

Golden Threads of Agriculture: The Rising Power of Sericulture in India

Sameeha Fathima¹, Vyamasani Shravani^{1*}

¹Department of Entomology, School of Agriculture, SR University, Warangal, Telangana,
Corresponding author- Vyamasani Shravani

e-mail- shravanivyamasani1997@gmail.com

doi.org/10.5281/TrendsInAgriculture.20588760

1. Introduction

Silk has been intricately woven into India's history, culture, and artistic heritage for centuries. From the vibrant elegance of Kanchipuram silk sarees to the earthy texture of Bhagalpur Tussar, every silk fabric reflects generations of craftsmanship and tradition. Produced from the delicate fibres of silkworm cocoons, silk is not merely a textile but a symbol of India's cultural diversity and rural economy. The art of weaving silk has been passed down through generations, sustaining artisans, weavers, and farming communities across the country. For millions of rural families, sericulture is not merely an occupation but a dependable livelihood that supports household income, education, and economic security.

Sericulture, the scientific rearing of silkworms for silk production, forms an important component of Indian agriculture and rural livelihoods. The process begins with the cultivation of host plants such as mulberry, oak, castor, and arjun, on which silkworms are reared. After completing their growth cycle, the silkworms spin cocoons that are processed to extract fine silk filaments, which are later twisted into yarn and woven into fabric. Due to its labour-intensive nature and short production cycle, sericulture provides regular income and employment opportunities, particularly for small and marginal farmers, women, and rural households (Raksha Sharma et al., 2023).

India holds a prominent place in the global silk economy as the second-largest producer and the largest consumer of silk in the world. The country is unique in producing all four major varieties of natural silk—mulberry, eri, tasar, and muga. Among these, mulberry silk dominates production, contributing nearly 92% of total raw silk output. Non-mulberry or Vanya silks, produced mainly in tribal and forest-based regions, are valued for their durability, eco-friendly nature, and distinct texture. The sericulture industry in India plays a crucial socio-economic role, particularly in rural and semi-urban regions. As of FY25, the sector provides employment

to nearly 9.76 million people and supports livelihoods across approximately 52,500 villages. Owing to its strong export potential and value-added products, the silk industry is also recognized as one of the major foreign exchange earners of the country.

In recent years, India's silk sector has recorded substantial growth due to technological advancements, expansion of mulberry cultivation, improved silkworm breeds, and strong policy support. Raw silk production increased significantly from 26,480 metric tonnes (MT) in 2013–14 to 41,121 MT in 2024–25, registering a growth of more than 55%. During the same period, bivoltine silk production rose sharply from 2,559 MT to 10,160 MT, while employment generation increased from 78.50 lakh to 97.30 lakh people during the same period. The North-Eastern region also witnessed remarkable progress, with silk production increasing from 4,601 MT to 8,363 MT. These developments highlight the growing importance of sericulture in promoting sustainable agriculture, rural livelihoods, and economic development in India (Pateriya, 2020; PIB, 2025).

In this context, the present article examines the distribution, diversity, production trends, and economic significance of sericulture in India. It further discusses government initiatives supporting the sector and explores future opportunities for strengthening India's position in the global silk industry.

2. Distribution, Types and Trends in Silk Production

Sericulture in India is widely practiced across diverse agro-climatic regions, making the country one of the few nations capable of producing all four major varieties of natural silk—mulberry, eri, tasar, and muga. Major silk-producing states include Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal, Jammu & Kashmir, Assam, Jharkhand, Chhattisgarh, Odisha, and several North-Eastern states (Fig. 1). Southern states primarily dominate mulberry sericulture under irrigated conditions, whereas eastern and North-Eastern regions specialize in non-mulberry silks that are closely associated with tribal and forest-based livelihood systems (Pateriya, 2020).

A distinctive feature of Indian sericulture is its diversity in silk production. Among the different varieties, mulberry silk constitutes the largest share, contributing approximately 75.68% of total production due to its superior quality, higher yield, and wider adaptability. Eri silk accounts for about 19.18%, followed by tasar silk at 4.58%, and muga silk at 0.56% (Jaiswal et al., 2021) (Fig. 2). While mulberry sericulture is largely practiced under intensive farming systems, eri and tasar silks are mainly produced in rainfed and forest ecosystems, supporting sustainable land use and livelihood security among tribal communities. Muga silk, endemic to the North-Eastern region, is particularly valued for its natural golden lustre and durability, making it unique to India (Buhroo et al., 2018).

