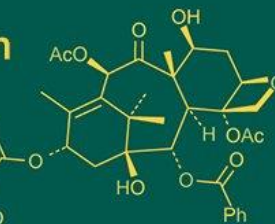
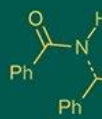
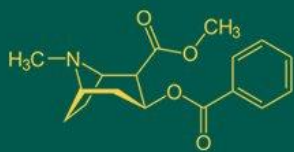


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Sericulture production in Telangana: Status, growth trends and future prospects

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Abstract

Sericulture is an important agro-based rural industry that contributes significantly to employment generation and income enhancement for farming communities. The state of Telangana has favorable agro-climatic conditions for mulberry cultivation and silkworm rearing, making it a potential region for sericulture development. The present study aims to analyze the status, growth trends, and future prospects of sericulture production in Telangana. The study is based on secondary data collected from reports of the Central Silk Board and the Department of Sericulture, Government of Telangana. Data on mulberry cultivation area, cocoon production, and raw silk production were analyzed using descriptive statistical methods. The results indicate a steady increase in the area under mulberry cultivation and cocoon production in recent years due to government support programs, improved silkworm breeds, and adoption of scientific rearing practices by farmers. Sericulture has emerged as an important livelihood option for small and marginal farmers, providing regular income and employment opportunities in rural areas. Despite the progress, challenges such as price fluctuations, disease incidence, and limited infrastructure still affect the sector. The study concludes that with improved technologies, effective extension services, and continued government support, sericulture in Telangana has strong potential for sustainable growth and rural economic development.

Keywords: Sericulture, mulberry cultivation, cocoon production, silk production, Telangana

1. Introduction

2. Objectives

- To study the present status of sericulture production in Telangana.
- To analyze the growth trends of mulberry cultivation, cocoon production, and raw silk production in the state.
- To examine the district-wise distribution and development of sericulture activities in Telangana.
- To identify the major constraints affecting sericulture production in Telangana.
- To suggest future strategies for improving productivity and sustainability of the sericulture industry in the state.

3. Materials and Methodology

The study was conducted in the state of Telangana, which has good agroclimatic conditions for growing mulberry and raising silkworms. Many districts in the state are actively involved in sericulture due to the availability of irrigation, a favourable climate, and government support. The research mainly used data from the field observations and successful sericulture clusters and secondary data collected from various reliable sources. The main sources of information included:

1. Reports and statistical data from the Central Silk Board.
2. Statistical data from the Department of Sericulture, Government of Telangana.
3. Statistical information from the Directorate of Economics and Statistics, Telangana.
4. Research articles, journals, and government documents related to sericulture development.

The data collected included details such as the area under mulberry cultivation, cocoon production, raw silk output, the number of sericulture farmers, and government initiatives in Telangana.

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4. Status of Sericulture Industry in Telangana

In Telangana, approximately 8,500 farmers are engaged in mulberry cultivation, which covers 1150 villages across 33 districts in Telangana state. Telangana state is recognized for its production of high-quality bivoltine silk in India. The state's hilly topography, socioeconomic conditions, favourable agro-climatic conditions, and abundant natural resources, including rich mulberry wealth, all contribute to the potential for sericulture development. Additionally, Telangana is home to 4,000 hectares of forest flora, including *Terminalia tomentosa* and *Terminalia arjuna*, in Adilabad, Karimnagar, Khammam, and Warangal districts. Tasar silk production is practiced on a smaller scale in the state. It has not yet been established on a commercial level due to various challenges.

