

From Royal Patronage to Rural Livelihoods: A Historical and Contemporary Analysis of the Silk Industry in Kashmir (15th–21st Century)

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Abstract: This work maps the development of the silk industry in Kashmir from early medieval times to the Sultanate, Mughal, Dogra and post-Independence eras to the present using only primary archival records, imperial gazetteers, archival reports and present-day institutional data. The study reveals that sericulture in Kashmir was not an imported industry but an indigenous industry nurtured by the temperate climate and mulberry forests. Silk weaving received its first royal encouragement from Sultan Zain-ul-Abidin (1420-1470). During the Dogra period (1846-1947) sericulture was promoted from a traditional home industry into a state-sponsored industrial sector, with government filatures set up, laws protecting the industry, imports of disease-free silkworm seed and foreign experts like Thomas Wardle. Post-accession reforms by the Central Silk Board (established 1949) and various Five-Year Plans brought modernisation of production technology, lifting India's raw silk production from 2,894 MT in 1973-74 to 38,913 MT in 2023-24, while employment in sericulture in the country grew from 5.4 million to 9.48 million over roughly the same period. In Jammu and Kashmir, cocoon production increased from 738 MT and a Rs. 455.67 lakh in 2008–09 to 1,084 MT and Rs. 2,110 lakh in 2017-18 with cocoon prices rising from Rs. 192 to Rs. 750 per kilogram. However, active silkworm rearer numbers have dwindled from more than 60,000 in the 1940s to 5,000 currently, due to structural issues such as competition from high-value horticulture, lack of infrastructure and generational apathy. The paper recommends multi-stakeholder approach involving government, research and training institutions, cooperatives, finance and civil society for the revival of the sector as a rural livelihood system..
Keywords: Kashmir silk industry; sericulture history; Dogra administration; rural employment; Central Silk Board; Jammu and Kashmir; cocoon production; mulberry sericulture

Introduction

Kashmir's silk industry is unique in the economic and cultural history of the Indian subcontinent. Nestled in a landscape with naturally optimal conditions for mulberry-based sericulture temperate climate, extensive *Morus alba* plantations, and ecologically ideal altitude Kashmir has one of the longest histories of silk-making in the subcontinent. Not a transplant to Kashmir, as in other places where sericulture was introduced through colonial and commercial initiatives, the historical record suggests that Kashmir's involvement with silk precedes the emergence of formal state organisation with references to Chinese silk (Cinamsuka) in the 7th-century CE Nilmat Purana and confirmed by the 12th century chronicle Rajatarangini. Notwithstanding this legacy, the industry has remained subject to phases of expansion and contraction through state policy shifts, epidemics, global market forces and socio-political change. The current study brings together evidence from three interlinked units of

analysis historical development), institutional evolution during the Dogra period and in the post-accession era, and employment potential and stakeholder roles in the present day to paint a holistic picture of the industry's trajectory from medieval patronage to contemporary rural livelihood system. The study is significant for several reasons. First, Kashmir

continues to be the only part of India at altitudes similar to major bivoltine silk producing nations like Japan and France, giving it the potential for superior quality silk. Second, the employment-intensive nature of the sericulture industry, which creates jobs in every step from leaf to reeled cocoon, makes it an industry that can be used as a policy tool for rural development in a region facing seasonal unemployment, diminishing rice cultivation and a shift towards horticulture. Third, the disparity between the industry's apparent potential and the present state of affairs, with the number of active rearers reduced from over 60,000 in the 1940s to around 5,000 today, and of cocoon production from its peak of 16 lakh kg to 9 lakh kg in 2019-20, is a policy challenge of significance. This paper is organised along four broad themes: (i) historical background and development of sericulture in Kashmir; (ii) institutional changes under the Dogra rule and post-accession; (iii) employment and value-chain analysis for the modern era; and (iv) stakeholder roles in the revival in the contemporary era. In all cases, only documented evidence is used.

