



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; 12(5): 1572-1575
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www.thepharmajournal.com

Received: 20-02-2023

Accepted: 24-03-2023

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Gender decision making pattern on silkworm rearing practices

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Abstract

The present study was conducted during 2021-22 in two taluks of Ramanagara district in Karnataka state to analyse the decision making pattern of sericulture households on silkworm rearing practices. One hundred and twenty respondents (60 farm men and 60 farm women) were randomly selected from ten villages of Kanakapura and Channapatna taluks of Ramanagara district. The respondents were interviewed using a pre-tested schedule. The results revealed that there existed a highly significant difference in the mean decision making pattern score between farm men and women in respect of the recommended silkworm rearing practices. Further, the results revealed that age, education, experience in sericulture, innovativeness, achievement motivation, management orientation, risk orientation, economic motivation, cosmopolitaness, attitude towards sericulture, farming commitment, mass media exposure, training in sericulture, extension agency contact, farm scientist contact and extension participation of farm men and women had significantly contributed in making good to better decision making on silkworm rearing practices.

Keywords: Decision making, farm men, farm women, silkworm rearing practices

Introduction

Sericulture is a high-yielding and highly profitable enterprise which offers regular and all-year-round attractive returns in the country's tropical states. Sericultural operations are typically limited to small or medium scale due to labour-intensive nature and individualized care is required for silkworm rearing operations, with most of the mulberry holdings in India ranging from 0.5 acres to 2 acres. Large-scale or commercial farming is now economically viable and popular, particularly among the progressive farmers and educated people. This is because improved technologies developed by the country's research institutes have increased crop stability and reduced the labour dependence of silkworm rearing operations significantly. Large-scale sericulture cultivation is thought to be distinguished by high productivity, cost effectiveness, and quality. The generation of cocoons is regarded as sericulture's key output, increasing farmers' income and serving as raw materials for the silk industry. The main product of the silk industry is cocoons and a variety of useful secondary products, such as moths, trash, and proteins from silkworms could be processed for use in animal feed.

Women are generally favoured in sericulture because of their work ethics. They work on a grainage, a silkworm farm, or a mulberry garden. Their role in post-cocoon technologies, starting with the silk reeling, weaving, and clothing manufacturing industries, is larger. According to recent studies, one crore peasants rear silkworms; fifty lakhs people depend on their livelihood from the silk industry; and Asia is the world's top silk-producing continent, accounting for world's total output of 95 per cent. Fifty-eight countries produce silk, with China, India, Japan, Brazil, and Korea among the top producers. For every kilogramme of raw silk produced, sericulture can also create up to six jobs to women out of 11 new jobs. With this background, the present study has been taken up with the following objectives:

1. To analyse the decision making pattern of farm men and women on silkworm rearing practices
2. To find out the association between the profile characteristics of farm men and women with their decision making pattern on silkworm rearing practices

Methodology

The study was conducted in Ramanagara district of Karnataka State during 2021-22. Ramanagara is a well known as 'Silk City' and Sericulture is one of the main occupation in the

district. In Karnataka, Ramanagara district stands third position in the cocoon production in terms of mulberry area (18,975 ha), cocoon production (19,662 tons) and cocoon productivity (89 kg/100 dfls) during 2020-21 next to Chikkaballapura and Kolar districts (Anonymous 2021a) [1]. During the year 2020-21, mulberry was grown in 9528, 3609, 2691 and 311 ha of Kanakapura, Channapatna, Ramanagara and Magadi taluks of Ramanagara district, respectively. The study was purposively conducted in Kanakapura (9525 ha) and Channapatna (3609 ha) taluks, since mulberry was grown in more areas among the four taluks of Ramanagara district (Anonymous, 2021b) [2]. Five villages were randomly selected for the study from each of the two sampled taluks. From each village, six farm households rearing silkworms were randomly selected. Relevant data were collected from the head of the family and his spouse. Thus, the final sample constituted 60 sericultural households {(120 respondents (60 farm men and 60 farm women)} from ten villages of Kanakapura and Channapatna taluks of Ramanagara district. Expost-facto research design was adopted for conducting the present study.