Table A: Mulberry farming in Telangana

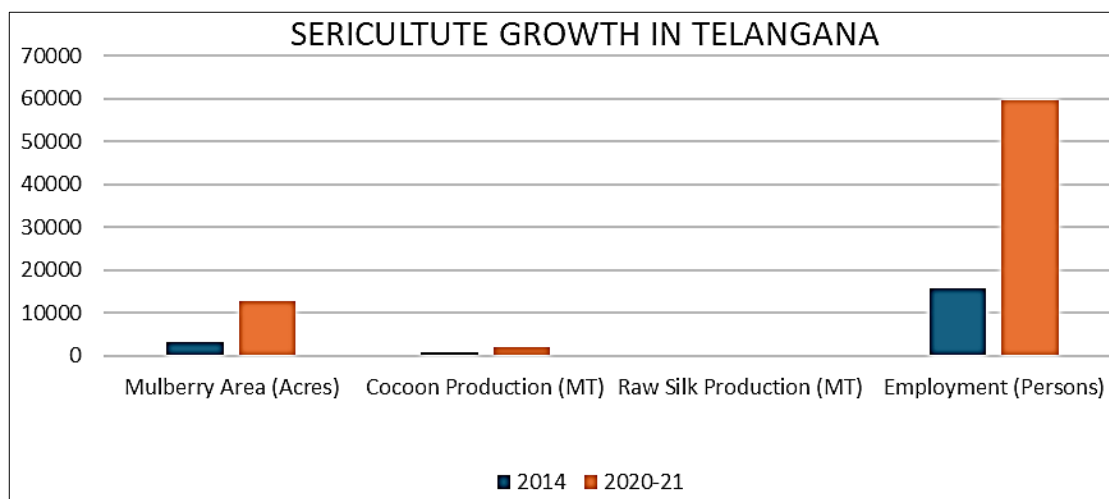
S. No.	Particulars	Numbers
1.	Sericulture villagers	1150
2.	Sericulture farmers	8500
3.	Reelers	15

Source: Department of Horticulture and Sericulture, Telangana

Table B: Raw silk production in Telangana

S. No.	Year	Mulberry (MT)	Vanya (MT)	Total silk (MT)
1.	2019-2020	290	8	298
2.	2020-2021	307	3	310
3.	2021-2022	400	5	405
4.	2022-2023	455	7	462
5.	2023-2024	555	10	565

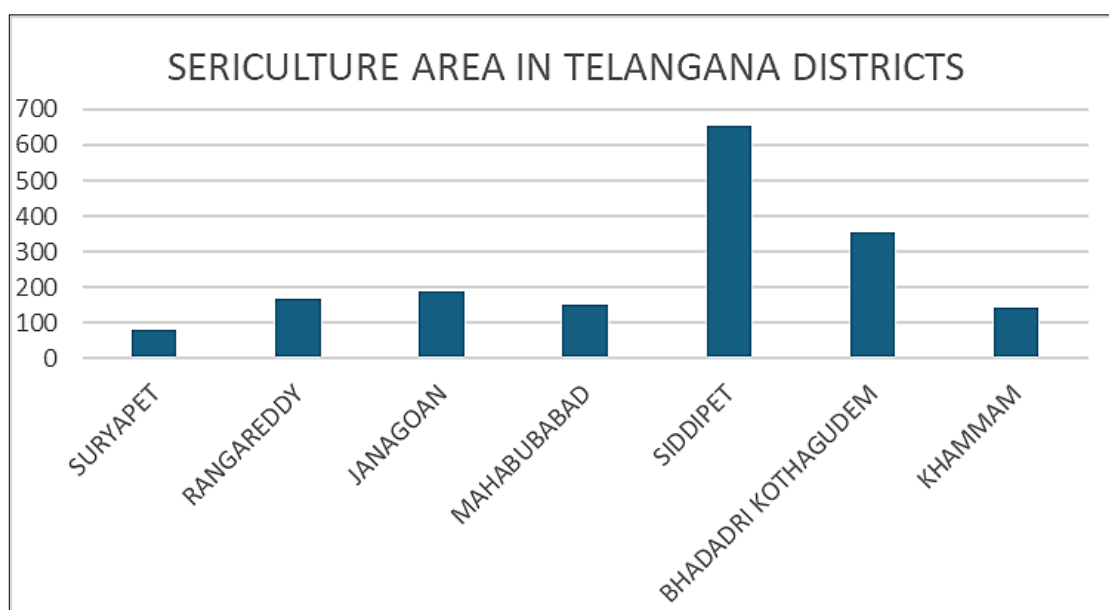
Source: Department of Horticulture and Sericulture, Telangana



Source: Department of horticulture and sericulture, Telangana

Table C: Sericulture area in districts of Telangana (2025)

