



## From Mulberry Leaves to Silk Threads: Prospects and Hurdles to the Sericulture Industry

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Sericulture is a dynamic legacy that exemplifies the coexistence of human resourcefulness and the abundance of nature. It is the practice of raising silkworms to produce silk. Sericulture is a perfect fusion of agriculture and industry, where the mulberry leaf transforms into the silk thread that powers economies and maintains livelihoods. India is currently the world's biggest consumer of raw silk and silk fabrics as well as the second-largest producer of raw silk worldwide. India's silk trade has a long history that dates to the second century B.C. Raw silk was exported in 58 B.C., under the reign of Kanishka. In the 18th, 19th, and early 20th centuries, Kashmir, Bengal, and Mysore saw a boom in the modern silk industry. The Central Silk Board, government organizations, research organizations, provincial departments of sericulture, and private stakeholders are all credited with this progress. Both exports and a robust domestic market fuel India's silk industry. Silk-based fabrics are widely used for ceremonies, religious rituals, weddings, festivals, and other events in the domestic market. Silk is used as a raw material to make products like curtains, bed sheets, pillowcases, and other items as well as clothing like sarees and suits.

### Silk Industry in India

India is the world's biggest buyer of pure silk as well as the second-largest producer of raw silk worldwide. The nation is renowned for its superb Bandhej, temple silks, Patola, tie-and-dye, silks, and brocade fabrics. All five of the commonly marketed natural silk varieties viz. mulberry, oak, eri, tasar, and muga are produced in India (Table 1). Out of all these five commercial varieties of the silk, the mulberry silk holds the maximum share of 75.59% followed by Eri silk 20.09% respectively (Figure 1). Employing 8,14,616 weavers on 328,627 handlooms and 45,867 power looms, the sector supports nearly 7.6 million people in 51,000 villages. The revenue generated by exports is approximately \$360 million. Natural silk yarn and fabrics make up 70% of the total, followed by apparel (26%), makeup (13%), and made-ups. Demand for silk textiles and sarees is rising in tandem with the growing interest of Indian women.

**Table 1: Commerical silk varieties produced in India**

Type of silk	Genus of silkworm	Host plant	Major producing states
Mulberry silk	<i>Bombyx mori</i>	<i>Morus alba</i> <i>M. Indica</i> <i>M. Serrata</i> <i>M. Lattifolia</i>	Karnataka, Andhra Pradesh, West Bengal, Tamil Nadu and Jammu & Kashmir

Type of silk	Genus of silkworm	Host plant	Major producing states
Tasar silk	<i>Antheraea mylitta</i>	<i>Terminalia tomentosa</i> <i>T. Arjuna</i> <i>Shorea robusta</i>	Jharkhand, Chattisgarh and Orissa, besides Maharashtra, West Bengal and Andhra Pradesh
Oak tasar silk	<i>Antheraea proylei</i> <i>Antheraea roylei</i>	<i>Quercus serrata</i>	Manipur, Himachal Pradesh, Uttar Pradesh, Assam, Meghalaya and Jammu & Kashmir.
Muga silk	<i>A. assama</i>	<i>Machilus bombycina</i> <i>Litsaea polyantha</i>	North-eastern states and Assam, Bihar, West Bengal and Orissa.
Eri silk	<i>Philosamia ricini</i>	<i>Ricinus communis</i>	Assam state

The Indian silk industry has come a long way since independence, rising from 1437 MTs during the First Plan era (1969–74) to 36,582 MTs by year 2022 as represented in Table 2 (International Sericulture Commission, 2024). India contributes about 20% to the silk produced in the world, rating subsequent solely to China. The majority of labour pool comes from the rural population i.e. about 264 million. Interestingly, female labour accounts for about 83 million, representing 31.5% of the rural labour force (Sarkar et al., 2017). Due to favourable climatic conditions, mulberry is cultivated commercially in five major states, viz., Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal and Jammu & Kashmir. These 5 states mutually account for 97% of the complete vicinity underneath mulberry cultivation and 95% of raw silk production in the United States (Anitha et al., 2013). India's vigorous silk industry development has attracted several organized companies to establish state-of-the-art production facilities for clothing and home textiles.

