



## Socio-Economic Status of Sericulture Farmers under Rainfed Condition in Chamarajanagar District, Karnataka State

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### ABSTRACT

*Sericulture is a labour intensive, profitable with very low input that gives a regular income to the farmers'. Among the factors that contribute for successful cocoon production, socio-economic factors play an important role in determining the knowledge and adoption levels of sericulture technologies for production of mulberry and cocoons. An investigation has been conducted to know the socio-economic condition of sericulture farmers under rainfed condition in Chamarajanagar district (Chamarajanagar and Gundlupet Taluks) of Karnataka state, India. The farmers of the study area were categorized into small (n=8), medium (n=91) and big farmers (n=21) based on the mulberry land holdings. Majority of the farmers belong to old age group (above 55 years) (45.83%) and very few farmers belong to young age (10.00%). In respect of education level, majority of the farmers belong to illiterate group (51.67%) and very few farmers had college level of education (11<sup>th</sup> Std. and above) (2.50%). Family size of farmers were grouped into three categories namely small (<2 members), medium (3-4 members) and big farmers (>5 members) and majority of the respondent farmers possess medium family size (63.33%) and few farmers holds small family (5.00%). In respect of social participation of farmers, large group of farmers did not evince interest in social activities, however only few farmers were actively involved in milk cooperative societies (10.00%). With respect to usage of mass media, majority of the farmers view television (85.83%). In the study area, majority of the farmers did not involve in extension activities, while very few farmers involved once in a while and more than once in extension activities.*

**Key words:** Chamarajanagar, Education, Extension activities, Mass media, Social participation.

### INTRODUCTION

Silk, the end product of sericulture industry, is the “Queen of Textiles” for its exclusive characteristics of fineness, elegance, strength and pearl like luster among the natural fibres.

Due to scintillating draping qualities, silk became the first favourite of fashion designers all over the world. Silk has represented luxury and royalty and these qualities are yet to be matched by any other textile fibre.

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It is a unique fibre with a wide variety of uses in apparel drapery, hosiery and upholstery industries. In the world, India has the unique distinction of being the only country that produces all the four known commercial types of silks *viz.*, mulberry, tasar, eri and muga. India is the second largest mulberry silk producing country after the Peoples Republic of China in the world accounting for 19% of the total global raw silk production besides providing employment to 8.25 million persons in rural and semi-urban areas. India holds the world monopoly in the production of muga, the golden yellow silk<sup>1</sup>.

In India, sericulture is considered to be a highly remunerative cash crop with minimum capital investment and yielding reasonably good returns over other enterprises. It is one of the stable enterprises which provide regular flow of returns in the tropical states namely Karnataka, Tamil Nadu, Andhra Pradesh, Maharashtra and Kerala of the country throughout the year. Sericulture effectively transfers urban wealth to rural producers. It provides not only periodical return within a short period of time, but also assures potential family employment opportunities around the year.

For the improvement of any industry, adoption of new technology is most essential and the technology development should be profitable and acceptable to the end user. The introduction of sericulture technology is directed towards achieving specific objectives like increase in production and productivity of crops and increase in the employment and income of the farmers. The introduction of improved sericulture technique will not only result in increasing the silk production but also improving the quality of life, standard of living and socio-economic conditions of rural population.

The socio-economic status of the farmers has been an important parameter in determining their level of technology adoption. This has been adjudged by various field studies involving parameters like caste, family form, main occupation, experience, family size, cocoon yield/100 DFLs, income,

education, land holding size, mulberry under irrigation and extension support<sup>3</sup>. The factors such as education, income and social participation, extension contact, mass media use, cosmopolitanism and risk orientation were found to have positive relationship with adoption, while age showed negative relationship with it. The contribution of education and cosmopolitanism was significant too<sup>11</sup>.

