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A Study on Constraints of Ericulture in Dhemaji District of Assam

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ABSTRACT

Sericulture might be considered as an important area for uplifting the economy of rural masses of Assam as the nature has endowed with favorable climatic and environmental conditions for various silk producing worms and their food plants. The research study was undertaken in the purposively selected Dhemaji districts of Assam during the year 2022 with the objectives to study profile characteristics of Eri rearers and to explore the problems faced by them. A total of 120 farmers were selected as respondents and data were collected by following simple random sampling technique by the personal interview method using standardized structured interview schedule. Constraints faced by the Eri silkworm rearers were majorly categorized into five broad categories, viz., personal problem, non-availability of resources, problems during rearing of silkworm, marketing problems and problems related to post cocoon sector of sericulture Appropriate statistical tools viz. frequency, percentage, mean was employed to analyze the data. Findings revealed that majority of the respondents termed “lack of capital” (2.86), “unavailability of rearing equipment” (2.66), “could not get seed in time” (2.88), “involvement of middle men” (2.75) and “lack of availability of spinning machine” (2.73) as the most serious problem under each category.

INTRODUCTION

Sericulture is a traditional economic activity and provides considerable share to the livelihood earned by the rural masses of Assam. Rearing of *muga*, *eri* and mulberry silkworm and cultivation of food plants are direct activities while reeling, twisting, weaving, printing, dyeing, finishing and silk waste processing generate indirect employment (Gangopadhyay, 2008). Thus sericulture is important source of employment for rural people which can create 151- 200 days employment (Dewangan, 2017; Hajare, 2008). In present day context, sericulture may be considered as a promising enterprise under the concept of natural farming. Sericulture also provides several very useful by-products like unused leaves, dead, unhealthy, diseased larvae, larval litters and excreta, pupa, defective cocoon, silk waste and parts of host plants like mulberry fruit, stem, castor seed, tapioca tuber etc. Lots of value-added product like spun silk, ghicha yarn, pupa, compost, craft items, medicines, cosmetics etc. can be prepared from these wastes. Effective utilization of these waste products makes sericulture sector more attractive and remunerative as well as will help in doubling farmer’s income.

India is the second largest producer of silk in the world next to China. The total silk production in the country during 2021-22 was 34,923 MT (Anonymous, 2021a). The employment generation in the country is 8.8 million persons (provisional) in 2021-22 (Anonymous, 2021a). 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. Eri is the most common and cheapest silk worm reared almost by every village woman of Assam. Assam produced 65 per cent eri and 95 per cent muga silk out of total production of India (Anonymous, 2021b).

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As per the statistics, Ericulture is practiced by 2,94,419 farm families of 8,640 revenue villages of Assam. In Dhemaji district where more than 47 per cent population is tribal communities, rearing of Eri and Muga is a major allied activity of livelihood. Considering the data, 1,53,96 farm families of 415 villages has been engaged in Ericulture in Dhemaji District (Anonymous, 2021d) and could produce 2,49,025 kg eri cocoon and 2,00,500 kg Eri raw silk during 2020-21 which is 65,73,670 kg eri cocoons and 52,75,738 kg raw silks in Assam's total (Anonymous, 2021d).

Sericulture is an occupation by women and for women because women form more than 60 per cent of the workforce and 80 per cent of silk is consumed by them (Bukhari et al., 2019). Goswami and Bhattacharya (2013) also reported that women involvement was high in the activities like maintenance of hygienic conditions, spinning, bed cleaning, chowki rearing, harvesting, sorting and planting in Goalpara District of Assam. As ericulture is indoor activity women participation is more and play important role (Mech & Ahmed, 2012) and could be practiced during the free time of the farm family. Women have patience; perseverance; caring attitude and adaptability to new technologies have made their activities more dominant in sericulture and silk production (Sarkar et al., 2017). Majority (58.33%) of the rearers adopted high yielding host plant varieties, integrated pest management practices for collection and destruction of affected plants and shoots (73.33%) and used pest and disease resistant varieties (56.66 %) (Hatibaruah et al., 2022). The leaf crisis during winter months and disease and pest attack (81.67%) may be considered as major problems in Eri culture (Rava & Saikia, 2021). Considering the unsatisfactory growth of eri culture in Dhemaji district present study was made to identify and prioritize the problem faced by the eri farmer.

METHODOLOGY

The study was carried out in Dhemaji district of Assam purposively selected as sericulture is practiced in large scale almost in every village from the ancient time. To explore the problems faced by the women sericulture farmers, the study was carried out in five Development Blocks under the district viz., Bordoloni Development Block, Machkhuwa Development Block, Sissiborgaon Development block, Dhemaji Development Block and Jonai Development Block. A total of 120 respondents were selected by selecting 10 respondents randomly from each of the 10 villages under the 5 Developmental Blocks and 20 random respondents from the entire district. Primary data were collected from 120 women eri silkworm rearers by the personal interview method using standardized structured interview schedule. Data with respect to the socioeconomic characteristics of the households, and problems faced by the respondents were collected.

To prioritize the major constraints faced by women sericulture rearers a set of common problems were prepared after studying, consulting available literature and discussion with experts. Simple ranking technique was applied to measure the constraints faced by women sericulture. Each farmer was asked to responses the problems in four point continuum as 'most serious', 'moderately serious', 'less serious' and 'not serious' and scores were assigned as 3, 2, 1 and 0. Then from the mean value ranking of problems were done as i, ii, iii etc. The constraint with highest mean value was considered as the most serious one and the others followed in that order.

