Indian Research Journal of Extension Education
SHORT COMMUNICATION

Problems Faced by Muga Silkworm Rearers of Assam

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ARTICLE INFO

Editor:
Dr. T. Rajula Shanthy

Received : 28.10.2023
Accepted : 18.12.2023
Online published : 02.01.2024

doi: 10.54986/irjee/2024/jan_mar/72-74

ABSTRACT

Assam has a bright prospect of the Muga silk industry. The industry can reshape the rural economy of the state to a great extent and make this region a big earner of foreign exchange. Despite of tremendous potentialities and prospects of muga silk commercialization, rural people engaged in muga cultivation could not reap the expected benefit due to various problems related to it. In this study, some of the problems faced by the muga rearers are highlighted. The findings of the study may help the concerned authorities and departments for developing plans in favor of Muga rearers.

Key words: *Muga; Problems; Muga reares; Assam; Weighted mean score (WMS).*

Sericulture, the large-scale agro-based industry focused on raising silk-producing organisms to obtain silk, has been a longstanding practice in Assam. The renowned golden Muga silk not only holds cultural significance but also sustains nearly 30,000 families in Assam, making the state the leading contributor to about 99% of the total muga raw silk production in the country (Directorate of Sericulture, 2022).

Muga silk, known for its rarity, is considered one of the most expensive fabrics in the textile world. Cultivated primarily in the Garo hills of Assam, muga silk is obtained from the cocoons of *Antheraea assamensis*. Once the yarn is extracted, golden silk is skillfully woven into the traditional attire of Assam – the Mekhala Chador. In Assam, possessing a muga mekhela chador is a source of pride for women. Furthermore, during the festive occasions of Bohag Bihu which mark the culmination of the harvesting season and the arrival of spring, it is customary for both men and women to don garments crafted from muga silk.

In the fiscal year 2017-2018, Assam produced 157 metric tonnes of Muga silk,constituting 85.54% of the total muga silk production in India (Statista, 2023). Currently, 1,385.80 hectares of land is dedicated to Muga cultivation in Assam. The Directorate of Sericulture has established 13 Muga Seed Farms and 14 Muga reeling units in Lakhimpur district to meet the requirements of commercial rearers (Directorate of Sericulture, 2023).

Despite advancements in Muga culture technologies, the production of Muga raw silk is gradually increasing but falls short of its potential of 200 metric tonnes. The adoption of improved technologies remains low among farmers, resulting in the production of 20-40 cocoons per laying, compared to 50-60 cocoons per laying by technology adopters . In light of these challenges, this study aims to identify the problems faced by Muga rearers in cultivation.

The study was carried out in Lakhimpur district of Assam as it is one of the leading districts in muga silk production and has great potential for muga rearing. A total of 120 respondents having minimum five years of muga rearing experience from six villages were considered. Nine major problem categories were identified. The collected data were meticulously tabulated and subjected to analysis using appropriate

statistical techniques. The WMS was calculated by using the following formula:

$$WMS = \frac{\text{Sum of the product of frequency and score assigned}}{\text{Total number of respondents}}$$