**Table 1: Global Silk Production (in Metric Tonnes)**

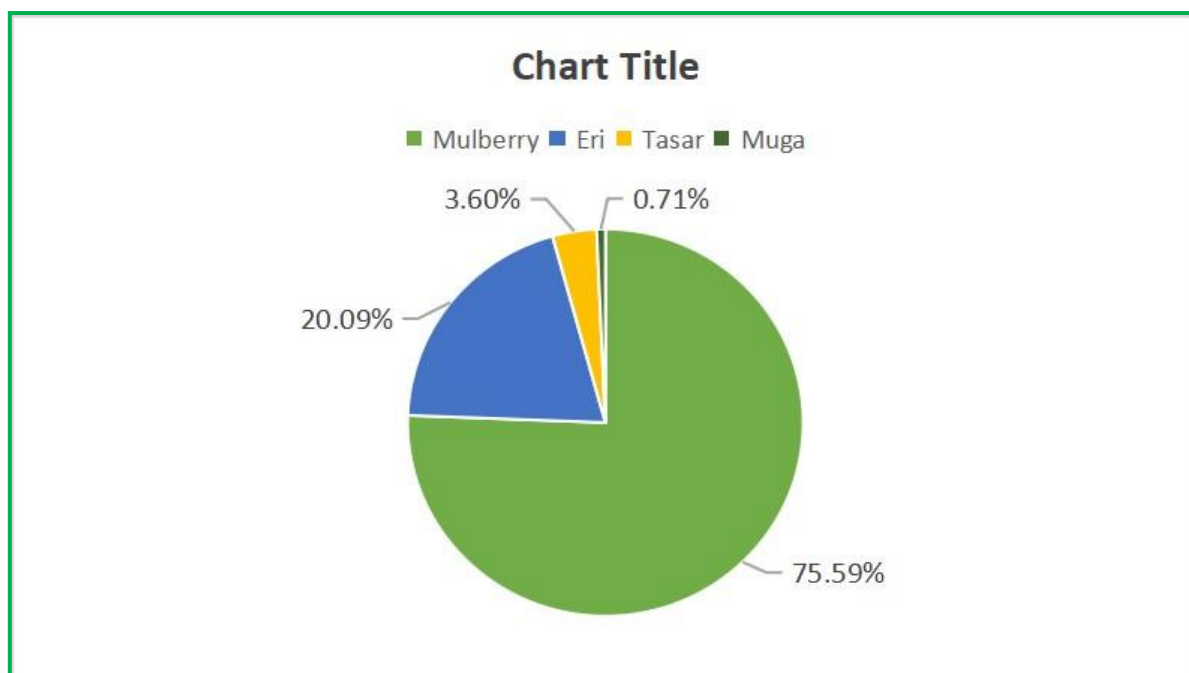
S. No.	Countries	2019	2020	2021	2022
1	Bangladesh	41	41	41	41
2	Brazil	469	377	373	300
3	Bulgaria	10	10	9	7
4	China	68,600	53,359	46,700	50,000
5	Colombia	1	1	1	1
6	Egypt	2	2	2	2
7	India	35,820	33,770	34,903	36,582
8	Indonesia	3	3	3	3
9	Iran	227	270	272	275
10	Japan	16	16	10	10
11	Madagascar	8	8	8	8
12	North Korea	370	370	370	370
13	Romania	1	1	1	1
14	Philippines	2	2	2	2
15	South Korea	1	1	1	1
16	Syria	1	1	1	1
17	Thailand	700	520	503	435
18	Tunisia	2	2	2	1
19	Turkey	5	5	5	5

20	Uganda	3	3	3	3
21	Uzbekistan	2,037	2,037	2,037	2,037
22	Vietnam	795	795	795	795
<b>Total</b>		<b>1,09,111</b>	<b>91,765</b>	<b>86,311</b>	<b>91,319</b>

Source: International Sericulture Commission, 2024

### Future prospects and opportunities of the sericulture industry in India

Silk constitutes a small percentage of the global textile market, with production spread across 60 countries. Brazil, Bulgaria, Egypt, and Madagascar have also built sericulture industries. With almost a million people, China is the world's largest producer and supplier of silk. India secures second position in terms of production, employing 7.9 million people, while 20,000 weaving families reside in Thailand (International Sericulture Commission, 2024). Sericulture employs a huge number of people, especially women, through a variety of operations, including mulberry plantations, silkworm rearing, reeling, weaving, and marketing. There is a wide range of technological adoption, cultivators' capacity building, and application of international best practices. Sericulture ensures lucrative employment, keeps people in rural areas occupied, and discourages migration to larger cities. It supplies raw materials for the textile industries and only needs modest investments. In order to generate more revenue and new job opportunities, it might be quite beneficial to build rural-based sericulture industries as it is labour-intensive and even empower women's participation. It can play a significant role in preventing the migration of people from rural to urban regions. Even, the unemployed rural population can see sericulture as an alternative source of income. Whether practised as a hobby, alternative income source, or even a full-fledged business, sericulture is competent for all.



**Figure 1: Share of silk type in total silk production in India (2022-2023)**

Source: Central Silk Board, Ministry of Textiles (India)

### Setbacks in the Indian Sericulture Industry

I. Farmers do not have separate rearing buildings and nurture their larval instars in dwelling houses without enough ventilation. Since farmers reside in the same homes, they are hesitant

to adequately sanitize them. Unsanitary techniques of raising larval stages that result in a disease outbreak.

II. Farmers raise silkworms on floors or makeshift shelves in tight spaces; they do not employ trays or stands for this purpose.

III. Mulberry leaf quality issues that result in an extended larval life span.

IV. Poor spinning techniques and frequent sun-drying of cocoons have an adverse effect on the dependability and calibre of silk.

V. Insufficient marketing resources are available.

## Conclusion

In India, the sericulture sector is a distinct and labour-intensive agricultural endeavour that offers financial advantages to farming households as well as lucrative jobs for family members. Due to its low startup costs and high-profit margin, this cottage and small-scale industry is especially well-suited for rural farmers, business owners, and artists. Rural residents, particularly those with small landholdings and marginalized social groups, can earn a living and find work through sericulture. The rural economy takes great satisfaction in it because it offers good returns in a short amount of time. Through awareness-raising, capacity-building, and training demonstrations, women—especially those from rural areas—actively engage in sericulture activities, offering opportunities for their growth. To create jobs in rural areas and halt rural exodus, sericulture plays a major role. Whether practised as a hobby, alternative income source, or even a full-fledged business, sericulture is competent for all.

## References

1. Anitha, R. and Kanimozhi, V. (2013). Women entrepreneurs in sericulture: their participation and problems faced. *Asia Pacific Journal of Research*, 1(7): 114-126.
2. Central Silk Board. 2024. Share of silk type in India's total silk production (2022-23) <https://csb.gov.in/> . 3 August, 2024.
3. International Sericulture Commission. <https://inserco.org/en/statistics>. 2 August, 2024.
4. Sarkar, K., Majumdar, M. and Ghosh, K. (2017). Critical analysis on role of women in sericulture industry. *International Journal of Social Science*, 6(3): 211-222.