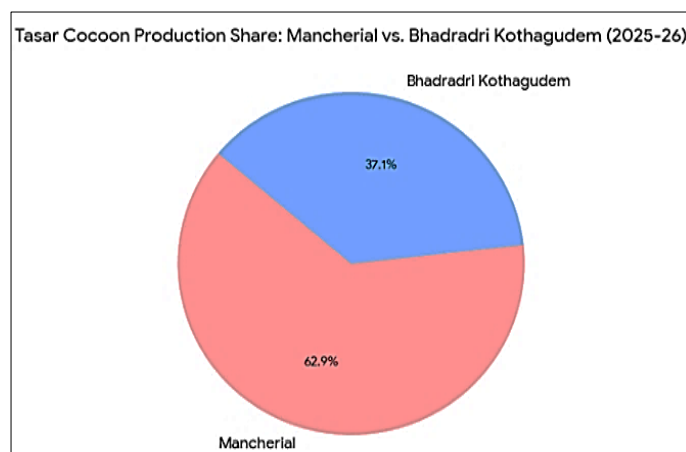
S. No.	District	Area (Acres)
1.	Suryapet	80
2.	Rangareddy	168
3.	Janagoan	187
4.	Mahabubabad	151
5.	Siddipet	653
6.	Bhadadri Kothagudem	356
7.	Khammam	144



Tasar Cocoon Production in 2025

Mancherial accounts for the larger share, contributing approximately 62.9% of the total production, indicating its dominant position in Tasar sericulture during the 2025–26

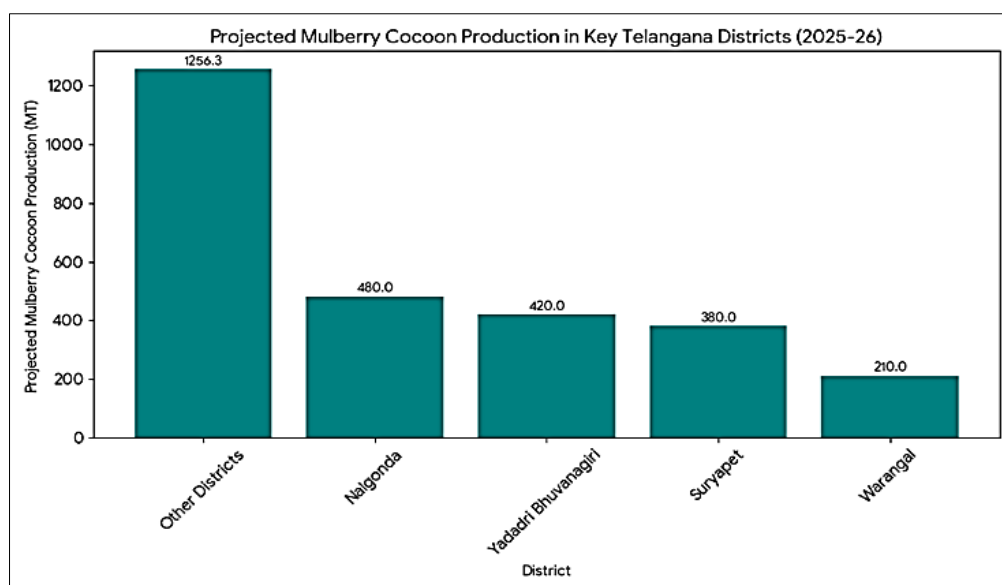
period. In contrast, Bhadradi Kothagudem contributes about 37.1%, representing a significant but comparatively smaller.



Cocoon Production in Districts of Telangana

The chart reflects regional variation in mulberry cocoon output, likely influenced by differences in cultivation area, farmer adoption, irrigation facilities, and government support. Overall, the projections suggest steady growth potential for mulberry sericulture across Telangana in 2025–26. Projected Mulberry Cocoon Production in Telangana Districts (2025–26)” presents the estimated production levels of mulberry cocoons across selected districts. The

highest projected contribution comes from Other Districts, with approximately 1256.3 metric tons (MT), indicating that a significant share of production is distributed beyond the major highlighted districts. Among the specifically named districts, Nalgonda is expected to lead with about 480 MT, followed by Yadadri Bhuvanagiri at 420 MT and Suryapet at 380 MT. Warangal shows the lowest projected production among the listed districts, with around 210 MT.