Mulberry silk, produced from silkworms that feed exclusively on mulberry leaves, is the most important variety in India. It is soft, smooth, and lustrous, making it ideal for premium sarees and luxury fabrics. Karnataka remains the leading producer of mulberry silk, followed by Andhra Pradesh and Tamil Nadu. Mulberry silk contributes nearly 75–92% of India's total raw silk production, depending on annual production trends (PIB, 2025).

Non-mulberry silk, commonly known as Vanya silk, includes eri, tasar, and muga silk. These silks are produced from wild silkworms reared on host plants such as castor, oak, and arjun. Compared to mulberry silk, Vanya silks possess a more natural texture, lower sheen, and greater durability. Eri and tasar silk production supports the livelihoods of tribal and forest-dependent communities in states such as Jharkhand, Chhattisgarh, Odisha, and Assam. Muga silk, famous for its natural golden lustre and durability, is unique to the North-Eastern region of India and holds immense cultural and economic significance (PIB, 2025).

The analysis of production trends over recent years indicates a steady and sustained growth in India's silk sector. Raw silk production increased from 28,523 metric tonnes in FY16 to 41,121 metric tonnes in FY25, reflecting an overall expansion driven by improved technologies, adoption of high-yielding silkworm hybrids, enhanced disease management practices, and supportive government interventions (Fig. 3). Although a temporary decline was observed during FY21 (33,770 metric tonnes), mainly due to disruptions caused by the COVID-19 pandemic, the sector demonstrated resilience and recovered steadily in subsequent years, reaching record production levels. This consistent upward trend highlights the robustness and growth potential of sericulture as a viable agricultural enterprise. Expansion in mulberry cultivation has also contributed significantly to higher silk output. The area under mulberry plantations increased from 223,926 hectares in 2017–18 to 263,352 hectares in 2023–24, supporting increased mulberry silk production. Productivity improvements are also evident, with raw silk yield increasing from 95.93 kg/ha to 112 kg/ha over the last decade. India's silk industry additionally plays an important role in export earnings and rural industrialization. India exports a wide range of silk products including raw silk, natural silk yarn, silk fabrics and made-ups, readymade garments, silk waste, carpets, and handloom products. During FY25, the export value of silk and silk products reached approximately US\$ 246 million, while exports during FY26 (April–July) stood at nearly US\$ 108 million. Among the exported commodities, natural silk yarn, fabrics, and made-ups constituted the largest share of exports (about 55.1%), followed by silk readymade garments (21%). Other export items included silk carpets (13.19%), silk waste (12.24%), and raw silk (0.13%) (IBEF, 2025).

The increasing global demand for Indian silk products has expanded export opportunities to more than 30 countries worldwide. Major importing countries during FY26

(April–July) included the UAE, USA, China, UK, Italy, Singapore, Australia, France, Hong Kong, and Canada. The UAE emerged as the leading importer, accounting for nearly 49.07% of India's silk exports, followed by China with 11.11% and the USA with 10.2%.

State-wise Raw Silk Production in India (FY 2024-25)

(In metric tons)

