

A STUDY ON MANAGERIAL EFFICIENCY OF SERICULTURISTS IN KARNATAKA

MANJULAMMA. B.S.*

*Asst Professor, Department of Commerce,
Government First Grade College For Women,
Doddaballapura, Bangalore Rural District.

Dr. USHA DEVI. N.**

**Associate professor,
Department of Commerce and Management,
MLA First Grade College for Women,
Malleswaram, Bangalore.

Abstract: The study on Managerial proficiency of sericulturists situated in Karnataka was led through a study technique. With the end goal of the examination, both essential and optional information is gathered, to accomplish the detailed destinations. Results uncovered that the ranchers confronted a few troubles like deficient power supply, work lack, vermin and malady issue, Non accessibility of silkworm eggs, non accessibility of synthetic compounds in time, high transportation cost. For the consistent development of an industry, silk board should plan and actualize the need-based formal and casual preparing programs for various objective gatherings at sensible preparing expense, obviously in a joint effort with different government and non government organizations.

Key words: Managerial Efficiency (ME), Economic performance (EP).

THEORETICAL BACKGROUND:

Sericulture is a useful, productive, profoundly work escalated and country based agro-bungalow industry, incorporating dominant part of rustic populace. It is uniquely fit to India, as a result of accessibility of labor, subsequently, producing truly necessary work consistently. Recently it has gotten one of the most significant rustic businesses because of characteristic preferences like least incubation period and consumption, greatest work possibility and speedy turn over of venture. Accordingly, it tends to be properly commented that Sericulture is an aid to country masses and any improvement in the degrees of administrative productivity of these locals guarantees better financial success other than expanding the business probability in the homestead part, in this way capturing the hazard of movement from rustic to urban territories lastly diminishing the congestion populace in urban areas and townships. The task creator in this way tried to investigate the impact of sericulture on the economy at worldwide and national level.

GLOBAL SCENARIO:

Geographically, Asia is the main producer of silk in the world and produces over 95 % of the total global output and the demand for silk is annually increasing by 5%. With the increase in population and also with the increased demand for fashionable clothing items due to fast changing fashion designs in developed countries, the demand for silk is bound to increase even more. On the other hand, China has a history of over 5000 years for

sericulture. Nearly 30 million farmers are involved in sericulture production in China. Cocoon production is about 500,000 tons per year and nearly 70% of the total production of the world. Japan, China and India are the leading countries in the production of silk and other silk materials but, now a days there is a greater competition between China and India in case of silk production (Dr. Kamatchi.P, 2012-, Bangalore)

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INDIAN SCENARIO:

The fascinating actuality to be noted is that India is the second biggest maker of crude silk after China and the greatest buyer of crude silk and silk textures. It contributes about 18% to the all out world crude silk creation. The fare income of silk wares remained at Rs. 2,892 crores during 2009-10 and there is interest for Indian silk things from America, Japan, Spain, Germany, Italy and east Europe. However, there has been a decrease in the developed territory and the crude silk generation because of wasteful administration and dumping of Chinese silk at modest costs. Further, Indian silk yarn is of low quality, which not just influenced our intensity on the planet showcase, yet has likewise brought about an inclination for imported yarn in the residential market².

Out of sight of this situation, a careful exertion is made by the exploration creators to distinguish the elements that involve administrative effectiveness of sericulturists, measure these elements by proper scales, locate the present degree of proficiency of sericulturists, and recognize the entanglements, which whenever redressed would guarantee better profitability of the sericulture undertaking and accordingly increase practical achievement.

REVIEW OF LITERATURE

The overview of the related literature is enunciated under the following headings:

Concept and components of managerial efficiency:

*According to Harbison and Myers*³ Managerial efficiency is doing right things at the right time by effectively utilizing the resources for productive purposes. *Summer*⁴ States that knowledge factors, attitude factors and ability factors are three important factors of managerial efficiency. *Nagaraj*⁵ has pointed out ten components of management efficiency - knowledge of sericulture, skills acquired, ability of planning, ability to make rational decisions, ability to use the resources effectively, ability to coordinate, timely adoption, ability to rational marketing and self evaluation competence. *Gopala*⁶ indicated that age, education, family size, land holding, social participation, extension contact, mass media participation, annual income, innovative proneness, risk orientation had significant association with managerial efficiency.

Concept of economic performance

*According Jolly*⁷ economic performance can be quantified by the net profit after deducting all expenses on mulberry cultivation and silkworm rearing out of the sale proceeds of cocoons produced. *Rajapurohit and Govindaraju*⁸ in their study states that Net income in sericulture consists of gross revenue represented by the value of cocoons produced and gross costs representing majorly two types of costs namely labor cost and other input cost. On the other hand, *Nagaraj*⁹ operationally defined economic performance as the ratio of total income from sericulture to total expenditure.