Historical Origins and Early Development of Kashmir's Silk Industry

2.1 Global Silk Transmission and Kashmir's Position on the Silk Route

Silk was first produced in ancient China, where archaeological evidence such as a half cocoon from Xia County, Shanxi (c. 3000-4000 BCE) and silk textiles excavated in Henan (c. 3300 BCE) reveal the cultivation of domesticated mulberry silk during the Neolithic age (Zhao & Nosch, 2022, p. 16). Sericulture's westward spread along the Silk Route led to its adoption by the Byzantine Empire in 552 CE. Kashmir's strategic location at the junction of the southern Silk Route from Gilgit and the Yasin Valley to Tashkurgan and Kashgar facilitated this technological transfer. The Kashmiri traders could connect with the routes of Bactria through Taxila and Purushpura (modern Peshawar), which would bring the Valley's goods from the gangetic plains to the sea port of Barygaza (modern Bharuch). The Hanshu notes that Emperor Wu sent envoys to northern India as early as the 2nd century BCE, implying early knowledge of Kashmir's connectedness (Ban Gu, trans. Chinese Text Project, HS 96A 5463). In the Indian historiography, the first mention of silk in Kashmir is found in the Nilmat Purana (7th century CE), listing 'Cinamsuka' silk from China as part of the attire worn in Kashmir (Kumari, 1968, pp. 116–17). The 12th-century historian Kalhana's Rajatarangini (Book VII, Verse 1168) states that King Harsha levied excessive taxes on silk, suggesting a thriving industry that had the potential to collect revenue by the early medieval times (Stein, 1979, p. 109).

2.2 Muslim Sultanate: Zain-ul-Abidin

The early institutionalisation of the silk industry in Kashmir took place under Sultan Zain-ul-Abidin (r. 1420–1470). According to Mohibul Hasan (1959), the Sultan actively encouraged artisans from Iraq, Khurasan and Turkistan to settle in Kashmir, and demanded they train the locals. It was in this manner that silk weaving along with the weaver's bush and loom was institutionalised in Kashmir, moving the status of textile production from artisanal to industrial level. Mirza Haider Dughlat in his Tarikh-i-Rashidi mentions the great number of mulberry trees grown in Kashmir for their silk leaves, which is indicative of the institutionalisation of sericulture in the agrarian economy of the region by the time of the Sultanate (Dughlat, trans. Ross, 1973, p. 425).

2.3 Mughal Rule and the Subordination of Silk to Pashmina

In 1586 CE the Mughals invaded Kashmir and integrated the Valley as a sarkar of the Subah of Kandhar. Although the *Ain-i-Akbari* of Abu'l Fazl contains references to mulberry cultivation and silk production, the accounts are somewhat less comprehensive than those relating to pashmina shawls, given the prominence of wool in the export of Kashmiri luxury items and the unreliability of early administrative records for a recently acquired territory (Allami, trans. Jarrett, 1891, pp. 349–54). Abu'l Fazl notes that mulberry trees (*Morus alba*, called shah toot in Kashmir) were cultivated primarily for silkworm fodder and that the best quality silkworm seed was imported from Gilgit and Little Tibet (Allami, 1891, pp. 349–53). The Mughals were replaced by the Afghans in 1753 CE, a change that was not conducive to existing industries such as silk. William Moorcroft, who travelled to Kashmir in 1822, observed the industry's small scale: 'The quantity of silk produced is insufficient for domestic consumption' (Moorcroft & Treeback, 1837, p. 156). The Sikh period (from 1819) brought a partial resurgence: Vigne's report claimed the pargana of Kotihar produced the best quality silk in the Valley because of the quality of the mulberry leaf, but also described the rearing methods as 'primeval and slovenly,' with two-thirds of the produce confiscated by the state Governor, with rearers compensated in silk rather than cash (Vigne, 1842, pp. 356–57).

Institutional Development under Dogra Rule (1846-1947)

3.1 Early Efforts and Monopolisation

The Treaty of Amritsar (1846) legitimated the rule of the Dogras under Maharaja Gulab Singh, who immediately saw silk's potential to generate revenue the state received, in his early reign, one lakh rupees each year in taxes from the silk industry (Lal, 1955, p. 32). During the reign of Maharaja Ranbir Singh (1857-1900), silk became a state monopoly. In 1869, 127 silkworm rearing houses were built throughout the Valley, a Department of Sericulture was set up. Babu Nilamber Mukerji was made superintendent of silk and introduced improved rearing practices and trained reelers from Bengal (Liotard, 1883, pp. 46–49). Reformed silk production gained international attention. Silk brokers in England, Messrs. In 1872, Durant and Co. examined samples of Kashmir silk, placing a value of 23-24 shillings per pound for water-power-reeled silk, declaring it to be 'superior to much of the reeled silk of Bengal', and a value of 3 shillings per pound for non-water-power reeled silk as waste (Liotard, 1883, pp. 47–49). In 1871, the Maharaja set aside three lakh rupees for the encouragement of silk, with some of this money spent on building heated and refrigerated rooms needed for silkworm breeding (Wilson, 1875, p. 397).

