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Adoption of sericultural practices by the sericulturists

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Abstract
The present study was undertaken in the purposively selected Aurangabad District of Marathwada region as the area under Sericulture is increasing since last few years. Two talukas namely Paithan and Phulumbri were selected and two villages Kekat Jalgaon and Vihamandava from Paithan taluka and Dongargaon and Pimpalgaon from Phulambri taluka were selected purposively for the study. Twenty sericulturists were selected randomly from each of the village making a sample size of eighty respondents for the present study. The respondents were interviewed with the help of structured schedule prepared for the purpose. It is concluded that the respondents were in young age up to 35 years with high education status, marginal land holding up to 1 hectare and medium area under mulberry cultivation 0.31 to 0.40 hectare with three years of experience in cultivation and medium annual income of Rs 41501 to 161000/- with low social participation and medium use of information sources and high extension contact. Majority of the sericulturists were having medium level of adoption of sericulture practices.

Keywords: Adoption, sericulture, sericulturists

Introduction
Sericulture, the production of silk, is an important industry in the economy of our country. It provides employment to approximately 7.63 million persons. India occupies the second place in the production of silk and also consumes the largest quantity of raw silk. India has been ranked as the second major and largest raw silk producer in the world as it contributes about 18 per cent to the world total raw silk production. Total raw silk production in India was 28.5 MT, out of which mulberry raw silk production was 20.4 MT (73.55%) during 2015-2016 (Annual report, CSB, 2015-2016).

Sericulture is an eco-friendly agro-based labour intensive rural cottage industry providing subsidiary employment and supplementing the income of rural farmers especially the economically weaker section of the society. The industrial production of raw silk and fabric employs a large number of semi literate and semi skilled poor workers throughout the year. Sericulture plays an important role in transformation of rural economy as it assures regular employment and periodic returns round the year. There exists a wide gap between production of silk in India and its consumption. This offers a good scope for increasing sericulture production both horizontally and vertically. Sericulture is one of the prominent enterprises, which provides full time employment to entire family offering high income and better standard of living. India has got congenial environment to produce quality silk for both domestic use and export purpose. Though the growth in acreage is very substantial it has not shown the parallel improvement in cocoon yield in terms of production per hectare of mulberry. Hence, the present study was carried out to assess the extent of adoption of improved sericultural practices by sericulturists.

Objectives
1. To know the personal attributes of sericulturists
2. To study the adoption of sericultural practices by sericulturists

Methodology
The present study was undertaken in the purposively selected Aurangabad district of Marathwada region as the area under Sericulture is increasing since last few years. Two talukas namely Paithan and Phulumbri and two villages Kekat Jalgaon and Vihamandava from Paithan taluka and Dongargaon and Pimpalgaon from Phulambri taluka were selected

purposively for the study. Twenty sericulturists were selected randomly from each of the village, thus a sample size of eighty respondents was selected for the study (Sreenivasa *et al.* 2013) [5]. The respondents were interviewed with the help of structured schedule prepared for the purpose. One score for each correctly used and score zero for wrong use or no use of it by the respondents was given. The data was analyzed with the help of frequency, percentage mean and standard deviation for interpretation of the findings.

Findings

The findings of the study are given below

1. Socio-personal characteristics of the Sericulturists

It is evident from the data in Table 1 that majority (66.25 per cent) of the respondents were young in age up to 35 years, followed by 26.25 per cent of sericulturists were in middle age group of 36 to 55 years and only 7.50 per cent were in the old age group of above 56 years.

The data further indicated that 45.00 per cent of respondents were educated up to higher secondary level, followed by 23.75 per cent up to college level. Up to 16.25 per cent respondents were educated up to secondary school and only 8.75 per cent and 6.25 per cent of respondents were illiterate and were educated up to primary level of education, respectively.

It was observed from Table-1 that 52.50 per cent of the respondents possessed marginal land holding (up to 1 hectare), followed by 28.75 per cent with small (1.1 to 2 hectare) land holding. Only 13.75 per cent and 5.00 per cent of respondents possessed medium and semi-medium land holding, respectively and no respondent had big land holding.