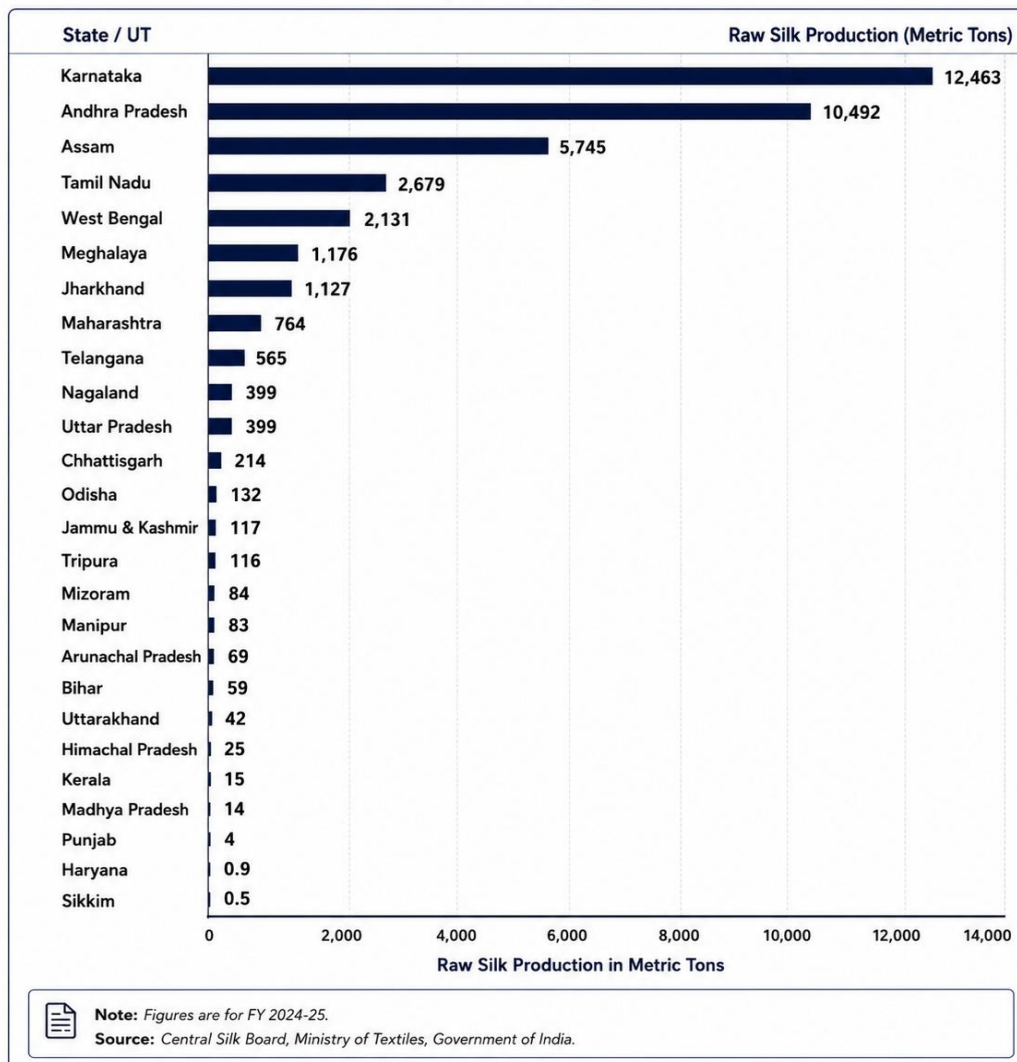
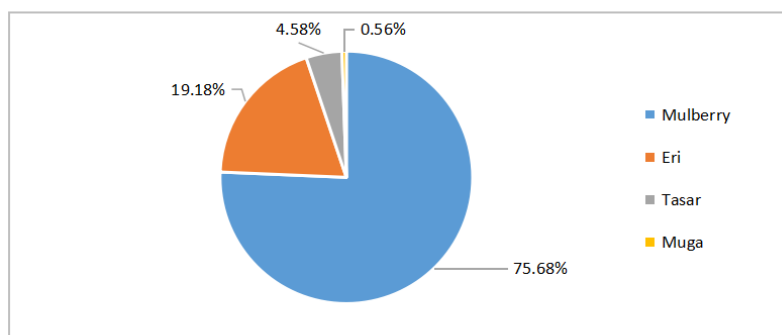


Fig. 1. State-wise production of raw silk in India (FY24-25) Source- Statista, 2026

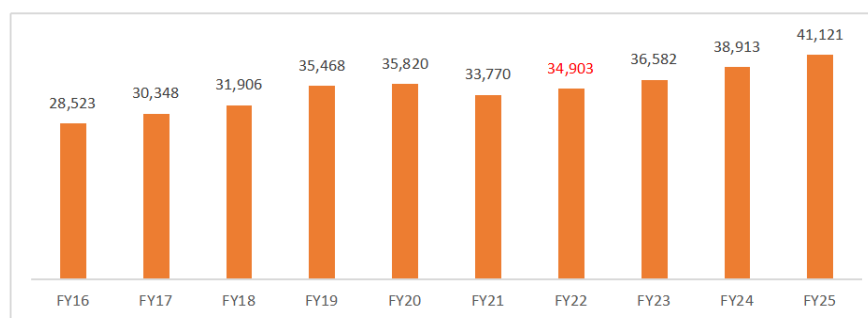
Share of silk type in India's total silk production (FY25)