Syed Shakir Ali *et al.*<sup>12</sup> opined that cluster promotion programme (CPP) has created significant impact on all the socio-economic aspects of sericulturists; hence development of sericulture can be hastened up with the adoption of cluster concepts. Sannappa *et al.*<sup>9</sup> reported that the socio-economic status of sericulturists among the farmers of Maddur taluk, Mandya district varied greatly and thus the knowledge and adoption of sericultural practices too differed considerably. Keeping this in view, a study has been undertaken to study the personal and socio-economic status of the sericulture farmers under rainfed condition in Chamarajanagar district of Karnataka state, India to know the involvement of the farmers in social and extension activities.

## METHODOLOGY

### Details of study area

The investigation has been conducted in Chamarajanagar district of Karnataka state, India. Karnataka state has 98,135 ha of mulberry of which the crop occupies 1,181.00 ha in Chamarajanagar district<sup>1</sup>. The district has four taluks with a total geographical area of 5,69,901 ha. It is located in the southern tip of Karnataka state and lies between the North latitude 11° 40' and 12° 06' and East longitude 76° 24' and 77° 46'. The district chiefly comprises red sandy loam soil, in addition to having black cotton soil in some pockets. The district receives an average annual rainfall of 805.2 mm. Altogether, 1832 farmers are practicing sericulture both under rainfed and irrigated conditions in as many as 254 villages (Department of Sericulture, Govt. of Karnataka).

A total of 120 rainfed farmers were selected out of which 60 each from Chamarajanagar and Gundlupet taluks were considered for the study (Fig. 1). The selection of villages and number of farmers interviewed for collection of data in each taluk depends on the mulberry

area and number of farmers practicing sericulture. The study was formulated based on the preliminary field survey and in consultation with Technical Staff of the State Department of Sericulture in different taluks of the Chamarajanagar district.

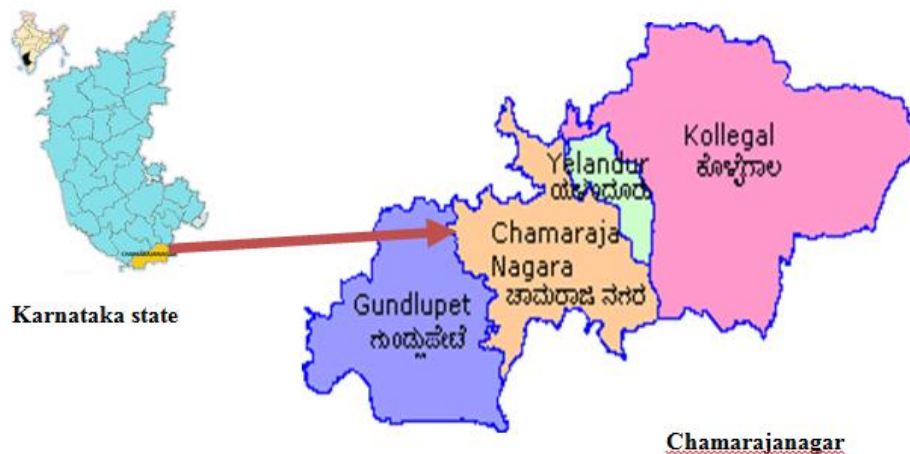


Fig. 1: Map of the study area

#### Source and method of data collection

Information on the sericultural practices among the farmers of the rainfed condition was collected through formal discussion using interview schedule. Post classification of farmers was done based on their size of mulberry holding namely small (< 0.79 acre) (08 no.), medium (0.80 to 1.61 acre) (91 no.) and big (>1.62 acre) (21 no.). The following personal and socio-economic characteristics of sericulture farmers were studied in the current investigation.

**Age:** The actual number of years completed by an individual respondent at the time of study was considered. Based on the available data, the data was classified into three groups namely young (25-40 years), middle (41-55 years) and old age (above 55 years).

**Education:** The respondents were asked to indicate their formal education, which was recorded and quantified. These include illiterate, primary (1<sup>st</sup> -7<sup>th</sup> std.), high school (8<sup>th</sup> -10<sup>th</sup> Std.) and college level of education (11<sup>th</sup> std. & above).

**Family size:** This variable refers to the total number of men, women and children in the respondent's family. The respondents were

classified into three groups namely small (<2 members), medium (3-4 members) and big (> 5 members).

