Original Research Article

Socio-economic and communicational status of tasar silkworm rearers in Bastar District of Chhattisgarh

Abstract - Production of silk is basically an agro-industry, divided into farm and industry sector. Sericulture is a labour oriented, low investment, agrarian, small scale industry which suits both marginal and small land holders because of its high returns, short gestation period. The studies conducted earlier inferred that socio-economic and communicational status of tasar silkworm cocoon producers contribute greatly to the economic performance of the sericulture farmers. In this context, a study has been conducted in Bastar district of Chhattisgarh state, India to know the socio-economic and communicational status of tasar silkworm rearers. Information pertaining to the current investigation was collected from 214 farmers in 4 blocks and ten villages through formal discussion using interview schedule. The study revealed that main occupation of the respondent farmers was sericulture. In respect of land holding, massive group of farmers holds less than one acre and none of the farmers own large land holding. Most of the farmers produced tasar cocoons in 2001 -5000 numbers. Majority of the farmers possessed medium use of mass media, out of which most farmers were actively use of sericulture firms and film/slide show for sericulture related information. In case of contact with sericulture personnel, most of the farmers contact the field man once in a week, followed by field officer and rarely contact the Deputy Director of sericulture. In respect of taking part in extension activities, farmers took part in group meeting, demonstration, farmers training programme, field days and other (exhibition, field visit etc.).

Keywords: Economic performance, extension activities, socio-economic and communicational status

1. INTRODUCTION

The cultivation of silkworms to produce silk is called sericulture. The word sericulture is derived from the Greek word “sericos” meaning “silk” and culture meaning “rearing”. India is the second major and largest raw silk producer and also consumes the largest quantity of raw silk in the world, as it contributes about 18% to the world total raw silk production. Total raw silk production in India was 35,468 mt (Anonymous, 2018-2019). Chhattisgarh is the second highest tasar producing state, after Jharkhand, with 254 mt of raw silk production (9% of the total national output).

Sericulture is a significant resource for the socio-economic expansion of the tribal sector. It is highly suitable in the context of diversification of farm enterprises and integration of farming system with other enterprises and has the capacity to generate attractive income. It serves as an important tool for rural conversion benefiting the weaker sections of the society. The silk cocoon

rearing does not only offer periodic income, but also utilizes the untapped family labour for various activities.

The socio-economic and communicational status of the farmers has been a significant parameter in determining their economic performance. This has been adjudged by various field studies involving parameters like occupation, land-holding, production, mass media exposure, contact with sericulture personnel and extension participation. The factors such as occupation, land-holding, production, contact with sericulture personnel and extension participation were found to have positive relationship with economic performance. While, mass media exposure showed negative relationship with it.

Tribal people have been traditionally rearing tasar worms in the natural forest/ economic block plantations. The activity is carried out mainly after the rainy season when the opportunity cost of labour remains very low. The returns from silkworm rearing often go to meet the basic consumption needs of the families. Low level of economy, the suitability of tasar for utilizing family labour, favorable weather conditions and low investment and low economic gestation of the business sustains interest of tasar growing families. Sericulture activities covered 17,709 ha in Chhattisgarh. The total number of Tasar center is 285 (5079 ha), Tasar plantation under CGSP is 155 sites (4046 ha), Tasar rearing in forest was in 7619 ha.

2. MATERIALS AND METHODS

The study was conducted in Bastar District of Chhattisgarh state because this state is the second largest producer of tasar silk in India. 4 blocks namely, Jagdalpur, Bastar, Tokapal and Bakavand was selected purposively for the study because it has the higher number of tasar rearing farmers. In collaboration with the Sericulture Department of Chhattisgarh, a list of tasar silk producing villages will be prepared from the selected blocks. 2 villages will be selected from Jagdalpur block, 2 villages from Bastar block, 3 villages from Tokapal block and 3 villages from Bakavand block. Total 10 villages were select for research programme on the basis of maximum tasar rearing farmers in these villages. As per maximum number of tasar rearing farmers out of 264, 80% was selected total respondents through proportionate random sampling method. Thus, finally the sample were consisted of 214 respondents from 4 blocks and 10 villages. The respondents were interviewed with the help of structured schedule prepared for the purpose. The data was analyzed with the help of frequency, % mean and standard deviation for interpretation of the findings. The following analytical tools were employed using SPSS package.

3. RESULTS AND DISCUSSION

3.1. Socio-economic status of the sericulture farmers

3.1.1. Occupation-

The distribution of the respondents according to their involvement in different occupation is given in the Table 1. The data also reveals that the 29.44% of the respondents were involved in only sericulture, 24.77% of the respondents were involved in sericulture +collecting small forest products, 21.96% of sericulture farmers involved in sericulture +agriculture labour work.