3.2 The Effect of the Pebrine Epidemic

The epidemic of pebrine that broke out in Kashmir in 1878, attributed to infected silkworm eggs imported from Europe, was a major setback. Untrained pathologists meant an uncontrolled spread of the disease, bringing down 127 houses to only two houses in operation at Raghunathpura (Srinagar) and Sherpura (Anantnag). This was followed by famine in 1877-78, which resulted in mass migration of workers to Punjab. Efforts in 1881 to bring Japanese eggs also proved unsuccessful owing to the climate. There was no significant revival in the early 1880s (Lawrence, 1895, pp. 367–68).

3.3 Revival with Thomas Wardle and the Creation of the Sericulture Department (1890)

The transformative institutional developments were spearheaded by Sir Thomas Wardle, of Leek, England President of the Silk Association of Great Britain and Ireland. In letters to the British Resident from January 1890, Wardle proposed creating sericulture institutions similar to those at Padua and Montpellier, while highlighting Kashmir's favourable geography: 'It is almost the only country I

know where the *Bombyx mori* is found wild in any numbers' (Wardle, 1904, p. xx). This resulted in the creation of the Sericulture Department in Kashmir in 1890 (Lawrence, 1895, pp. 368–69).

The new system, introduced by C.B. Walton in 1898, restored the state's monopoly by banning silkworm seed rearing and requiring the annual importation of eggs from France. These efforts were successful: by 1899, silk produced under this new system sold at 16-16.9 shillings per pound, compared to 10-12 shillings under the old system in 1897 (Walton Report, 1900, Nos. 51–52, NAI, via Naik, 2014, p. 701). Table 1 shows the growth in seed imports and numbers of rearers, 1898-1905.

Table 1: Silkworm Seed Imports and Number of Rearers (Kiramkash), 1898–1905

Year	Seeds Imported (oz / kg)	Number of Rearers
1898	10,580 / 300 kg	1,432
1899	18,024 / 511 kg	3,058
1900	18,708 / 530 kg	4,290
1901	25,606 / 726 kg	5,887
1902	25,527 / 724 kg	8,158
1903	26,292 / 746 kg	11,066
1904	30,928 / 877 kg	12,139
1905	26,675 / 756 kg	11,362

**Kilograms converted for ease. Source: Walton Report, Foreign Department, External-B, NAI, Nos. 51–52; reproduced in Naik (2014), p. 701.*

The data in Table 1 reveal a consistent expansion of both seed procurement and rearer participation between 1898 and 1904. The number of rearers grew more than eightfold from 1,432 to 12,139 reflecting the progressive integration of sericulture into the rural household economy.

3.4 Progressive Development 1900–1913

By 1903, six operational filatures had been established across the Valley, each employing approximately 500 workers. The number of rural households receiving silkworm eggs rose from 500 families in 1898 to 11,150 families by 1903. By 1904, the Srinagar factory comprised 10 filatures with 1,864 reeling basins and employed over 4,000 workers directly (Ganju, 1945, p. 161). Table 2 documents the overall production trajectory.

Table 2: Progressive Development of Sericulture in Kashmir, 1900–1913

Year	Rearers	Seeds Reared (oz)	Cocoons (maunds)	Raw Silk (lbs)
1900–01	4,290	18,708	9,688	31,955
1902–03	8,158	25,527	22,413	77,530
1904–05	12,139	30,928	13,142	85,826
1906–07	14,427	27,544	21,409	115,748
1908–09	18,949	27,954	23,490	129,045
1910–11	35,034	34,148	40,407	168,167
1912–13	46,363	35,006	37,487	181,056

Source: Ganju, M. (1945). Textile Industries in Kashmir. Premier Publishing House, Delhi, pp. 164–66.

The data indicate a near-tenfold increase in rearers (4,290 to 46,363) and a near-sixfold increase in raw silk output (31,955 to 181,056 lbs) between 1900–01 and 1912–13. Silk exports to European markets in 1901 valued Rs. 256,215 against domestic sales of only Rs. 8,698 underscoring the industry's export orientation (Khan, 1999, pp. 35, 70).

3.5 World Wars, the Great Depression, and Wartime Revenue

The First World War (1914–19) closed European markets and severely disrupted exports. During 1921–22, cocoon production fell from 31,869 to 24,413 maunds and superior silk dropped by nearly 20,000 lbs, reflecting post-war dislocation and the influenza epidemic. A partial revival in 1924–25 saw superior silk peak at over two lakh lbs, but by 1925–26 both cocoon output and silk production had nearly halved (Ganju, 1945, p. 174).