Decision making pattern

Decision making pattern in the present study refers to the 'extent of involvement of farm men and women in deciding various silkworm rearing practices that needs to be performed'. A total of 11 silkworm rearing practices were included in the research study to know the decision making pattern of farm men and women. To analyze the extent of decision making pattern of farm men, the respondents were given a score of 1, 0 and 0 for the decisions taken by 'farm men alone', 'farm women alone' and both/ together with family members, respectively. A score of 1, 0 and 0 for decisions taken by 'farm women alone', 'farm men alone' and both/ together with family members, respectively, were assigned to know the extent of decision making of farm women. The minimum score and maximum score one could get was 0 and 11, respectively. Based on the total score obtained for all the 11 silkworm rearing practices of the respondents, they were grouped into poor, good and better decision making categories based on the mean and half standard deviation.

Category	Criteria	Farm men	Farm women
Poor	< (Mean - ½ SD)	<8.11 score	<1.78 score
Good	(Mean ± ½SD)	8.11 - 10.09 score	1.78 - 3.50 score
Better	> (Mean + ½ SD)	>10.09 score	>3.50 score
Mean		9.10	2.99
Standard deviation		1.99	1.01

Information in respect of 19 profile characteristics of farm men and women (Table 3) were collected using a structured schedule with suitable scales/procedure (Nataraju *et al.*, (2019) [5]. The collected data was scored, tabulated and analyzed using frequency, percentage, mean, standard deviation, chi square test and student 't' test.

Results and Discussion

1. Decision making pattern of farm men and women on silkworm rearing practices

The findings in Table 1 indicates that the decision on silkworm rearing practices *viz.*, use of disinfectants (66.66%, 26.66% and 6.68%), temperature maintenance at rearing house (80.00%, 13.33% and 6.67%), relative humidity maintenance at rearing house (83.34%, 13.33% and 3.33%), and selection of silkworm breed (80.00%, 11.66% and 8.34%), feeding of silkworms (86.66%, 10.00% and 3.34%), bed spacing (80.00%, 13.33% and 6.67%), bed cleaning (80.00%, 11.66% and 8.34%), moulting care (76.66%, 15.00% and 8.34%), pest management (96.66%, 0% and 3.34%), disease management (96.66%, 0% and 3.34%) and cocoon harvesting (80.00%, 16.66% and 3.34%) were done by farm men alone, farm women alone and by both/together with family members, respectively. The findings revealed that decisions on almost all the silkworm rearing practices were taken up by farm men alone.

On the whole, it could be seen that farm women are not considered in the forefront when it comes to decision making with respect to the silkworm rearing cultivation practices. In some cases, farm women deliberately do not take part in decision making because men put blame on them if something goes wrong. Lack of knowledge on the silkworm rearing practices among farm women and other members of the family might be also the reason for the farm men for not involving farm women and other members of the family in making decisions.

Table 1: Decision making pattern of farm men and women on silkworm rearing practices

(n= 60)

Sl. No.	Silkworm rearing practices	Decision making pattern					
		Farm men		Farm women		Both/ Together with family Members	
		No.	%	No.	%	No.	%
1	Use of disinfectants	40	66.66	16	26.66	4	6.68
2	Temperature maintenance at rearing house	48	80.00	8	13.33	4	6.67
3	Relative humidity maintenance at rearing house	50	83.34	8	13.33	2	3.33
4	Selection of silkworm breed	48	80.00	7	11.66	5	8.34
5	Feeding of silkworms	52	86.66	6	10.00	2	3.34
6	Bed spacing	48	80.00	8	13.33	4	6.67
7	Bed cleaning	48	80.00	7	11.66	5	8.34
8	Moulting care	46	76.66	9	15.00	5	8.34
9	Pest management	58	96.66	0	0.00	2	3.34
10	Disease management	58	96.66	0	0.00	2	3.34
11	Cocoon harvesting	48	80.00	10	16.66	2	3.34

2. Overall decision making pattern of farm men and women on silkworm rearing technologies/activities

A bird's eye view of Table 2 reveals that as high as 61.67 per

cent of the farm men were belonging to better decision making category, while 20.00 and 18.33 per cent of the farm men were belonging to good and poor decision making

category, respectively. On the contrary, a majority of farm women (58.34%) of the farm women were belonging to poor decision making category, whereas a little over one-fourth (26.66%) and 15.00 per cent of the farm women were belonging to good and high decision making category, respectively. The 't' value (3.99) value was found to be highly

significant at one per cent level indicating that there is a highly significant difference in the mean decision making pattern score between the farm men (9.10) and women (2.99) in respect of the silkworm rearing practices/technologies. More or less similar findings were reported by Archana (2019) [3] and Biradar (2021) [4].

