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Constraints of sericulture in traditional and non-traditional areas of Karnataka

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Abstract

A study on constraints faced by farmers in sericulture was conducted in the traditional districts of Ramanagara and Chikkaballapura, and the non-traditional districts of Ballari and Raichur in Karnataka. Based on primary data from 120 respondents collected through multistage random sampling, the study identified key challenges in mulberry cultivation, cocoon production, and marketing. In traditional regions, farmers face labour shortages, pest and disease issues, high input costs and limited availability of quality mulberry cuttings. Conversely, non-traditional regions are primarily affected by unfavourable climate conditions, poor-quality cuttings and water scarcity. Cocoon production in traditional regions is hindered by labour shortages, high wages, improper disinfectants and difficulties in obtaining disease-free laying's (dfl's). In non-traditional regions, high summer temperatures and lack of technical guidance are significant challenges. Marketing constraints also vary between regions: traditional regions experience high price fluctuations, while non-traditional regions struggle with poor market infrastructure and limited participation from reeler's. Farmers in non-traditional regions incur higher transportation costs and face price manipulation, emphasizing the need to develop the Kalaburgi market with better facilities and increased reeler's participation to improve market conditions and create employment opportunities.

Keywords: Sericulture, mulberry cultivation, silkworm rearing, cocoon production

Introduction

Sericulture is an agro-based rural industry that involves the rearing of silkworms for the production of cocoons, which are then used to produce raw silk. This raw silk is obtained from the cocoons spun by mulberry silkworms. Sericulture plays a vital role in the socio-economic development of rural areas. It is a highly labour-intensive, profitable, and low-input indoor activities that provides frequent and periodic economic returns. Moreover, it is particularly well-suited for women in rural sectors, offering them opportunities for income generation.

India is responsible for over 60 percent of the world's annual silk production. Mulberry sericulture is predominantly concentrated in the southern states of India. Karnataka leads with 42.24percent of the total production. Karnataka is a traditional silk state and has been called the "Silk Bowl of India" as it produces more than 50 percent of the total raw silk in the country. Karnataka has been the leading producer of raw mulberry silk in India for many years compared to any other state. Sericulture is one of the important enterprises undertaken by farmers in Karnataka in general and in the southern part of Karnataka in particular. In Karnataka, it is practiced in 19,868 villages and provides direct employment and livelihood to more than 11 lakh persons in the state engaged in different sericultural activities. The current study aims to explore the constraints faced by the sericulture growing farmers.

Methodology

The study was conducted in traditional sericultural districts

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namely Ramanagara and Chikkaballapura of Karnataka where most of the farmers practice sericulture and in the non-traditional districts namely Ballari and Raichur of Karnataka. A multistage random sampling technique was used to collect the required information from the 120 sericulture growers. A pre-tested well-structured questionnaire was prepared considering different parameters relating to sericultural activities such as participation in various activities of mulberry cultivation and silkworm rearing. Simple statistical classification is done to count the percentage of female participation in sericultural practices.

Results and Discussion

It is crucial to recognize the significant challenges that farmer-producers encounter in the production and marketing processes, as these are seen by the farmers as key obstacles to optimizing production and reducing costs. To address these issues, an opinion survey was conducted to gather farmers' views on the constraints they face in mulberry cultivation, cocoon production, and marketing. The findings from this survey are detailed in table 1 and table 2.

Table 1 highlights the challenges faced by farmers in mulberry cultivation in traditional and non-traditional regions. In traditional regions, the main constraint was a shortage of skilled labour, followed by issues with pest and disease incidence, high input costs, and the non-availability of quality mulberry cuttings. Unfavourable climate conditions were a lesser concern, while water scarcity during summer was the least significant issue. In non-traditional regions, the primary challenge was an unfavourable climate,

followed by the lack of quality mulberry cuttings. Pest and disease incidence ranked third and labour shortages, though significant in traditional regions, were less of an issue here. Water scarcity was a moderate concern, while high input costs were the least problematic in non-traditional regions. The findings of the study are in line with the study conducted by Hosamani *et al* (2020) ^[7] and Soundarya *et al.* (2022). This comparison highlights that while both regions face

common challenges in mulberry cultivation, the severity and ranking of these constraints vary significantly, influenced by regional differences in climate, labour availability, and input costs. The table presents the constraints faced by farmers in silkworm cocoon production and the marketing of cocoons, comparing the issues in traditional and non-traditional regions.