RESULTS AND DISCUSSION

Table 1 states that majority of the respondents entitled 'lack of capital' as the most serious problem with mean value 2.86 followed by 'lack of available technology' (2.49) in case of personal problems. Accordingly "lack of formal education" (1.06), "lack of expertise" (1.29) and "lack of skill" (1.35) as less serious problem by majority of the respondents**.** For commercial silkworm rearing farmers need financial support. Gogoi (2020) stated that economic condition of sericulture farmers is not strong; they need financial support to start their business which is termed as a major personal problem for the rural people. Farmers should also have technical knowledge and skill of rearing silkworm**.** A wide gap exists between the recommended sericulture technologies and their adoption by the farmers.

Table 1. Rank wise distribution of problems faced by the eri rearers respondents

S.No.	Constraints	Mean value	Rank
A	Personal problems		
1	Lack of skill	1.35	iii
2	Lack of formal education	1.06	v
3	Lack of capital	2.86	i
4	Lack of available technology	2.49	ii
5	Lack of expertise	1.29	iv
B	Non availability of resources problems		
6	No proper grainage house	2.37	iii
7	No proper rearing house	2.43	iii
8	Unavailability of rearing equipments	2.66	ii
9	No proper storage facility	1.97	vi
10	Lack of training	2.08	v
11	Lack of government facility	2.79	i
C	Problems during rearing of silkworm		
12	No disinfection measures	1.46	v
13	could not get seed in time	2.88	i
14	Poor quality dfls (Disease free layings)	2.69	ii
15	Poor quality leaves	1.07	viii
16	shortage of leaves	1.90	vi
17	Incidence of pest	2.53	iv
18	Incidence of disease	2.66	iii
19	Weather condition	1.43	vii
D	Marketing problems		
20	Lack of marketing facilities	1.82	iv
21	Fluctuation of price	1.75	v
22	Lack of marketing information	1.98	iii
23	Involvement of middlemen	2.75	i
24	Lack of knowledge about proper marketing technique	2.49	ii
E	Post cocoon problems		
25	Stifling and storage of cocoons	1.76	iii
26	Lack of availability of eri spinning machine	2.73	i
27	Lack of availability of proper space for post cocoon operations	2.32	ii

It case of resources problems, majority of the respondents termed “lack of government facility” (2.79) as most serious problem. Accordingly “unavailability of rearing equipments” (2.66), “no rearing house” (2.43), “No proper grainage house” (2.37) and “lack of training” (2.08) were also recognized as serious problems by most of the respondents. In many cases it can be seen that majority of the households don’t have extra rearing house and suitable rearing equipments. Availability of required inputs and materials with easy access along with reasonable price and skill competency in use ensure desired production and income (Bhol et al., 2020). Silkworm seeds are produced in the grainage house and therefore grainage is the first and the most important aspect which needs special attention. But the farmers didn’t understand the importance the of grainage house in silkworm rearing. Therefore it should be taught to the eri rearers. Systematic and methodological grainage not only minimize larval morality due to diseases but also results in vigorous progenies. Training is an investment which helps in upgrading the knowledge, skill and changing the perception and attitude of the users towards the newly developed technologies.

It turned out that “could not get seed in time” (2.88) ranked first followed by “poor quality dfls (disease free layings)” (2.69), “incidence of disease” (2.66) and “incidence of pest” (2.53) in case of problems during rearing of silkworms. Exactly the same way “shortage of leaves” (1.90) “no disinfection measures” (1.46), “weather condition” (1.43) and “poor quality leaves” (1.07) termed as less serious problem by majority of the respondents.

Marketing of sericulture products is a major problem for sericulture framers. Table 1 showed that majority of the respondents considered “involvement of middlemen” (2.75) as most serious problem followed by “Lack of knowledge about proper marketing technique” (2.49). Likewise “Lack of marketing information” (1.98), Lack of marketing facilities (1.82) and “Fluctuation of price” (1.75) termed as moderately serious problem by majority of the respondents in case of marketing of sericultural products. Cloth made from silk has a very high market demand, but the actual farmers are not benefitted from sericulture due to involvement of middlemen. Borah (2019) also revealed that 93.30 per cent respondents termed unavailability of proper market in the area is a major problem in sericulture industry.

Post cocoon operation involves sorting of cocoons, stifling, degumming, boiling, brushing, spinning, finishing, testing etc. Table 1 showed that “lack of availability of eri spinning machine” (2.73) ranked first followed by lack of availability of proper space for post cocoon operations” (2.32) and “stifling of cocoons” (1.76). Traditionally women raerers use *takuri* for spinning of eri cocoons, which is a very time consuming process and production is very less. Improved eri spinning machines are not available in villages of Dhemaji distrit and the villagers are not aware about the uses of these machineries. Post cocoon operation of eri silkworm needs sufficient space for doing the activities which is also a big problem for the rearers.

CONCLUSION

Ericulture is the most common economic activity across the communities to provide ample scope to enhance the farm income if the problems identified in the present study to be address through proper programme. The study revealed that lack of capital, non-availability of rearing equipment, deficiency of quality seed in time, involvement of middlemen in marketing and unavailability of eri spinning machine are the major problems which hinders the expected growth of this sector in the district. Again, it may be considered as important component under the purview of the natural farming. As it is a community based economic activity, may play a vital role in economic upliftment. It may be concluded that the present study will help the policy makers and stalk holders to address the problems with proper intervention and technology injection for development of the sericulture sector in general, Ericulture in particular as well as enhancement of farm income of marginal and small farm families of different tribes in the Dhemaji district.

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