Key Production Areas

- 1. Mancherial called as “The Tasar Hub”:** Mancherial has emerged as the leader in Tasar silk, accounting for 50% of the state's total Tasar production. In 2024–25 Yield registered a record yield of 29.10 lakh cocoons, a 21% growth from the previous year. Around 650 tribal families in mandals like Chennur and Kotapalli are earning roughly ₹1 lakh per annum from Tasar cultivation in natural forests.
- 2. Nalgonda & Yadadri Bhuvanagiri;** Bivoltine cocoon adopted in these districts as the primary beneficiaries of the Cluster Promotion Programme (CPP), focusing on high-quality Bivoltine silk. Average yields have

reached 73–80 kg per 100 DFLs (Disease-Free Layings) using improved varieties like S-13 and V1.

- 3. Warangal & Jangaon Market Infrastructure:** Jangaon hosts the state's only notified cocoon market, serving as a vital link for farmers in Central Telangana. Warangal maintains steady production with over 150 acres and is expanding through new clusters.

5. Constraints affecting sericulture production in Telangana

Sericulture in Telangana faces a unique set of constraints that range from environmental challenges to socio-economic and technical barriers. While the state has seen significant growth in mulberry acreage (increasing from 3,176 acres in

2014 to over 12,654 acres by 2021), several factors continue to limit its full potential.

A. Biological & Production Constraints

- Low productivity and high silkworm mortality; Local silkworm breeds often show low productivity and are susceptible to diseases, causing higher larval mortality and lower cocoon yield.
- Mulberry crop vulnerabilities; Silkworm rearing highly depends on quality mulberry leaves. Unfavourable weather, improper site choice, and pest/disease pressure can weaken mulberry plants, cause crop failure, and reduce feeding material for silkworms.

B. Institutional & Technical Constraints

- Shortage of technical manpower; There's insufficient technical staff in the State Sericulture Department due to retirements and limited fresh recruitment, weakening extension services and farmer support.
- Poor coordination & lack of policy continuity; Coordination gaps between sericulture bodies and agricultural support systems lower effectiveness of schemes and service delivery.

C. Infrastructure & Market Constraints

- Inadequate marketing infrastructure; Telangana has very limited formal cocoons markets; for example, only Jangaon is a notified cocoon market, meaning many farmers lack direct access to buyers and competitive price discovery.
- Volatile cocoon prices; Cocoon price volatility makes planning and income uncertain for producers, discouraging investment and long-term engagement.

D. Financial & Risk Constraints

- Credit access difficulties; Many sericulture farmers struggle to obtain institutional loans or face high interest from informal sources, limiting their ability to invest in improved inputs or rearing equipment.
- Lack of adequate insurance; Sericulture crops are rarely covered comprehensively under crop insurance schemes, exposing growers to risk from weather, pests, and price drops.

E. Market Competition & Quality Issues

- Competition from cheaper imports; Imported silk, especially Chinese silk, often enters the market at lower prices and competitive quality, pressuring local sericulture returns.
- Quality standard challenges; Meeting international quality norms remains tough without modern processing and quality control systems, affecting export potential.

E. Labour & Capacity Issues

- Labour shortages and skill gaps; Labour scarcity during peak rearing seasons plus a lack of adequately trained hands reduces efficiency and increases costs.
- Knowledge gaps among farmers; Limited access to scientific rearing techniques, pest/disease management, and modern mulberry cultivation practices restricts productivity.

6. Future Strategies for Improving the Productivity

To overcome the constraints currently facing the sector, the future of sericulture in Telangana is shifting toward a high-

tech, integrated value chain model. These strategies are designed to transition from traditional practices to a "Silk 4.0" approach that emphasizes climate resilience and profitability.

A. Technological & Genetic Upgradation

Expansion of Bivoltine Hybrids: A major strategic shift is moving away from Cross Breed (CB) silk toward Bivoltine (BV) silk (e.g., *CSR2* x *CSR4*). BV silk is high-quality, import-substitute grade (3A and above) and offers significantly higher market prices.