**Social participation:** The involvement of an individual in formal organizations (Village panchayath, Taluk panchayath, Zilla panchayath, Youth club, Mahila mandal, Primary Co-operative Agriculture and Rural Development Bank, Milk Produces Co-operative Society, Sericulture club, others) were observed with two criteria namely type of membership (*i.e.*, either a member or an office bearer) and duration of membership.

**Mass media participation:** This variable refers to the degree to which a respondent is exposed to different mass media such as News paper, Reshme Krishi, Krishi Vignana / Krishi loka, Krishi Vaarthe, Leaflets/folders, Radio, Television and Books. The respondents were asked to indicate as how often they use these mass media.

**Extension participation:** It was measured in terms of the extent of involvement in the activities like Meetings, Farmers trainings, Field days, Field visits, Demonstrations, Educational tours and Exhibitions conducted by the different developmental departments.

The respondent's participation in the above extension activities for the period of study was included as extension participation.

Analysis of data was carried out adopting the statistical tools like frequencies, percentages and mean. The following analytical tools were employed using SPSS package.

## RESULTS AND DISCUSSION

Socio-economic characteristics of farmers in the study area are tabulated in the form of tables and are explained along with the works of previous researchers under the following sub-headings:

### Age

Majority of the farmers who come under middle age group in small (n=4, 50.00%) and medium farmers (n=42, 46.15%) category followed by old age (n=39, 42.86% and n=3, 37.50%) and few farmers under young age (n=1, 12.50% and n=10, 10.99%). Under big and total categories of farmers, where majority of them belong to old age (n=13, 61.90% and n=55, 45.83%) followed by middle (n=7, 33.33% and n= 53, 44.17%) and young age groups (n=1, 4.76% and n=12, 10.00%) (Table1). It can be presumed that, perception of farmers in knowing about the latest technologies in mulberry and cocoon production practices and their adoption for higher productivity might hinder as majority of the farmers in the current study belong to middle and old age groups. However, study conducted by Sunildutt and Chole<sup>11</sup> reported that 61.25% of sericulturists belong to young age category followed by middle (28.75%) and old categories (10.00%). The current results are in corroboration with the findings of Sannappa *et al.*<sup>9</sup>, where maximum farmers (72%) belonged to old age group when compared to middle (26%) and young age (2%).

### Education level

In the study area, illiterate farmers who constitute majority under small (n=6, 75.00%), medium (n=44, 48.35%), big (n=12, 57.14%) and total category of farmers (n=62, 51.67%) followed by small farmers category with high

school and college level of education who represent 1 farmer each with 12.50%, medium farmers (n=30, 32.97%), big farmers (n=7, 33.33%) and total category of farmers (n=37, 30.83%) with primary level. Further, less number of farmers were in the category of medium (n=2, 2.20%) and total category of farmers (n=3, 2.50%) with college level of education and 2 farmers with high school level under big category (9.52%). However, none of the farmers represent primary level under small farmers and college level under big farmers categories (Table 2). According to Siddappaji *et al.*<sup>10</sup>, 59% of the respondents were literate in Mysore district, out of which 3, 17 and 24% were graduates, educated upto secondary and primary levels, respectively and the remaining respondents were illiterates (41%) and they undergone sericulture training. As per Kshama Giridhar *et al.*<sup>4</sup>, 37.61% of farmers were un-educated followed by 31.4% educated up to primary and 21.3% studied up to high school. Raghuprasad<sup>7</sup> found that 23.33% of sericulturists were illiterate, 31.33% of them were studied upto primary to middle school, 40.66% of them were studied up to high school and pre-university college and only 4.66% of them were graduates. Prabhakar *et al.*<sup>6</sup> reported that hardly 10-14% of the sericulturists in Chikkamangalore district participated in different social organizations reflecting low education level.