However, 14.02% of sericulture farmers involved in sericulture +agriculture, followed by 4.20% of the sericulture farmers were involved in sericulture +other work (like service, carpenter, etc.), 3.74 % of sericulture farmers involved in sericulture +dairy. While, 1.87 % involved in sericulture +poultry. Similar results were reported by Yadaw (2014) and Panda (2020).

Table 1: Socio-economic characteristics of sericulture farmers

S.N.	Characteristics	Sericulture farmers (n = 214)	
I.	**Occupation**	**Frequency**	**%**
1.	Sericulture only	63	29.44
2.	Sericulture + Agriculture	30	14.02
3.	Sericulture + Dairy	8	3.74
4.	Sericulture + Poultry	4	1.87
5.	Sericulture + collecting minor forest product	53	24.77
6.	Sericulture + Agricultural labour	47	21.96
7.	Sericulture + Other	9	4.20
II.	**Land-holding**		
1.	Marginal (Below 1 ha)	109	50.94
2.	Small (1 to 2 ha)	77	35.98
3.	Semi- Medium (2 to 4 ha)	26	12.15
4.	Medium (4 to 10 ha)	2	0.93
5.	Large (> 10 ha)	0	00.00
III.	**Production of cocoons**		
1.	500-1000 cocoons	37	17.29
2.	1001-2000 cocoons	27	12.62
3.	2001-5000 cocoons	95	44.39
4.	> 5000 cocoons	55	25.70

3.1.2. Land-holding-

It was observed from Table-1 that 50.94 % of the respondents possessed marginal farmers (Below 1 ha), followed by 35.98% had small farmers (1 to 2 ha), 12.15% of the sericulture farmers had semi-medium farmers (2 to 4 ha), 0.93% were in medium land holding (4 to 10 ha) category. While none of the farmers follows the category in large land holding (above 10 ha) category. The result of the study indicated that found that 50.94% of the selected respondents had marginal farmers (below 1 ha). Probable reason might be that the land holding is being reduced continuously due to separation among siblings from generations during conversion of joints families to small families. The finding is in agreement with that of Afroz et al. (2018) and Jakkawad et al. (2019).

3.1.3. Production of cocoons-

Result regarding production of cocoons is revealed in Table 1 that 44.39% of the respondents had 2001 -5000 cocoons followed by (25.70%) of having more than 5000 cocoons, (17.29%) of having 500 -1000 cocoons and (12.62%) of sericulture farmers had 1001 -2000 cocoons.

3.2. Communicational status of the sericulture farmers

3.2.1. Mass media exposure-

The data regarding mass media exposure of the sericulture farmers are evident in Table 2. The data reveals that 93.92% of the respondents not read the newspaper for sericulture information, followed by 4.67% respondents sometimes and only 1.40% respondents always read newspaper for silkworm rearing information. About 60.28% respondents went to sericulture firms, followed by 34.11 and 5.61% gone to sericulture firms, respectively. Regarding the utilization pattern of radio 71.02% respondents not listen to sericulture/ agriculture programmes, 21.96% respondents listen sometimes and 7.01% listen always. In case of television (80.37%) of the respondents not viewed sericulture/ agriculture programmes, followed by 17.76 and 1.87% sericulture farmers viewed sericulture/ agriculture programmes sometimes and always, respectively. With regard to Kisan Call Centre 42.06% of respondents always calls the Kisan Call Centre and clear their queries, 38.32 % respondents never call the Kisan Call Centre the 19.93 % calls sometimes. About 93.46 % sericulture farmers never seen the poster/ charts and (6.54%) respondents seen sometimes. In case of film / slide show 40.19%s sericulture farmers seen sometimes, 31.31% never and 28.50% always. It is clear from the results that the respondents had a medium degree of mass media exposure. Lack of availability of different media, low level of education, lack of intuition to purchase any modern gadgets of communication might be responsible for their medium exposure to mass media. The above findings draw support from the studies conducted by Sham (2015) and Swami et al. (2019).

Table 2: Mass media exposure of sericulture farmers

S.N.	Mass media	Utilization pattern		
		Always	**Sometimes**	**Never**
1.	News Paper	03 (1.40%)	10 (4.67%)	201 (93.92%)
2.	Sericulture Firms	129 (60.28%)	73 (34.11%)	12 (5.61%)
3.	Radio	15 (7.01%)	47 (21.96%)	152 (71.02%)
4.	Television	04 (1.87%)	38 (17.76%)	172 (80.37%)
5.	Kisan Call Centre	90 (42.06%)	42 (19.93%)	82 (38.32%)
6.	Poster / Chart	00 (00.00%)	14 (6.54%)	200 (93.46%)
7.	Film / Slide show	61 (28.50%)	86 (40.19%)	67 (31.31%)

Data presented in Table 3 regarding overall mass media exposure revealed that overall, 60.28% of respondents belonged to medium category, followed by low category (26.17%) and high category (13.55%) of exposure to mass media, respectively.