The data about area under mulberry revealed that 55.00 per cent of respondents were having medium area under mulberry cultivation *i.e.* 0.31 to 0.4 hectare and 30.00 per cent of the respondents were having big area under mulberry *i.e.* 0.41 hectare and above and only 15.00 per cent of the respondents were having small area under mulberry *i.e.* up to 0.3 hectare.

Further it is observed that 56.25 per cent of respondents were in medium category (experience of 1.1 to 3 years) and 27.50 per cent of the respondents were in high experience category (experience above 3 years) and 16.25 per cent of the respondents were in low experience category (experience up to 1 year).

The data with regards to annual income revealed that more than half of sericulturists (65.00 per cent) were in medium annual income of (Rs. 41501 to 161000), whereas 21.25 per cent and 13.75 per cent of the sericulturists were found in high (above Rs. 161001) and low (up to Rs. 41500) annual income category, respectively.

With regards to social participation majority of the sericulturists were under low social participation (52.50 %), followed by 31.25 per cent and 16.25 per cent of the sericulturists having medium and high social participation.

With regards to information sources, majority (58.75 %) were under medium use of information sources followed by low 27.50 per cent and 13.75 per cent had used high information sources, respectively.

The data presented in Table- 1 indicates that 48.75 per cent of the sericulturists were having high extension contact followed by medium level (27.50 per cent). Only 23.75 per cent of the respondents were having low extension contact. The results of the study are in consistency with (Choudhary BN 2017) [1].

It is concluded that majority of the sericulturists were in the young age up to 35 years. The probable reason might be that young people tend to be more receptive, enthusiastic, has more working efficiency, high risk bearing capacity and prone to adopt innovations on their farm. Therefore, their more percentage among sericulturists was not surprising. The level of education of the respondents was found to be high. The probable reason may be better awareness about the importance of education and educational facilities available in villages. More than fifty per cent sericulturists possessed marginal land holding *i.e.* less than 1 hectare. The probable reason may be due to fragmentation of land and fifty per cent sericulturists had medium area under mulberry cultivation *i.e.* up to 0.31 to 0.4 hectare. Majority of the sericulturists had medium category experience of 1.1 to 3 years and majority of the sericulturists fell under medium income group *i.e.* in between Rs. 41501 to Rs. 161000 per annum. Thus, based on the data it is concluded that majority of the sericulturists had low social participation with medium information sources, high extension contacts with the extension personnel *i.e.* with sericulture department/ extension personnel might be because of their interest to gather recent information.

2. Adoption of sericulture practices

The data pertaining to the adoption of mulberry cultivation and rearing of larvae (Table 2) reveals that 73.75 per cent of the respondents had high adoption of plantation of mulberry followed by 26.25 per cent in medium adoption and no one found in low adoption category.

Regarding fertilizer use it was observed that majority (50.00 per cent) of the respondents had low adoption followed by 31.25 per cent having medium adoption, whereas, 18.75 per cent respondents were in the category of high adoption level about use of fertilizer.

With respect to intercultural operations, majority of the respondents *i.e.* 78.75 per cent had high adoption, followed by 18.75 per cent and only 2.50 per cent had medium and low adoption category, respectively.

Regarding plant protection, 60.00 per cent of the respondents possessed medium adoption, 33.75 per cent had high adoption and only 6.25 per cent had low adoption.

As far as picking of leaf and storing is concerned, majority of the respondents (71.25 %) had high adoption followed by 20.00 per cent and 8.75 per cent respondents with medium and low adoption, respectively.

Regarding rearing house, it was observed that 42.50 per cent had medium adoption about rearing house followed by 38.75 per cent and 18.75 per cent of the respondents having high and low adoption, respectively.

Regarding silkworm rearing, it was observed that 50.00 per cent had medium adoption followed by 43.75 per cent in high adoption and 6.25 per cent in low adoption category, respectively.

With respect to disease control, 65.00 per cent were in low adoption category followed by 28.75 per cent and 6.25 per cent in medium and high adoption category.