Managerial Efficiency and Economic Performance

*Daniel*¹⁰ stated that incomes varied tremendously on farms of similar size, soil, climate, weather, markets, etc. This variation in income was due to differences in management. In fact some small farms with good management had more incomes than large farms with mediocre management. *Rajapurohit and Govindaraju*¹¹ identified that confidence; perseverance, determination, hard work, general knowledge, dynamism, risk taking, optimism, and technical knowledge, information gathering ability and initiative are the important characteristics which differentiate good managers from poor managers. *Renukaradhya*¹² indicated a significant relationship between economic performance and competition orientation, personal guidance, innovative proneness, economic motivation and mass media participation among trained farmers.

RESEARCH GAP:

After scanning the existing literature on Managerial efficiency and Economic performance, it is possible to point out the following research gap:

Majority of research studies on managerial efficiency made by the individual scholars and research organizations relate manufacturing area only. In order to fill in this research gap, the present study is undertaken, where an effort is made to study then managerial efficiency of farmers in sericulture sector.

SIGNIFICANCE OF THE STUDY:

It is presumed that the results of the present study will be of great value to the sericulture department in general and farmers in particular to enhance the Quality and productivity of silk. Further, the results of the investigation would throw new light on the components of managerial efficiency. The outcome of the study would also help the department to formulate suitable programs and use appropriate methods to improve the managerial efficiency of the farmers in sericulture sector.

RESEARCH LOCATION AND SELECTION OF RESPONDENTS:

Sericulture has spread to all districts of Karnataka in varying degrees. It is characteristically found that mulberry cultivation and silk worm rearing are predominant in and around Karnataka state. The contribution of Karnataka to sericulture farmers of other states is phenomenal in the areas of marketing, mulberry cuttings and other inputs. The transformation of technology of improved sericulture has taken place very naturally from Karnataka to other states. Further, in Bangalore rural, Chikkaballapur, Kolar and Ramanagaram district of Karnataka, the sericulture is carried on row system and that too, under irrigated conditions. Mulberry cultivation under rain fed conditions is very meager and negligible in these districts. In six taluks of these districts, sericulture is very popular, in 4 taluks, it is moderately popular and in one taluk, it is least popular. Almost every village of these districts has sericulture. Therefore, the project author selected these 4 districts as research location to study the managerial efficiency and its impact on the economic performance of sericulturists. The information regarding the number of villages was collected from the department of sericulture at the district head quarters.

In order to maintain uniformity regarding the area selected for the study, the list of villages, where sericulture is dominant in the selected districts was prepared by adopting the following criterion:

1. The presence of at least twenty five practicing sericulturists in the village.
2. The villages are involved in mulberry cultivation and silkworm rearing but not seed cocoon production
3. Availability of infrastructure facilities in the village proper.

The total number of villages satisfying above said criterion was twenty four. In each of the selected villages, a list of sericulturists, who had cultivated mulberry and or reared silk worms in the previous year 2012-2013, was prepared with the assistance of the extension workers of the technical service centers and from each village, ten sericulturists were selected at random and thus making the total number of respondents to 240.

STATEMENT OF THE PROBLEM

In India, the recent decades have seen the emergence of sericulture as a major cottage industrial enterprise with enormous potential for earning foreign exchange. However, the current levels of productivity and quality of sericulture are not adequate for sustaining an international advantage and this is mostly due to inefficient management. Therefore an effort is made by the researcher to identify the factors that comprise managerial efficiency of sericulturists, measure these factors by appropriate scales, find the present level of efficiency of sericulturists, and identify the pitfalls, which if corrected would ensure better productivity of the sericulture enterprise and thereby gain sustainable success.

OBJECTIVES OF THE STUDY

1. To Study the socio-personal profile of the farmers in Sericulture Sector
2. To study the Assessment level of Managerial efficiency and Economic performance of the farmers in Sericulture sector.

HYPOTHESIS

H1: There is significant difference in the assessment level of the sericulturists with regard to their Managerial Efficiency.

H2: There is significant difference in the assessment level of the farmers with regard to their Economic Performance.

METHODOLOGY AND SOURCES OF DATA

The study is conducted through a survey method. To carry out the study, the structured questionnaire technique is used to get insight about the issues explored in the present study. For the purpose of the study, both primary and secondary data is collected, to achieve the formulated objectives.

SAMPLING DESIGN

This study is based on data collected from the selected villages based in Karnataka. The study followed multi stage sampling design. In the first stage, twenty four villages, which are based in Karnataka, were selected. the selection was based on the following criteria:

1. The presence of at least twenty five practicing sericulturists in the village.
2. The villages are involved in mulberry cultivation and silkworm rearing but not seed cocoon production
3. Availability of infrastructure facilities in the village proper.

In the second stage, two hundred and forty sericulturists having a minimum of five years of experience in this area were randomly approached to fill in the developed questionnaire.