Source: Central Silk Board of India, Ministry of Textiles

Fig. 2. Percentage share of different silk varieties in India's total silk production during FY25

India's silk production trend (MT)



Source: Central Silk Board of India, Ministry of Textiles

Fig. 3. Growth trend in raw silk production in India from FY16 to FY25

Exports to the UAE were dominated by natural silk yarn, fabrics, and made-ups, which contributed more than 82% of the products exported to that country. Silk carpets and silk readymade garments also formed notable export categories. Interestingly, silk waste emerged as the major export commodity to China, accounting for nearly 92% of exports to that market. The Government of India has further strengthened export promotion through international trade fairs, exhibitions, and policy initiatives aimed at enhancing the global competitiveness of Indian silk products (IBEF, 2025) (Fig. 4).

According to the Directorate General of Commercial Intelligence and Statistics (DGCI&S), India exported raw silk worth ₹11.27 crore during 2021–22, with Bhutan and Vietnam emerging as major export destinations (Fig. 5). The country also exported 3,348 MT of silk waste during 2023–24. Silk waste, consisting of broken fibres and imperfect cocoons, is further processed into lower-grade silk yarn and recycled silk products, thereby improving sustainability and resource utilization within the industry (DGCI&S, 2023).

Overall, the distribution and production trends clearly demonstrate that Indian sericulture is a resilient and expanding sector. Its regional diversity, increasing production levels, and growing export potential reinforce its importance as a sustainable agricultural activity that significantly contributes to rural employment, income generation, and economic development.

India's silk and silk products export trend (US\$ million)



Source: The Indian Silk Export Promotion Council (ISEPC), Ministry of Commerce and Industry, * - April-July 2025

Fig. 4. Export trends of silk and silk-based products from India during FY17–FY26