### Family size

The small, medium and total category of farmers had medium family size (n=7, 87.50%; n=59, 64.84%; n=76, 63.33%), while big farmers had both medium and big family size (n=10, 47.62%) and family size was less with medium (n=5, 5.49%), big (n=1, 4.76%) and total category of farmers (n=6, 5.00%) and big family size was found with only 1 farmer under small farmers category (12.50%). However, small farmers did not possess small family size (Table 3). The findings of the current investigation were also supported by the results of Sannappa *et al.*<sup>8</sup> who conducted a study in Malavalli taluk of Mandya district among sericulture farmers (n=50), where majority of the respondents (48.00%) are

having medium family size (4-6 members), 32.00% of farmers represent small family size (< 4 members) and 20% of farmers holding big family (> 6 members). Similarly, in another study undertaken by Sannappa *et al.*<sup>9</sup> in Maddur taluk of Mandya district inferred that majority (28) of the respondents (56%) had medium family size (4-6 members), 17 respondents (34%) had small family size (< 4 members) and 5 respondents (10%) are having big family size (>6).

### **Social participation**

Social activities of the farmers encompass Village panchayath, Taluk panchayath, Zilla panchayath, Youth club, Mahila mandal, Co-operative agriculture bank, Milk co-operative society, Sericulture club, *etc.* Irrespective of the categories of farmers (small, medium and big), great majority of the farmers did not evince interest in social activities. However, very few small (n=2, 25.00%), medium (n=6, 6.60%), big (n=4, 19.10%) and total category of farmers (n=12, 10.00%) involved in milk co-operative society (Table 4). In this regard, concerted efforts must be undertaken by the extension personnel, NGOs and other local bodies to create awareness among the farmers about the usefulness / benefits of these social organizations for the betterment of farmers knowledge level and social status of farmers.

### **Mass media participation**

All categories of farmers namely small, medium and big farmers were exposed towards television regularly (n=6, 75.00%; n=77, 84.62% and n=20, 16.67%), respectively. The farmers were occasionally exposed to radio (n=2, 25.00%; n=32, 35.16% and n=20, 16.67%), respectively. Among the total farmers majority of the farmers were exposed to television regularly (n=103, 85.83%), occasionally more number of farmers were exposed to radio (n=36, 30.00%), television n=13, 10.83%) and Reshme krishi and Krishi loka (n=6, 5.00%). However, majority of the farmers did not expose to Reshme krishi (n=109, 90.83%), Krishi loka (n=112, 93.33%), Krishi vaarthe (n=117, 97.50%), Leaflets/folders (n=116, 96.67%), respectively (Table 5). The results

revealed that large group of farmers mainly depends on Television and Radio as their mass media sources for obtaining the information/knowledge on various aspects of sericulture and allied activities. Further, great majority of them did not read/hear Reshme krishi, Krishi loka, Krishi Vaarthe, Leaflets/folders, Books and News paper mainly due lack of literacy among the large group of farmers as recorded in the education level of farmers in the current investigation.

### **Extension participation**

Among the small farmers (n=8), none of the farmers participated in meetings and demonstrations. However, these farmers were participated in the Field visits and Exhibitions (n=6, 75.00%), Field days (n=4, 50.00%), Educational tours (n=4, 50.00%) and Farmers trainings (n=2, 25.00%). Further, these farmers were attended Farmers trainings (n=6, 75.00%), Field days (n=4, 50.00%) and Educational tours (n=3, 37.50%) for once, while more than once these farmers participated in Educational tours (n=1, 12.50%).

Among medium farmers (n=91), more number of farmers did not participate in Demonstrations (n=83, 91.21%) followed by Educational tours (n=77, 84.62%), Meetings (n=76, 83.52%) and Field days (n=71, 78.02%). The farmers participated once in Exhibitions (n=46, 50.55%) followed by Farmers trainings (n=32, 35.16%) and Field visits (n=27, 29.67%). Further, the farmers also participated more than once in Farmers trainings (n=19, 20.88%) followed by Exhibitions (n=15, 16.48%) and Meetings (n=8, 8.79%). In big farmers (n=21), maximum number of farmers did not participate in Demonstrations (n=21, 100.0%) and Meetings (n=19, 90.48%), while few farmers participated once and more than once in extension activities like Farmers trainings and Exhibitions (n=10, 47.62% and n=6, 28.57%) and (n=10, 47.62% and n=2, 9.52%), respectively.