VARIABLES USED IN THE STUDY

In this study Managerial efficiency is considered as independent variable and Economic performance is considered as Dependent variable.

Reliability of the Scale

In the present research study, the reliability scale was determined using split-half method.

Split half reliability:

The response obtained from thirty employees in non-sampling area for the selected statements (64) were split into two halves-scores of even number statements (X) and scores of odd number statements (Y). The coefficient of correlation between the two sets of scores i.e. (X) and (Y) was computed by using the Pearson's product moment correlation and it was 0.83 and found to be significant at one percent level of probability.

Pearson's product moment correlation formula:

$$= \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

This was again correlated by using the Spearman's Brown Prophecy formula and thus obtained the reliability r_{II} of the original scale.

Spearman's Brown Prophecy formula:

$$r_{II} = \frac{2r \frac{1}{2}}{1 + r \frac{1}{2}}$$

The obtained r_{II} value was 0.91, which indicated a high reliability of the scale.

Validity of the Scale

To test the validity of the scale, the methods namely, content validity and construct validity as proposed by Kerlinger (1973) are adopted in the present study.

Content Validity

Content validity of the Managerial efficiency and Economic performance scale was established in two ways: firstly, the items included in the scale are based on extensive review of the literature. Secondly, the opinions expressed by experts were obtained to find out whether or not the items suggested were suitable for inclusion in the scale.

Field Work

The fieldwork on the project started during January 2012 and continued up to September 2012. The researcher in person requested the respondent to fill the questionnaire for the purpose of the study.

PLAN OF ANALYSIS

In this study, Percentages are calculated to study the Socio – personal profile and the level Managerial efficiency and Economic performance of the farmers. Karl Pearson’s coefficient of correlation, Regression analysis and Path analysis is used .

RESEARCH FINDINGS

Objective-1: To Study the socio-personal profile of the farmers in Sericulture Sector

For the present study, socio- personal profile includes Age group, Education level, Annual-income and Type of family.

Variable	Category	Number	Percentage
Age	Less than 35 years	84	35
	36 -50 years	116	48
	Above 50 years	40	17
Education	Illiterate	135	56
	High school	60	25
	Pre-University	45	19
Annual income	Below Rs. 50,000	86	36
	Rs.50,000-70,000	96	40
	Above Rs.70,000	58	24
Type of the family	Nuclear Family	90	38
	Joint Family	150	62

Source: Primary Data

n=240

- Forty eight percent of the respondents belong to middle age group of 36-50 years, thirty five percent belong to young age group of less than 35 years, and seventeen percent belong to old age group of more than 50 years.
- The results indicate that 56 percent of the respondents are illiterate, where as only about 25 percent and nineteen percent of them had high school and pre-university level of education.
- Forty percent of the respondents belong to the income group of Rs. 50,000-70,000, thirty six percent belong to the income group of Below Rs 50,000, and twenty four percent belong the income group of above Rs.70,000 per annum.
- Sixty two percent of respondents belong to joint family and thirty percent belong to nuclear family.

Objective-2a: To Study the Assessment level of Managerial Efficiency of farmers in Sericulture Sector

For the purpose of present survey Knowledge factors, skills acquired, ability to planning, ability to make rational decisions, ability to select and mobilize resources, ability to use resources effectively, ability to coordinate, timely adoption, ability to make rational marketing and ability to self evaluation aspects are included to study Level of managerial efficiency of sericulturists.

Assessment Level	Category	Respondents	
		Number	Percent
Low	≤ 50 % Score	112	47.00
Moderate	51-75 % Score	128	53.00
High	> 75 % Score	000	00.00
Total		240	100.0

Source: Primary Data

* Significant at 5% level

 $\chi^2 = 4.32^*$

The level of Managerial efficiency of Fifty three percent of the respondents found to be at moderate level and forty seven percent have low level of managerial efficiency.

As there exists significant difference in the assessment level of respondents with regard to their managerial efficiency, **H1 is accepted**. However, it is very disheartening to note that none of respondents have high level of efficiency due to the following reasons:

- Relatively they are less risk oriented and less innovative and therefore they are less venturesome.
- They look contended with whatever quantity of output they obtain and this low level of aspiration has made them less innovative.
- Their participation in training programs, contact with change agents, exposure to mass media are at lower level and hence their knowledge about latest sericulture technology and improvements in agriculture practices is found to be at inferior level.
- The unhygienic maintenance of rearing house and inability to invest on rearing equipments has resulted in their low productivity.
- They possess less area under mulberry cultivation and low rate of silk worm rearing intensity resulted in low productivity.
- Their decision making ability and skill of utilizing the resources effectively are lower level.
- Farmers are poor in their rational marketing, self confidence and deferred gratification.
- Lack of knowledge about air outs in the rearing house, brushing of worms to trays using brushing nets, and harvesting of cocoons.