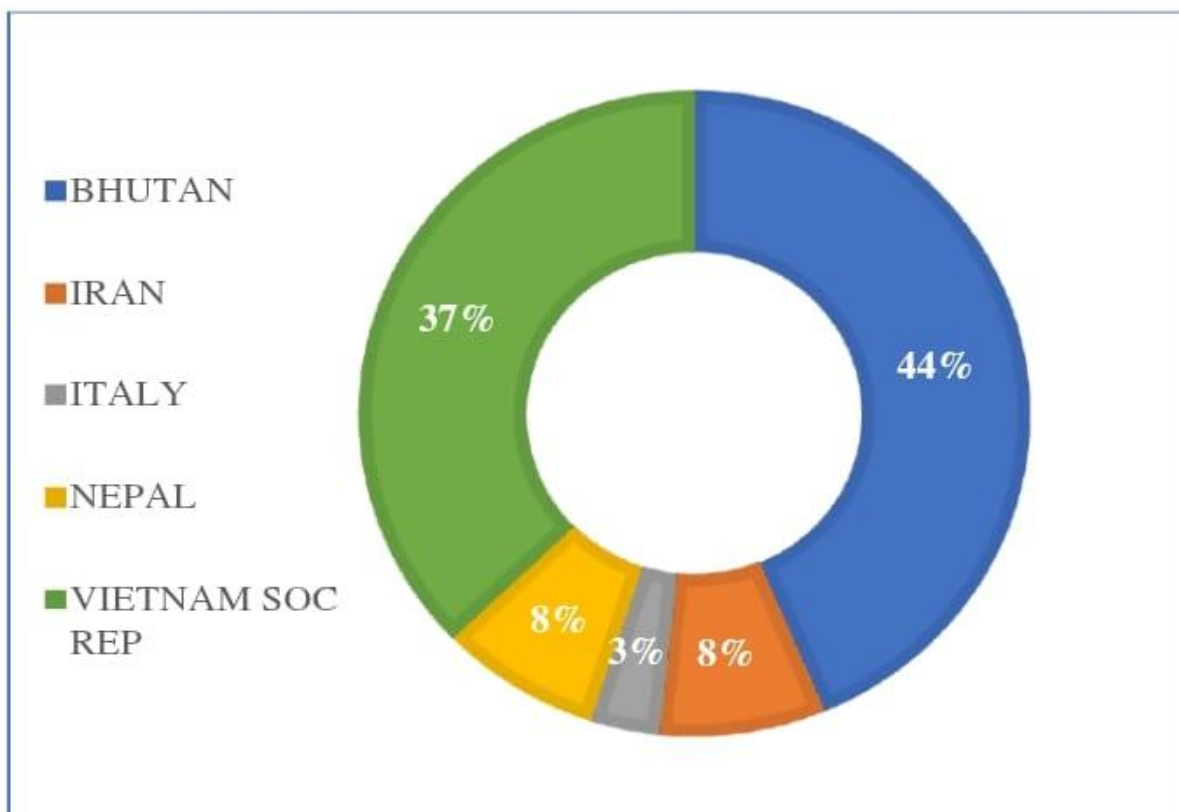


Fig. 5. Country-wise share of India's raw silk exports during 2021–22, highlighting Bhutan and Vietnam as the major export destinations for Indian raw silk. Source: Directorate General of Commercial Intelligence and Statistics (DGCI&S), 2023.

3. Government Initiatives and Policy Support

Government initiatives and policy interventions have played a significant role in strengthening and modernizing the Indian silk industry. Through research support, financial assistance, training programmes, technology transfer, and infrastructure development, the Government of India has consistently promoted sericulture as a sustainable livelihood activity for rural and economically weaker communities. Special emphasis has been placed on improving productivity, enhancing silk quality, generating employment opportunities, and increasing the global competitiveness of Indian silk products. In addition, several targeted schemes have been implemented for the welfare of tribal communities, women, and socially disadvantaged groups engaged in sericulture (PIB, 2025; IBEF, 2025).

3.1. Silk Samagra Scheme

One of the most important initiatives in this regard is the Silk Samagra Scheme, introduced by the Government of India through the Central Silk Board (CSB). The scheme was launched as an Integrated Scheme for Development of the Silk Industry (ISDSI) with the objective of promoting holistic growth of the sericulture sector across the country. The scheme aimed to improve the quality and productivity of silk, enhance farmer income, and empower poor, backward, and marginalized rural families involved in sericulture activities. Silk Samagra

initially operated during 2017–18 to 2019–20 with a total financial outlay of ₹2,161.68 crore.

The scheme focused on strengthening the entire silk value chain from silkworm seed production to marketing and export promotion. It consisted of four major components:

- Research and Development, Training, Transfer of Technology and IT Initiatives
- Seed Organizations
- Coordination and Market Development
- Quality Certification Systems (QCS), Export Brand Promotion and Technology Upgradation

3.2. Silk Samagra-2

Building upon the success of the original programme, the government introduced Silk Samagra-2 for the period 2021–22 to 2025–26 with an enhanced budget allocation of ₹4,679.85 crore. The scheme focuses on improving silkworm seed quality, expanding mulberry cultivation, promoting bivoltine silk production, strengthening disease management, and providing technical training to farmers and reelers. These interventions aim to modernize sericulture practices and improve the overall efficiency of silk production in India.

Under Silk Samagra-2, central assistance amounting to approximately ₹1,075.58 crore has already been released, benefiting more than 78,000 stakeholders. Financial assistance has also been extended to states such as Andhra Pradesh and Telangana, which received ₹72.50 crore and ₹40.66 crore respectively during the last three years for implementation of scheme components.

3.3. Raw Material Supply Scheme (RMSS)

The Raw Material Supply Scheme (RMSS), formerly known as the Yarn Supply Scheme (YSS), has been implemented during 2021–22 to 2025–26 to ensure the availability of quality yarn and blended yarn to eligible handloom weavers at subsidized rates. During the financial year 2023–24, nearly 340 lakh kg of yarn was supplied under this scheme, thereby supporting silk weavers and promoting uninterrupted raw material availability.

3.4. National Handloom Development Programme (NHDP)

The NHDP is another important initiative aimed at improving the welfare of handloom weavers, including silk fabric producers. Implemented during 2021–22 to 2025–26, the programme adopts a need-based and integrated approach for handloom development. It provides support for raw materials, design innovation, technology upgradation, skill development, and marketing assistance through exhibitions and fairs. The programme also supports the creation of permanent infrastructure such as Urban Haats and marketing complexes, benefiting weavers working in cooperatives as well as Self-Help Groups (SHGs).