Table 2: Overall decision making pattern of farm men and women on silkworm rearing practices

Sl. No.	Decision making category	Number	Per cent	Standard deviation	Mean decision pattern score	't' value	
A Farm men (n ₁ =60)							
1	Poor (<8.10 score)	11	18.33	1.99	9.10	3.99**	
2	Good (8.10 to 10.09 score)	12	20.00				
3	Better (>10.09 score)	37	61.67				
Total		60	100.00				
B Farm women (n ₂ =60)							
1	Poor (<2.48 score)	35	58.34	1.01	2.99		
2	Good (2.48 to 3.50 score)	16	26.66				
3	Better (>3.50 score)	09	15.00				
Total		60	100.00				

**Significant at 1%

3. Association between profile characteristics of farm men and women with their decision making pattern on silkworm rearing practices

Chi square test was applied to find out the association between profile characteristics of farm men and women with their decision making pattern on silkworm rearing practices. The results in Table 3 revealed that credit orientation, social participation and deferred gratification of farm men and women had no significant association with the decision making pattern. While age, education, experience in sericulture, innovativeness, achievement motivation, management orientation, risk orientation, economic motivation, cosmopolitaness, attitude towards sericulture,

farming commitment, mass media exposure, training in sericulture, extension agency contact, farm scientist contact and extension participation of farm men and women had significant to highly significant association with the decision making pattern. It could be inferred that age, education, experience in sericulture, innovativeness, achievement motivation, management orientation, risk orientation, economic motivation, cosmopolitaness, attitude towards sericulture, farming commitment, mass media exposure, training in sericulture, extension agency contact, farm scientist contact and extension participation of farm men and women had significantly contributed in making good to better decision making on silkworm rearing practices.

Table 3: Association between profile characteristics of farm men and women with their decision making pattern on silkworm rearing practices

Sl. No.	Profile characteristics	Farm men (n ₁ =60)	Farm women (n ₂ +60)
		Chi-square value	
1	Age	10.111*	9.981*
2	Education	21.282*	20.612*
3	Experience in sericulture	9.993*	11.682*
4	Innovativeness	11.264*	9.725*
5	Achievement motivation	9.983*	12.686*
6	Management orientation	10.665*	11.002*
7	Risk orientation	11.208*	13.018*
8	Economic motivation	12.689*	12.999*
9	Credit orientation	8.617 ^{NS}	3.687 ^{NS}
10	Social participation	3.620 ^{NS}	2.995 ^{NS}
11	Cosmopolitaness	9.518*	10.615*
12	Deferred gratification	5.827 ^{NS}	4.440 ^{NS}
13	Attitude towards sericulture	14.867**	10.205*
14	Farming commitment	10.618*	11.698*
15	Mass media exposure	11.284*	12.006*
16	Training in sericulture	13.684**	10.017**
17	Extension agency contact	12.691*	13.690**
18	Farm scientist contact	14.692**	15.224**
19	Extension participation	11.682*	14.991**

NS=Non-significant, *=Significant at 5% level, **=Significant at 1% level

Conclusion

A vast majority of farm men (81.67%) were belonging to good to better category of making decisions, while a greater majority of farm women (85.00%) were belonging to poor to good category of making decisions on silkworm rearing practices. The farm women needs to be given adequate

opportunities to participate in the sericulture extension activities and frequent contacts of farm women with sericulture scientists and formal sericulture extension personnel will also aid the farm women in gaining good knowledge for improving self esteem, self perception, and confidence to help them in actively contributing for making

better decisions and increased participation in silkworm rearing practices. Print and electronic media would publish/broadcast/telecast need based messages in local languages on silkworm rearing practices aiding both sexes to increase their knowledge on improved sericulture technologies for making better decisions and induce participation in sericulture activities.

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