Table 1: Constraints faced by farmers in mulberry cultivation

Sl. No.	Particulars	Traditional region		Non-traditional region	
		Score	Rank	Score	Rank
a.	Incidence of pest and diseases	81.73	I	40.60	IV
b.	Shortage of skilled labour	74.78	II	54.07	III
c.	Inputs are costlier	54.23	III	16.73	VI
d.	Non availability of good quality mulberry cutting	40.28	IV	74.78	II
e.	Unfavourable climate in the region	27.83	V	81.73	I
f.	Non availability of water during summer	14.13	VI	25.08	V

Table 2: Constraints faced by farmers in silkworm cocoon production and marketing of cocoons

Sl. No.	Particulars	Traditional region		Non-traditional region	
		Score	Rank	Score	Rank
1.	Cocoon production				
a.	Shortage and high wage rates of labour	70.37	I	65.22	II
b.	Improper disinfectants	66.25	II	23.92	VII
c.	Difficulty in obtaining DFLs	53.15	III	48.80	IV
d.	Lack of technical guidance	51.82	IV	58.37	III
e.	Non availability of good quality mulberry leaves	42.23	V	38.08	VI
f.	Non availability of inputs in time	36.02	VI	44.03	V
g.	High cost of silkworm rearing equipment's	31.25	VII	6.07	VIII
h.	High temperature during summer	6.92	VIII	69.60	I
2.	Marketing of cocoons				
a.	High price fluctuations	71.50	I	64.17	II
b.	Prices received are not remunerative	61.70	II	41.75	V
c.	Reeler's participation in the market was less	53.82	III	51.08	III
d.	Unauthorized charges if any paid while marketing	47.70	IV	47.17	IV
e.	Most middlemen involvement	38.25	V	10.40	VII
f.	Lack of storage/warehousing facility	30.63	VI	25.60	VI
g.	Lack of market facility in the region	6.40	VII	69.83	I

Table 2 highlights the key constraints faced by farmers in cocoon production in traditional and non-traditional regions. In traditional regions, the major challenges include labour shortages and high wage rates, followed by issues with improper disinfectants, difficulty in obtaining disease-free laying's (dfl's) and a lack of technical guidance. Additional concerns include the unavailability of quality mulberry leaves, untimely availability of inputs and the high cost of silkworm rearing equipment. High summer temperatures were the least significant issue. In non-traditional regions, high summer temperatures emerged as the most pressing challenge, followed by labour shortages and lack of technical guidance. Other significant constraints include difficulty in obtaining dfl's, untimely availability of inputs and poor-quality mulberry leaves. Issues like improper disinfectants and the high cost of rearing equipment were less significant in non-traditional regions. Similar results were reported by Susikaran and Sridhar (2013) and Elumalai and Murugesh (2018) ^[3].

The marketing challenges in cocoon production differ between traditional and non-traditional regions. In traditional regions, the primary challenge was high price fluctuations, followed by unremunerative prices and low market

participation by reeler's. Unauthorized charges during marketing were another issue, and while the involvement of middlemen was less concerning, it was still noted. A lack of storage facilities posed a moderate challenge, and the lack of market facilities was the least significant issue. Conversely, in non-traditional regions, the most pressing constraint was the lack of market facilities. Other significant challenges included high price fluctuations and low participation of reeler's. Unauthorized charges were also a concern, while unremunerative prices were less significant. A moderate challenge was posed by a lack of storage, and the involvement of middlemen was a minor issue. The findings of the study are in line with Anil (2019).

This comparison shows that while both traditional and non-traditional regions faces similar challenges in cocoon production and marketing, the severity and ranking of these constraints differ, with climate, labour issues and market infrastructure playing crucial roles in determining the difficulties faced by farmers in each region. The primary challenges in cocoon marketing include price volatility, limited participation of reeler's in auctions and a lack of local market facilities.

Conclusion

The study identifies key constraints faced by farmers in mulberry cultivation, cocoon production and marketing across traditional and non-traditional regions, highlighting region-specific challenges. Traditional regions struggle primarily with labour shortages, pest and disease issues, high input costs and limited availability of quality mulberry cuttings. In non-traditional regions, unfavourable climate conditions, poor-quality cuttings and water scarcity pose major challenges. In cocoon production, traditional regions face labour shortages and high wages, along with issues like improper disinfectants and difficulties in obtaining disease-free laying's (dfl's). Non-traditional regions are primarily affected by high summer temperatures, labour shortages and lack of technical guidance. Marketing challenges differ significantly, with traditional regions dealing with high price fluctuations and unremunerative prices, while non-traditional regions face poor market facilities and limited reeler's participation. Farmers in non-traditional regions face higher transportation costs and price manipulation due to inadequate local market infrastructure. Improving Kalaburgi's market with better facilities and increased reeler's participation is crucial to enhancing market conditions and generating employment.

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