Climate-Smart Breeding: Development of "speed breeding" and marker-assisted selection to create mulberry varieties that are resistant to drought and heat stress, specifically tailored for the Deccan Plateau's climate.

Automated Chawki Rearing: Establishing a network of modernized Chawki Rearing Centers (CRCs) to ensure farmers receive healthy, uniform young silkworms, which reduces the risk of crop failure by up to 30%.

Mechanization & Precision Farming

Smart Rearing Houses: Promotion of prefabricated, climate-controlled rearing sheds equipped with IoT-based sensors for real-time monitoring of temperature and humidity.

Farm Mechanization: Widespread distribution of subsidized brush cutters, power sprayers, and shoot cutters to reduce manual labour dependency and lower the cost of production.

Micro-Irrigation: Integrating Telangana State Micro Irrigation Project (TSMIP) with mulberry cultivation to ensure water efficiency, especially in water-scarce districts like Nalgonda and Mahabubnagar.

C. Strengthening the Post-Cocoon Sector

Automatic Reeling Machines (ARM): Transitioning from traditional Charka and Multi-end reeling to ARMs. This ensures uniform silk denier and allows Telangana to compete with international quality standards.

Seri-Tourism & Value Addition: Diversifying income streams by promoting Seri-Tourism (educational tours of silk farms) and utilizing by-products for the pharmaceutical and cosmetic industries.

Silk Mark Branding: Enhancing the "Telangana Silk" brand through mandatory Silk Mark authentication to build consumer trust and ensure premium pricing for farmers.

D. Financial & Policy Interventions

Cluster Promotion Programs (CPP): Scaling the "Cluster Approach" where groups of villages are provided with shared infrastructure, common ripening halls, and collective marketing hubs to achieve economies of scale.

Digital Traceability: Implementing Blockchain technology for seed traceability to ensure that every DFL (Disease-Free Laying) provided to a farmer is of verified quality and origin.

E. The "Farm to Foreign" Vision; The most significant shift is the integration of sericulture with the PM MITRA Mega Textile Park in Warangal. The park creates a direct pipeline from the mulberry gardens of Nalgonda and Warangal to high-end textile manufacturing. This removes middleman dependency and ensures that silk produced in Telangana is processed into export-quality garments within

the state. With over ₹4,000 crore in commercial production already commencing in the state's textile sector, demand for local high-grade bivoltine silk is expected to skyrocket

F. Technological Modernization

Automatic Reeling Machines (ARM): The goal is to double the current number of ARMs, allowing for the production of "International Grade" (3A-4A) silk.

Precision Rearing: Future prospects include the wider rollout of IoT-based monitoring systems in rearing houses to maintain optimal temperature and humidity, mitigating the risks of heatwaves in the Deccan Plateau.

GIS Mapping: The SILKS Portal is now being used to identify untapped forest areas specifically for the expansion of Tasar (Vanya) silk, particularly in tribal belts.

7. Conclusion

Sericulture in Telangana has emerged as a promising agro-based rural enterprise with significant potential for income generation, employment creation, and women empowerment. The state's favourable agro-climatic conditions, expanding mulberry cultivation, and growing interest among farmers have contributed to steady progress in cocoon and raw silk production in recent years. Government support through schemes, subsidies, and linkages with the Central Silk Board has further strengthened the sector. However, despite its potential, the industry continues to face several challenges such as limited research and extension infrastructure, price fluctuations, inadequate market facilities, pest and disease incidence, labour shortages, and competition from imported silk. Addressing these constraints requires a comprehensive and integrated approach focusing on improved mulberry varieties, high-yielding silkworm breeds, scientific rearing practices, expansion of cocoon markets, financial support systems, and strengthening of farmer organizations. Looking ahead, strategic investments in technology adoption, value addition, branding, and export promotion can transform sericulture into a sustainable and resilient rural livelihood model. In conclusion, sericulture is not only an agricultural activity but also a socio-economic development tool for Telangana, capable of driving inclusive growth when supported by innovation, infrastructure, and institutional coordination.

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