Table 3: Overall mass media exposure of sericulture farmers

S.N.	Category	Frequency	%
1.	Low (Up to 1)	56	26.17
2.	Medium (2 to 7)	129	60.28
3.	High (More than 8)	29	13.55
Total		214	100.00

3.2.2. Contact with sericulture personnel

The result presented in the Table 4 illustrated the distribution of sericulture farmers with respect to their frequency of contact with sericulture personnel separately.

In case of contacted with Deputy Director of Sericulture, 71.03% of sericulture farmers not contacted with Deputy Director of Sericulture, followed by 26.64% were made contact with Deputy Director of Sericulture 2 – 3 times in a year, 1.87% of the respondents made contact monthly and only 00.47% of the respondents made contact fortnightly. None of the respondent had contact weekly with Deputy Director of sericulture.

About 64.49 % of the respondents made contact with Assistant Director of Sericulture in 2–3 times in a year, followed by 30.37% of the respondents had never contacted, 4.21% and 00.93% of the respondents had contact monthly and fortnightly, respectively. None of the respondent had contact weekly with Assistant Director of Sericulture.

Regarding contacts with field officer, the data indicated that most of the sericulture farmers i.e., 44.39% had monthly contact followed by 33.38% had contact fortnightly, 10.28% of the respondents made contact 2 – 3 times in year, 7.94% of the respondents were contacted weekly. Whereas only 4.21% of the respondents had no contact with Field Officers.

With regards to sericulture inspector, maximum number of the respondents i.e., 85.19% were not contacted with Sericulture Inspector, however 9.63% contacted with Sericulture Inspector fortnightly followed by 4.07% of the respondents made contact monthly and only 1.11% of the respondents made contact weekly with Sericulture Inspector. No respondents had made contact 2 – 3 times in a year with Sericulture Inspector.

About 44.39% of the respondents had not contacted with sericulture demonstrator, followed by 21.96% of the respondents made contact monthly, 16.36% of the respondents made contact fortnightly, 11.68% respondents made contact 2 – 3 times in a year and only 5.61% of the respondents made contact weekly with sericulture demonstrator.

With regard to field men, the data indicate that most of the respondents (69.63%) were contacted with field men/ operatives once in a weak followed by 13.08% of the respondents made contact fortnightly, 5.14% of the respondents made contact once in a month, 5.14% of the respondents had made contact 2 – 3 times in a year with field men/ operatives, while, only 0.93% of the respondents have no contact with field men/ operatives, with field men/ operatives.

In case of contact with others (Subject matter specialist/ NGOs etc.), 82.24% of the Sericulture farmers never contacted with them, while 17.76% of the Sericulture farmers made contact with them 2 – 3 times in a year.

S.N.	Sericulture personnel	Frequency of contacts					Contact index	Rank
		Once in a weak	Fortnightly	Once in a month	2-3 times in a year	Never		
1.	Deputy Director of sericulture	00 (00.00%)	01 (0.47%)	04 (1.87%)	57 (26.64%)	152 (71.03%)	12.70	V
2.	Assistant Director of sericulture	00 (00.00%)	02 (0.93%)	09 (4.21%)	138 (64.49%)	65 (30.37%)	23.20	IV
3.	Field officer	17 (7.94%)	71 (33.38%)	95 (44.39%)	22 (10.28%)	9 (4.21%)	34.10	II
4.	Sericulture inspector (junior/senior)	12 (5.61%)	35 (16.36%)	47 (21.96%)	25 (11.68%)	95 (44.39%)	24.20	III
5.	Field man	149 (69.63%)	28 (13.08%)	11 (5.14%)	24 (11.21%)	2 (0.93%)	68.50	I
6.	Other	00 (00.00%)	00 (00.00%)	00 (00.00%)	38 (17.76%)	176 (82.24%)	9.08	VI

Table 4: Contact with sericulture personnel of sericulture farmers

The data regarding contact index are revealed in Table 3. This table shows that about 68.50% of the respondents contacted with Field men, hence ranked first by the respondents. Field Officer (34.10%), Sericulture Inspector (24.20%), Assistant Director of Sericulture (23.20%), Deputy Director of Sericulture (12.70%), and 9.08 % Others (SMS/ NGOs etc.) were ranked II, III, IV, V and VI, respectively.