The Great Depression of 1929 eliminated Kashmir's access to the American market and intensified European competition from cheaper Chinese and Japanese silk. By 1932, no exports to Europe were recorded. Financial losses were officially recorded at Rs. 6,42,698 (1932–33), declining to Rs. 83,673 by 1935–36 a reduction explained by contraction of production rather than recovery of profitability (Ganga Ram, Ganganath Report, 1944, J&K State Archives, p. 180). Despite these crises, the Administrative Report for the 18-month period October 1941 to April 1943 records sericulture generating Rs. 41.91 lakhs in state revenue ranking fourth among all revenue-generating departments, after Forests (Rs. 83.64 lakhs), Customs (Rs. 67.30 lakhs), and Land Revenue (Rs. 55.69 lakhs) demonstrating the industry's continued economic significance (Government of J&K, 1944, p. 10). During this period, mulberry plantation in Kashmir Province alone reached 117,012 trees planted in Samvat 1999, and the state introduced bush and dwarf mulberry varieties experimentally to reduce pressure on tall-tree plantations (ibid., p. 145).

Post-Accession Sericulture: National Integration and Planned Development

4.1 Establishment of the Central Silk Board

Following Independence in 1947, the Government of India enacted the Central Silk Board (CSB) Act (No. LXI of 1948), and the Board became operational in April 1949 as the central coordinating authority for sericulture development. Successive Five-Year Plans progressively scaled the sector. From the Fifth Plan (1974–79) onwards, field-level adoption of improved mulberry varieties, silkworm breeds, and rearing techniques accelerated. Raw silk production nationwide surged from 2,894 MT in 1973–74 to 7,673 MT by 1984–85 a 165.13% increase. Export earnings from silk products rose from Rs. 14.46 crores to Rs. 129.05 crores during the same period, an increase of 792.46% (Report of Central Silk Board, 1988, pp. 51–52). By 1989–90, national output reached 11,000 MT, positioning India as the world's second-largest silk producer after China, with export earnings of Rs. 400.61 crores (*ibid.*, p. 55).

4.2 National Silk Production and Employment: 2000–2024

Table 3 presents Central Silk Board data on raw silk production and employment for the period 2000–01 to 2023–24, illustrating both the sector's long-term expansion and the changing relationship between output and labour absorption.

Table 3: Raw Silk Production and Employment in India, 2000–01 to 2023–24 (Selected Years)

Year	Production (MT)	Employment (Persons)
2000–01	15,857	5,400,000
2003–04	15,742	5,650,000
2006–07	18,475	6,003,000
2009–10	19,690	6,817,000
2012–13	23,679	7,653,000
2015–16	28,523	8,250,000
2018–19	35,468	9,178,000
2020–21	33,770	8,730,000
2022–23	36,582	9,220,000
2023–24	38,913	9,480,000

Source: Central Silk Board. *Raw Silk Production Statistics*. <https://csb.gov.in/wp-content/uploads/2024/07/Raw-Silk-Production-Statistics-1.pdf>

National production grew from 15,857 MT in 2000–01 to 38,913 MT by 2023–24 a 145.4% increase while employment expanded from 5.4 million to 9.48 million persons. A COVID-19-related contraction is recorded in 2020–21, with production declining to 33,770 MT and employment to 8.73 million, consistent with the broader economic contraction documented by Behera et al. (2021). The long-term trend confirms sericulture's sustained capacity for labour absorption, though the rate of employment growth slowed relative to production growth from 2011–12 onwards, indicating partial productivity

improvements or structural shifts.

4.3 Post-Independence Performance in Jammu and Kashmir

In Jammu and Kashmir, the Central Silkworm Seed Station was established at Pampore in 1958, and Basic Seed Stations opened at Mircund and Sialsalan (Udhampur). Cocoon production rose from 7.59 lakh kg in 1951–52 to 9.69 lakh kg by 1960–61 (a 27.67% increase), while raw silk output rose from 58,300 kg to 75,000 kg (23.64% increase) during the same period (Shah, n.d., pp. 32–36).

After 1960–61, the industry entered a prolonged decline attributable to fruit industry expansion, Indo-Pak conflict disruptions, poor seed quality, and bureaucratic interference. By 1969–70, cocoon output had fallen to 4.19 lakh kg and raw silk to 30,000 kg. An expert committee under Dr. G. Rangaswami submitted recommendations in 1976; subsequent reforms lifted cocoon production to 8.04 lakh kg and raw silk to 57,138 kg by 1978–79. A further contraction in the 1980s driven by monopolistic controls, mulberry leaf scarcity, and suspension of foreign seed distribution in 1984 reduced cocoon output to 4.23 lakh kg and raw silk to 16,000 kg by 1989–90, representing a 72% decline from 1977–78 levels. Renditta performance deteriorated from 11.49 kg per kg of raw silk in 1980–81 to 17.94 kg by 1989–90 a 56% productivity decline (Shah, n.d., p. 36).