In the total category of farmers (n=120), majority of the farmers did not participate in Demonstrations (n=112, 93.33%)

and Meetings (n=103, 85.83%), while farmers participated only once showed highest in Exhibitions (n=58, 48.33%) and Farmers trainings (n=48, 40.00%) and more than once in Farmers trainings (n=25, 20.83%) and Exhibitions (n=17, 14.17%) (Table 6 and 7).

The study conducted in Mandya district of Karnataka state with a sample of 60 sericulturists each from traditional and non-traditional taluks of the district by personal interview method revealed that demonstrator ranked first followed by progressive farmers and radio for sericulture information in traditional area. In non-traditional area, demonstrator ranked first followed by radio and progressive farmers and neighbors were the most preferred source for urgent needs. Further, the demonstrator was consulted for low cost technologies while progressive farmers were consulted for high cost technologies by majority of the sericulturists in traditional and non-traditional areas<sup>2</sup>.

According to Manju<sup>5</sup>, nearly 40.98% of sericulturists attended training programme and 43.33% of sericulturists had contact with sericulture demonstrator and 13.33% contact with Sericulture Extension Officers and 50.83% of sericulturists participated in one or more extension activities of which 40.98 and 49.18% attended training programmes and Krishi Melas, respectively.

The study concludes that, majority of the sericulture farmers in the study area possess medium age group with medium family size and had upto high school level of education, but farmers did not evince interest in social and extension activities besides poor response towards usage of mass media. Hence, concerted efforts must made by the extension personnel in improvement of social and extension participation of farmers as these plays vital role in improving the knowledge and adoption level of sericulture technologies for enhancing the productivity in sericulture.

**Table 1: Age of sericulture farmers**

Sl. No.	Age	Small farmers (n=8)		Medium farmers (n=91)		Big farmers (n=21)		Total (n=120)	
		No.	%	No.	%	No.	%	No.	%
1	Young (25-40 years)	1	12.50	10	10.99	1	4.76	12	10.00
2	Middle (41-55 years)	4	50.00	42	46.15	7	33.33	53	44.17
3	Old (Above 55 years)	3	37.50	39	42.86	13	61.90	55	45.83

**Table 2: Education level of sericulture farmers**

Sl. No.	Education level	Small farmers (n=8)		Medium farmers (n=91)		Big farmers (n=21)		Total (n=120)	
		No.	%	No.	%	No.	%	No.	%
1	Illiterate	6	75.00	44	48.35	12	57.14	62	51.67
2	Primary (1 <sup>st</sup> – 7 <sup>th</sup> Std.)	0	0.00	30	32.97	7	33.33	37	30.83
3	High school (8 <sup>th</sup> – 10 <sup>th</sup> Std.)	1	12.50	15	16.48	2	9.52	18	15.00
4	College (11 <sup>th</sup> Std. & above)	1	12.50	2	2.20	0	0.00	3	2.50

**Table 3: Family size of sericulture farmers**

Sl. No.	Family size	Small farmers (n=8)		Medium farmers (n=91)		Big farmers (n=21)		Total (n=120)	
		No.	%	No.	%	No.	%	No.	%
1	Small (<2 members)	0	0.00	5	5.49	1	4.76	6	5.00
2	Medium (3-4 members)	7	87.50	59	64.84	10	47.62	76	63.33
3	Big (> 5 members)	1	12.50	27	29.67	10	47.62	38	31.67

Table 4: Participation of sericulture farmers in social activities

Sl. No.	Social participation	Small farmers (n=8)		Medium farmers (n=91)		Big farmers (n=21)		Total (n=120)	
		No.	%	No.	%	No.	%	No.	%
1	Village panchayath	0	0.00	1	1.10	0	0.00	1	0.90
2	Taluk panchayath	0	0.00	0	0.00	0	0.00	0	0.00
3	Zilla panchayath	0	0.00	0	0.00	0	0.00	0	0.00
4	Youth club	1	12.50	0	0.00	0	0.00	1	0.90
5	Mahila mandal	0	0.00	0	0.00	0	0.00	0	0.00
6	Co-operative agriculture bank	0	0.00	1	1.10	1	4.80	2	1.70
7	Milk co-operative society	2	25.00	6	6.60	4	19.10	12	10.00
8	Sericulture club	0	0.00	0	0.00	0	0.00	0	0.00
9	Others	0	0.00	1	1.10	1	4.80	2	1.70

