X_{17}, X_{20}, X_{22}$	0.7887	96.7096** at 10 (259 $d.f.$)
M_4	$X_7, X_{11}, X_{13}, X_{14}, X_{20}, X_{22}$	0.7615	140.014** at 6 (263 $d.f.$)
M_5	$X_{11}, X_{13}, X_{20}, X_{22}$	0.7407	189.3068**at 4 (265 $d.f.$)
M_6	X_{11}, X_{22}	0.7201	343.5921**at 2 (267 $d.f.$)
M_7	X_{22}	0.6907	598.4862**at 1 (268 $d.f.$)

**Significant at 0.01 level of probability

CONCLUSION

From the above findings it can be concluded that the regarding correlation coefficient of independent variables with the managerial efficiency of sericulturists, social participation, participation in training programme, sources of information, contact with sericulture personnel, extension participation, scientific orientation, economic motivation and knowledge about improved tasar silk cultivation were found to be positive and highly significantly correlated at 0.01 level of probability and in the case of multiple regression analysis of independent variables with managerial efficiency, social participation, annual income, extension participation, economic motivation and knowledge about improved tasar silk cultivation showed positive and significant contribution.

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