It is concluded that majority of sericulturists (73.75%) adopted the mulberry plantation and intercultural operations (78.75 per cent respondents), respectively. On the other hand majority of the respondents (60.00 per cent) had medium level of plant protection and low level of fertilizer use (50.00 per cent). With regards to adoption of silk worm rearing proper picking and storing of leaves was adopted by majority *i.e.* 71.25 per cent respondents. Similarly, majority of the respondents (43.75 per cent) had adopted high level the

practices of silk worm rearing. On the other hand, construction of rearing house as per specification was adopted by 42.50 per cent *i.e*. to medium level, while adoption of disease control practices was low (65.00 per cent). Thus, in general, the use of fertilizer for mulberry and control of diseases of larvae were the practices adapted to low level which may be a challenge for those involved in sericulture. The results of the study are in consistency with Kushwana and Singhvi (2013) [3] as well as Hadimani (2019) [2].

Distribution of respondents according to overall level of adoption

The data presented in Table 3 shows that majority of the respondents (68.75 per cent) had medium adoption followed by 20.00 per cent under low adoption and only 11.25 per cent of the respondents had high adoption. These findings are in accordance with those reported by Mallikarjuna *et al*. (2009) [4] and finds support from earlier reports by Kushwana and Singhvi (2013) [3] as well as Hadimani (2019) [2].

Conclusions

1. It is concluded that the respondents were young in age with high education status, marginal land holding and medium area under mulberry cultivation with three years of experience in sericulture cultivation and medium annual income with low social participation and medium use of information sources and high extension contacts.
2. Majority of the sericulturists were having medium adoption level.

Table 1: Distribution of respondents according to socio-personal characteristics

S. No	Characteristics	Sericulturists (n = 80)	
I	**Age**	**Frequency**	**Per cent**
1	Young (up to 35)	53	66.25
2	Middle (36 to 55)	21	26.25
3	Old (56 & above)	6	7.50
II	**Education**		
1	Illiterate	7	8.75
2	Primary	5	6.25
3	Secondary	13	16.25
4	Higher secondary	36	45.00
5	College level	19	23.75
III	**Land holding**		
1	Marginal (up to 1ha)	42	52.50
2	Small (1.1 to 2 ha)	23	28.75
3	Medium (2.1 to 4 ha)	11	13.75
4	Semi medium (4.1 to 10 ha)	4	5.00
5	Big (above 10 ha)	0	0.00
IV	**Area under Mulberry**		
1	Small (up to 0.3 ha)	12	15.00
2	Medium (0.31 to 0.4 ha)	44	55.00
3	Big (0.41and above)	24	30.00
V	**Experience in sericulture**		
1	Low (up to 1 year)	13	16.25
2	Medium (1.1 to 3 years)	45	56.25
3	High (Above 3 years)	22	27.50
VI	**Annual Income from sericulture**		
1	Low (up to Rs 41500)	11	13.75
2	Medium (Rs 41501 to Rs 161000)	52	65.00
3	High (Rs 161001 and above)	17	21.25
VII	**Social participation**		
1	Low (up to 3)	42	52.50
2	Medium (4 to 8)	25	31.25
3	High (9 and above)	13	16.25
VIII	**Sources of information**		
1	Low (up to 8)	22	27.50
2	Medium (9 to 12)	47	58.75
3	High (12 and above)	11	13.75
IX	**Extension contact**		
1	Low (up to 4)	19	23.75
2	Medium (5 to 8)	22	27.50
3	High (9 and above)	39	48.75

Table 2: Distribution of respondents according to adoption of sericultural practices

S. No	Practices	Low		Medium		High		Total	
		No	Per cent	No	Per cent	No	Per cent	No	Per cent
1	Plantation	0	0.00	21	26.25	59	73.75	80	100.00
2	Fertilizer use	40	50.00	25	31.25	15	18.75	80	100.00
3	Intercultural operation	2	2.50	15	18.75	63	78.75	80	100.00
4	Plant protection	5	6.25	48	60.00	27	33.75	80	100.00
5	Picking of leaf and storing	7	8.75	16	20.00	57	71.25	80	100.00
6	Rearing house	15	18.75	34	42.50	31	38.75	80	100.00
7	Rearing larvae (silk worm)	5	6.25	40	50.00	35	43.75	80	100.00
8	Disease control	52	65.00	23	28.75	5	6.25	80	100.00

Table 3: Distribution of respondents according to overall level of adoption

S. No	Category	No	Per cent
1	Low (up to 15.25)	16	20.00
2	Medium (15.26 to 27.93)	55	68.75
3	High (27.94 & above)	9	11.25

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