Table 5: Participation of small, medium and big farmers of sericulture in mass media

Sl. No.	Mass media participation	n=120																	
		Small farmers (n=8)						Medium farmers (n=91)						Big farmers (n=21)					
		R	%	O	%	N	%	R	%	O	%	N	%	R	%	O	%	N	%
1	News paper	6	75.00	0	0.00	2	25.00	26	28.57	3	3.30	62	68.13	8	6.67	0	0.00	13	10.83
2	Reshme krishi	1	12.50	0	0.00	7	87.50	3	3.30	4	4.40	84	92.31	1	0.83	2	1.67	18	15.00
3	Krishi loka	0	0.00	0	0.00	8	100.0	2	2.20	5	5.49	84	92.31	0	0.00	1	0.83	20	16.67
4	Krishi vaarthe	0	0.00	0	0.00	8	100.0	0	0.00	3	3.30	88	96.70	0	0.00	0	0.00	21	17.50
5	Leaflets/folders	1	12.50	0	0.00	7	87.50	0	0.00	2	2.20	89	97.80	1	0.83	0	0.00	20	16.67
6	Radio	4	50.00	2	25.00	2	25.00	46	50.55	32	35.16	13	14.29	17	14.17	20	16.67	2	1.67
7	Television	6	75.00	0	0.00	2	25.00	77	84.62	13	14.29	1	1.10	20	16.67	0	0.00	1	0.83
8	Books	0	0.00	0	0.00	8	100.0	5	5.49	5	5.49	81	89.01	4	3.33	0	0.00	17	14.17

R = Regular

O = Occasional

N = Never

Table 6: Participation of small, medium and big farmers of sericulture in extension activities

Sl. No.	Extension participation	(n=120)																	
		Small farmers (n=8)						Medium farmers (n=91)						Big farmers (n=21)					
		N	%	O	%	M	%	N	%	O	%	M	%	N	%	O	%	M	%
1	Meetings	8	100.0	0	0.00	0	0.00	76	83.52	7	7.69	8	8.790	19	90.48	0	0.00	2	9.52
2	Farmers trainings	2	25.00	6	75.00	0	0.00	40	43.96	32	35.16	19	20.88	5	23.81	10	47.62	6	28.57
3	Field days	4	50.00	4	50.00	0	0.00	71	78.02	17	18.68	3	3.30	15	71.43	4	19.05	2	9.52
4	Field visits	6	75.00	2	25.00	0	0.00	63	69.23	27	29.67	1	1.10	13	61.90	6	28.57	2	9.52
5	Demonstrations	8	100.0	0	0.00	0	0.00	83	91.21	6	6.59	2	2.20	21	100.0	0	0.00	0	0.00
6	Educational tours	4	50.00	3	37.50	1	12.50	77	84.62	12	13.19	2	2.20	15	71.43	4	19.05	2	9.52
7	Exhibitions	6	75.00	2	25.00	0	0.00	30	32.97	46	50.55	15	16.48	9	42.86	10	47.62	2	9.52

N = Nil

O = Once

M = More than once

Table 7: Participation of sericulture farmers in extension activities

Sl. No.	Extension participation	Rainfed condition (Pooled) (n=120)					
		N	%	O	%	M	%
1	Meetings	103	85.83	7	5.83	10	8.33
2	Farmers trainings	47	39.17	48	40.00	25	20.83
3	Field days	90	75.00	25	20.83	5	4.17
4	Field visits	82	68.33	35	29.17	3	2.50
5	Demonstrations	112	93.33	6	5.00	2	1.67
6	Educational tours	96	80.00	19	15.83	5	4.17
7	Exhibitions	45	37.50	58	48.33	17	14.17

N = Nil

O = Once

M = More than once

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