3.5. Scheme for Capacity Building in Textile Sector (SAMARTH)

The scheme was launched by the Ministry of Textiles as a demand-driven and placement-oriented skilling programme. The scheme has been extended for FY 2024–25 and 2025–26 with a budget allocation of ₹495 crore to train nearly three lakh individuals. SAMARTH focuses on entry-level skill training, upskilling, and reskilling in sectors such as apparel and garmenting, handloom, handicrafts, silk, and jute industries. The programme aims to create a skilled workforce capable of adopting modern production technologies and improving productivity in the textile and silk sectors.

3.6. Sericulture Development in North-Eastern States (NERTPS)

Region-specific programmes have also contributed significantly to the development of sericulture. The North East Region Textile Promotion Scheme (NERTPS) was launched to revive, expand, and diversify sericulture activities in North-Eastern states, with special emphasis on eri and muga silk production. These initiatives have supported tribal farmers and helped preserve the traditional silk heritage of the region while generating sustainable livelihoods.

3.7. Tribal Sub-Plan (TSP) and Scheduled Caste Sub-Plan (SCSP)

Targeted welfare initiatives such as the Tribal Sub-Plan (TSP) and Scheduled Caste Sub-Plan (SCSP) have been implemented to ensure inclusive growth and socio-economic upliftment of marginalized communities involved in sericulture. These programmes provide financial assistance, training, and infrastructure support to socially disadvantaged groups engaged in silk production and allied activities.

3.8. Indian Silk Export Promotion Council (ISEPC)

The promotion of silk exports and international market development is supported by the Indian Silk Export Promotion Council (ISEPC), an apex body sponsored by the Ministry of Textiles, Government of India. The council works towards identifying global markets, organizing buyer–seller meets, trade fairs, exhibitions, and resolving trade-related issues. It also plays a key role in promoting Indian silk products and enhancing the country's export potential in the international market.

Collectively, these government initiatives have significantly strengthened India's silk value chain by improving production efficiency, quality standards, infrastructure, skill development, and export competitiveness. The continued implementation of such schemes is expected to further strengthen India's position as a leading global producer and exporter of silk while ensuring sustainable livelihoods for millions of rural households.

4. Challenges in the Indian Silk Industry

Despite its remarkable growth and socio-economic importance, the Indian silk industry

continues to face several challenges that affect its productivity, sustainability, and global competitiveness. One of the major concerns is the increasing competition from low-cost imported silk, particularly from countries such as China, which influences domestic market prices and reduces the profitability of local producers and weavers. Another major challenge is the predominance of small and fragmented landholdings among sericulture farmers, which limits access to quality silkworm seeds, irrigation facilities, advanced technologies, institutional credit, and modern production systems. This often results in lower productivity and inconsistent silk quality.

In addition, sericulture is highly sensitive to climatic conditions, and fluctuations in temperature, humidity, and rainfall frequently lead to pest and disease outbreaks, reducing cocoon yield and farmer profitability.

Inadequate infrastructure for reeling, spinning, storage, and processing remains another major constraint in many silk-producing areas. Farmers and reelers often lack access to modern equipment and organized marketing systems, resulting in post-harvest losses and reduced income. The industry also faces labour shortages due to migration of rural youth toward urban employment opportunities, leading to a decline in skilled manpower for sericulture activities.

Marketing and export-related issues further limit the growth potential of the sector. Indian silk products face intense international competition due to fluctuating prices, inconsistent quality standards, and insufficient branding and value addition. Although India is one of the largest silk producers in the world, its share in the global silk export market remains comparatively limited. Furthermore, there is a growing need for stronger research and innovation in disease-resistant silkworm breeds, climate-resilient host plants, eco-friendly technologies, and mechanized silk processing systems to ensure long-term sustainability of the industry.

5. Future Prospects of the Indian Silk Industry

The Indian silk industry is expected to witness substantial growth in the coming years due to increasing awareness and demand for natural fibres and sustainable textile products. As consumers across the world increasingly prefer eco-friendly, biodegradable, and ethically produced fabrics, Indian silk has gained greater importance in both fashion and luxury textile markets. The rich diversity of Indian silk varieties, particularly the unique Vanya silks such as eri, tasar, and muga, offers significant opportunities for specialized and high-value export markets.