Where, WMS = Weighted Mean Score

The findings of the study as depicted in Table 1 showed that in regard to personal problem 'Lack of interest in new technology adoption' was the prioritized problem which may be due to the high cost of technologies (Samantaray *et al,* 2009). 'Lack of prior experience and knowledge on new technologies and practices' as the second problem as most of the respondents did not know the actual potentialities of recommended practices on Muga (Noopur, *et al,* 2023). This was followed by 'Lack of time due to family burden' and the finding conforms to Rabha and Saikia (2022). Regarding social problems, 'Unavailability and high labour charges' was ranked first as most of them were financially weak to pay labour wage (Kakki, *et al,* 2023). When we talk about inputs related problem 'High cost and Low purchasing power was reported as the foremost problem followed by 'shortage of inputs at right time' (Saikia *et al*, 2016). Regarding technical problem, 'Less exposure to training programs' was seen as the major problem followed by 'Non availability of suitable technologies' and 'Less contact between relevant departments'. All these technical problems are in line with the problems reported by Samantaray *et al,* (2009). 'Lack of knowledge on protection measures and management' was found to be the major problem under managerial problem category. 'Lack of own capital' was revealed as a major problem under economic problem category (Rabha and Saikia, 2022). In case of marketing problem, 'Poor marketing infrastructures' and 'Price fluctuation' were the major problems followed by 'Lack of knowledge on market information' (Bhat and Choure, 2014). Muga rearers also faced transportation problem such as 'High cost of hired vehicle', 'Non availability of own vehicle' and 'poor road connectivity'. Elumalai *et al. (2019)* and Jumi *et al. (2023)* also found same transportation problems. The problems related to post harvest technology are seen as 'Lack of machineries' and 'Storage facilities'.

Table 1. Rank wise distribution of the problems faced by Muga rearers in Muga rearing practices (N=120)

Problems	WMS	Rank
Personal problems		
Lack of interest in the adoption of technology	1.89	I
Lack of prior experience and knowledge of new technologies and practices	1.59	II
Lack of time due to family burden	1.09	III
Social problems		
Unavailability labour and high wages	2.57	I
Lack of social support towards Muga rearers	1.44	II
Lack of appreciation from other farmers	1.38	III
Lack of support from family members	1.11	IV
Availing of inputs problems		
High cost and low purchasing power	2.88	I
Shortage of inputs at right time	1.84	II
Less knowledge about the use and utilization of the input.	1.79	III
Technical problems		
Less exposure to training programs	2.89	I
Non-availability of suitable technologies	2.57	II
Less linkage between KVKs, Sericulture department and other related institutions	1.71	III
Managerial problems		
Lack of adequate knowledge of protection measures and management	2.21	I
Pesticides and chemicals affect Muga rearing	1.51	II
Economic problem		
Lack of own capital	2.86	I
The procedure for obtaining a loan is complicated	2.52	II
Inadequate loan from financial agencies	1.89	III
High rate of interest	1.78	IV
Delay in getting the loan	1.24	V
Marketing problem		
Poor marketing infrastructures	2.88	I
Fluctuation in th price of products	2.82	II
Lack of marketing support	2.46	III
Lack of knowledge about proper techniques of marketing.	2.23	IV
Lack of export marketing facilities in the area	2.11	V
Transportation problem		
The high cost of hiring a vehicle	1.96	I
Non-availability of own vehicle	1.72	II
Poor condition and connectivity of road	1.18	III
Problems related to post-harvest technology		
Lack of machinery	2. 82	I
Storage facilities	2.11	II

CONCLUSION

The findings of the study indicated that traditional technologies are still used for Muga cultivation in Assam. The Department of Sericulture, Govt. of Assam has created infrastructure for sericulture development with state fund and financial support from Central Silk Board. Therefore, the extension workers should act more as a collaborator, consultant and facilitator in

dissemination of the knowledge to educate the farmers about the improved technologies. Different mass media may also be used to increase the knowledge level of farmers about improved technologies and help them in availing loans, grants, subsidies and other inputs which may aid the process of intensification for full scale commercialization of silk production. Creation and promotion of local and international markets should be practiced by developing structures and organizations that streamlines the marketing of silk products. Farmers should embrace silk farming as a way of increasing and diversifying their income to cushion themselves from the frequent conventional crop failures.

Declaration of competing interest : Authors have no competing interests.

Data availability : Data would be made available on request

Author's contribution : The first author collected the data. The second author analyzed, collated, interpreted the data. The third and fourth author's helped in assisting the content of the manuscript. The fifth and sixth authors participated in analyzing the data along with necessary revisions and the edits. The authors approve of the content of the manuscript and agree to be held accountable for the work.

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