3.2.3. Extension participation-

In the Table 5 data are illustrated regarding extension participation. The data indicated that 63.08% of sericulture farmers participated in demonstrations occasionally, followed by 14.02 and 22.90% never and regular participate, respectively. 40.19% of sericulture farmers attending group meetings occasionally, 35.05% are never attended, 24.77% of respondents attend regularly. About 49.07% of the respondents had attended training programme occasionally, 31.31% of them had never attend the training programme and only 19.63% of the respondents

had attended training programme regularly. Most of the respondents i.e., 52.80% had never participated in field days and 32.71% participated occasionally and only 14.49% of the respondents had regularly participated in field days. About 57.94% of the respondents had never attended Kisan Mela, whereas 30.37% of the respondents had attended occasionally, while, only 11.68% of the respondents had attended Kisan Mela. Majority of the respondents i.e., 61.68% never attend other activities (Exhibition, Field visit etc.), followed by 26.17 and 12.15% occasionally and regular attend other activities (Exhibition, Field visit etc.).

Table 5: Extension participation of sericulture farmers

S.N.	Activities	Extent of participation		
		Regular	Occasionally	Never
1.	Farmers training programme	42 (19.63%)	105 (49.07%)	67 (31.31%)
2.	Group meeting	53 (24.77%)	86 (40.19%)	75 (35.05%)
3.	Kisan mela	25 (11.68%)	65 (30.37%)	124 (57.94%)
4.	Demonstration	49 (22.90%)	135 (63.08%)	30 (14.02%)
5.	Field days	31 (14.49%)	70 (32.71%)	113 (52.80%)
6.	Others (Exhibition, Field visit etc.)	26 (12.15%)	56 (26.17%)	132 (61.68%)

Details of the findings about overall extension participation are presented in the Table 6. It was concluded that majority of the respondents i.e., 60.28% had medium extension participation, followed by 22.90% sericulture farmers had high and 16.82% were low extension contact. The result showed that majority of the respondent's (60.28%) had medium level of extension participation. Possible reason could be that to get themselves aquatinted about the new technologies and skills. The participation in the extension activities provides opportunities for contrived experiences and serves improved sericulture practices prevailing in the region or locality. Other reason could be that communication plays vital role to bridge the gap between the technical progression and the actual practice undertaken particularly in the field of sericulture. The success of tasar silk cultivation to a great extent depends on effective and well-organized communication of ideas. Patil (2013) observed similar findings in their study.

Table 6: Overall extension participation of sericulture farmers

S.N.	**Category**	**Frequency**	**%**
1.	Low (Up to 3)	36	16.82
2.	Medium (4 to 7)	129	60.28
3.	High (More than 7)	49	22.90

Total	214	100.00

4. CONCLUSION

Overall, it can be inferred that, the main occupation of most of the respondents was silk production only, maximum numbers of sericulture farmers possess to marginal land holding, production of cocoons was 2001-5000, medium level of mass media exposure, contact with field man sericulture related information and hardly contact with Deputy Director of Sericulture. Tasar silkworm rearers participated in extension activities in medium level and primarily participated in group meetings for knowing silkworm related information.

5. REFERENCES

Anonymous. 2018-19. Annual Report, Central Silk Board, Chhattisgarh.

Afroz Shafi, Manjunatha GR, Biswas TD and Pandit D. 2018. Skill Gap Analysis in Silkworm Rearing among Farmers and Extension Workers in Eastern India. Indian Journal of Extension Education; Vol. 54, No. 3, 2018 (85-90).

Jakkawad SR, Patange NR and Ahire RD. 2019. Adoption of sericultural practices by the sericulturists. Journal of Entomology and Zoology Studies; 7(3): 1363-1366.

Panda Sangeeta. 2020. Impact of integrated "SOIL TO SILK" tasar project on production and productivity of kosa raw silk among the beneficiaries in Janjgir-Champa district of Chhattisgarh state. M.Sc. Thesis. Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh.

Patil Namrata Gajanan. 2013. Managerial ability of sericulturists in Nagpur district. M.Sc. Thesis. DR. Panjabrao Deshmukh Krishi Vidyapeeth, Akola.

Sham. 2015. Role performance of farm women in sericulture. M.Sc. Thesis. Dr. Panjab Rao Deshmukh Krishi Vidyapeeth, Akola.

Swami PS, Kamble VB and Anarase MS. 2019. Farm women's knowledge in sericulture technology. Journal of Pharmacognosy and Phytochemistry 2019; SP2: 69-72.

Yadaw Kedarnath. 2014. Study in Managerial Efficiency of Sericulturists regarding Tasar Silk Cultivation in Chhattisgarh. Ph.D. Thesis. Indira Gandhi Krishi Vishwavidyalaya, Raipur, CG.