Advancements in biotechnology, silkworm breeding, disease diagnostics, and precision farming practices are likely to improve cocoon productivity and silk quality. Adoption of modern reeling technologies, improved mulberry cultivation methods, and climate-resilient

silkworm breeds can further enhance production efficiency and reduce crop losses. In particular, expansion of bivoltine silk production is expected to improve the availability of superior quality silk and reduce dependence on imports.

The integration of digital technologies and e-commerce platforms is also creating new opportunities for silk farmers, weavers, and exporters by improving market access and promoting direct trade. Branding and geographical indication (GI) tagging of region-specific silk products such as Kanchipuram silk, Mysore silk, and Assam muga silk can further increase their global recognition and market value.

In addition, sericulture has strong potential to support inclusive rural development because it generates year-round employment with relatively low investment requirements. The sector can contribute significantly to women empowerment, tribal welfare, and livelihood diversification in rural and forest-based regions. Promotion of organic sericulture, eco-friendly processing techniques, and efficient utilization of silk waste can further strengthen sustainability and environmental conservation within the industry. With sustained policy support, technological innovation, and growing international demand for eco-friendly textiles, India is well-positioned to emerge as a global hub for premium and sustainable silk production.

6. Conclusion

The silk industry occupies a distinctive place in India's agricultural, cultural, and economic landscape. As one of the world's leading silk-producing nations, India has successfully preserved its traditional sericultural heritage while simultaneously adopting modern technologies and production practices. The country's capacity to produce all major varieties of natural silk demonstrates its ecological diversity and strong foundation in sericulture.

Over the years, the sector has experienced steady growth in raw silk production, employment generation, and export earnings. Sericulture continues to provide livelihood support to millions of rural households, especially women, tribal communities, and small-scale farmers. The industry has also contributed significantly to rural industrialization and foreign exchange earnings through the export of silk yarn, fabrics, garments, carpets, and value-added products.

Government programmes such as Silk Samagra, Silk Samagra-2, RMSS, NHDP, SAMARTH, and region-specific development schemes have played a crucial role in strengthening infrastructure, improving productivity, enhancing skill development, and promoting market linkages. At the same time, addressing challenges related to climate variability, disease management, quality improvement, infrastructure gaps, and global competition remains essential for sustainable growth.

Overall, the Indian silk industry possesses immense potential for future expansion through technological innovation, sustainable production systems, value addition, and global market integration. By effectively integrating traditional craftsmanship with scientific innovation and sustainable practices, India can emerge as a global leader in premium and sustainable silk production while preserving its rich textile heritage for future generations

References:

- Buhroo, Z. I., Bhat, M. A., Malik, M. A., Kamili, A. S., Ganai, N. A., & Khan, I. L. (2018). Trends in development and utilization of sericulture resources for diversification and value addition. *International Journal of Entomological Research*, 6(1), 27-47.
- Directorate General of Commercial Intelligence and Statistics (DGCI&S). (2023). *Export statistics of silk and silk products in India*. Ministry of Commerce and Industry, Government of India.
- India Brand Equity Foundation (IBEF). (2025). *Silk industry and export in India*. [IBEF Silk Textile Industry in India, Silk Manufacturers in India - IBEF](#)
- Jaiswal, K. K., & Banerjee, I. (2021). Recent trends in the development and diversification of sericulture natural products for innovative and sustainable applications. *Bioresource technology reports*, 13, 100614.
- Pateriya, S. S. (2020). Introduction to sericulture. *Indira Gandhi National Forest Academy, Dehradun*.
- Press Information Bureau. (2025). *The Magic of Indian Silk- From Sericulture to Masterpiece*. Ministry of Textiles. Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2120877>
- Raksha Sharma CM, Anil Kumar U, Lavanya V, Pritish Chavan. Role of sericulture in rural development: Employment generation, economic growth, and sustainability. *South Asian J Agric Sci* 2023;3(1):169-178.
- Savithri, G., Sujathamma, P., & Neeraja, P. (2013). Indian sericulture industry for sustainable rural economy. *International journal of Economics, commerce and research*, 3(2), 73-78.