Objective-2b: To study the Assessment level of Economic performance of Respondents

In the present study, to ascertain the economic performance, the difference between total revenue generated from sale of cocoons and total expenditure incurred for mulberry cultivation and silkworm rearing is considered.

Assessment Level	Category	Respondents	
		Number	Percent
Low	≤ 50 % Score	126	52.00
Medium	51-75 % Score	114	48.00
High	> 75 % Score	000	00.00
Total		240	100.0

Source: Primary Data

* Significant at 5% level

 $\chi^2 = 4.50^*$

The economic performance of fifty two percent of the respondents found to be at low level and forty eight percent at moderate level. But, Chi-square test reveals that there exists significant difference in the Economic performance of sericulturists. **Therefore, H2 is accepted**. It is a fact that none of the respondents have high level of Economic performance, due to the following reasons:

- Their silk worm intensity per annum is less than 3 times per annum.
- The leaf production at the initial stages is less than expected and this is happening mainly due to infestation of mealy bugs/ pest and disease problem.
- The silk worm rearing intensity and the productivity per unit of land under mulberry cultivation has suffered a decline due inadequate power supply, shortage of irrigation water, Non availability of silkworm eggs, high transportation Cost, exploitation by the middlemen, and delayed payment of money.
- The unhygienic maintenance of rearing house and inability to invest on rearing equipments has also resulted in low productivity and returns.
- Their capital investment is low in acquiring sericulture infrastructure.

- They do not get better financial and technical assistance from the sericulture department.

SUGGESTIONS BASED ON FINDINGS.

Based on the findings, the following suggestions are recommended for improving the Economic performance of sericulturists:

- For the steady growth of an industry, silk board should design and implement the need-based formal and informal training programs for different target groups at reasonable training fee, of course in collaboration with various government and non government agencies.
- Training Division of silk board should be equipped with the required modern facilities and should be supported with professionally competent scientists-cum-faculty for conducting various training programs. It should have well-equipped Laboratories, Lecture Halls with latest audio-visual aids, Computer facility with LAN & Internet, Rearing houses, mulberry garden, in order to make the training programs to meet the specific needs of the beneficiaries.
- The training Institute should have good facilities for boarding and lodging. Several other amenities like medical services, transport, communication, should also be provided for the welfare of the trainees.
- In order to enhance the practical knowledge and ability of the participants, institute should provide basic information on various aspects of Mulberry Cultivation, Silkworm Rearing and maintenance of silkworm races for the production of eggs, silk worm disease management, Economics and Human Resource Development. Raising nurseries for large-scale production of mulberry saplings for commercial purposes.
- There is a need for the government to provide financial assistance for the construction of separate sheds, for purchasing of required rearing equipments and other inputs.
- Experienced Farmers also suggested few Preventive measures to be taken for producing quality silk. They are:
 1. To avoid storage of stained cocoons
 2. To have storage room with good ventilation.
 3. To see that Cocoon storage place is clean and dry and no waste cocoons are stored in the premises.
 4. To ensure proper drainage of cocoons before storage.
 5. To have relative humidity in the storage room.
 6. To see that the storage place is thoroughly disinfected.
 7. To replace the water in the reeling basin from time to time.
 8. To use Drip Irrigation system, as such system saves around 40 per cent more water compared to surface irrigation without negatively affecting the leaf yield.
 9. To enhance the production of silk in the country by expanding the cultivable area.
- Experts from silk board suggested the precautionary measures to be taken to protect silk worms:
 1. Ankush - This eco friendly bed disinfectant prevents the spread of common silkworm diseases.
 2. Vijetha - a bed disinfectant puts a stop to the occurrence of different silkworm diseases.
 3. Resham Keet Oushadh- a bed disinfectant - It is another useful bed disinfectant that prevents various silkworm diseases from occurring.
 4. Raksha Rekha - This is an insecticidal chalk for controlling ants and cockroaches during silkworm rearing.
- They also suggested the machineries to be used in sericulture:
 1. Mulberry Pruning Machine - This machine can prune one acre of mulberry garden in five hours.

2. Machine for preparation of Cuttings - It facilitates quick preparation of cuttings (around 2000 cuttings per hour).
3. Litter separator - The machine is effective in separating leftover leaves and litter for use in biogas plants to generate biogas. This biogas is used for reeling purposes as well as domestic use.
4. Machine for chopping of mulberry leaves - This motor-driven machine cuts around 40 kg leaves per hour.
5. Matures silkworm separator - The motorized machine can separate about 35,000 matured silkworm larvae in around two hours. This facilitates quick mounting.

SCOPE FOR FURTHER RESEARCH:

Project Author believes that future research should employ longitudinal data for this type research topic. In addition, future studies should use sericulturists from other states to further validate the research findings.

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