Contemporary Sericulture in Jammu and Kashmir: Production, Employment, and Spatial Distribution

5.1 Recent Production and Income Data (2008–2020)

Table 4 presents aggregated sericulture performance data for Jammu and Kashmir from 2008–09 to 2019–20.

Table 4: Sericulture Performance in Jammu and Kashmir, 2008–09 to 2019–20

Year	Cocoon Prod. (MT)	Income (Rs. Lakh)	Cocoon Price (Rs./kg)	Productivity (kg/oz)	Rearers
2008–09	738	455.67	192	32	19,700
2009–10	810	800.00	300	35	22,800
2010–11	860	1,100.00	410	35	25,500
2011–12	917	963.00	350	37	27,000
2012–13	901	1,193.00	397	37	28,000
2013–14	1,022	2,026.00	630	39	29,390
2014–15	1,032	1,907.50	625	37	30,894
2016–17	973	2,200.00	700	38	27,115
2017–18	1,084	2,110.00	750	38	
2018–19	990	2,300.00	800	39	
2019–20	950	2,250.00	850	42	

Source: Dar, K. A., et al. (2021). *Jammu and Kashmir silk industry: Problems and prospects. The Pharma Innovation Journal*, 10(6), p. 370.

The data reveal two concurrent trends. Cocoon production grew from 738 MT to a peak of 1,084 MT in 2017–18, followed by a modest decline. Income generation expanded sharply from Rs. 455.67 lakh to Rs. 2,300 lakh in 2018–19 driven primarily by cocoon price appreciation from Rs. 192/kg to Rs. 850/kg and productivity improvement from 32 kg to 42 kg per ounce of silkworm seed. The number of active rearers increased from 19,700 (2008–09) to 30,894 (2014–15), reflecting improved economic incentives.

5.2 District-wise Spatial Distribution, Kashmir Division (2015)

Table 5 presents district-level data on rearers, seed distribution, and expected cocoon output for the Kashmir Division based on 2015 Sericulture Development Department reports.

Table 5: District-wise Distribution of Silkworm Rearers and Cocoon Production, Kashmir Division (2015)

District	Rearers	% Total	Seed Dist. (oz)	Cocoon Exp. (MT)
Anantnag	1,800	18.75	1,756	80
Kupwara	1,600	16.67	1,560	72
Baramulla	1,400	14.58	1,200	56
Pulwama	1,400	14.58	1,260	57
Ganderbal	770	8.02	647	30
Bandipora	700	7.29	613	29
Kulgam	650	6.77	610	28
Budgam	500	5.21	406	19
Shopian	500	5.21	450	20
Srinagar	280	2.92	270	12
Total	9,600	100.00	8,772	403

Source: K. Gulzar, S. Nazeer et al. (2011), based on Report of the Sericulture Development Department J&K 2015.

Anantnag emerges as the primary sericulture centre, accounting for 18.75% of rearers and 19.85% of expected cocoon output, followed by Kupwara (16.67%) and the Baramulla-Pulwama cluster. Srinagar, predominantly urban, records the lowest engagement with 280 rearers and 12 MT expected output. The proportional alignment between seed distribution and expected output across districts indicates consistent technical efficiency in standardised rearing practices.

5.3 Employment Generation across the Value Chain

Employment generation data for 2006–07 show nursery operations generating approximately

2.86 lakh man-days, establishment of mulberry blocks 0.40 lakh, cultural operations 0.73 lakh, incubation and chawki rearing 0.20 lakh, and seed production 0.34 lakh man-days. Private-sector reeling contributed an additional approximately 1.20 lakh man-days annually (Gulzar & Nazeer, 2011, p. 113). The sector currently supports more than 23,000 silkworm-rearing families, generates an estimated annual income of approximately Rs. 7.26 crore, and provides approximately 3.5 lakh man-days of employment each year (Planning and Development Department, J&K, 2008–09). Infrastructure includes 173 mulberry nurseries across 1,021 acres (667 acres actively cultivated) and 290 mulberry blocks covering 917 acres, supporting households across approximately 2,800 villages, of which 1,500 are in Kashmir and 1,300 in Jammu.

6. Employment Potential: Mulberry Nursery Economics

Mulberry plantation constitutes a financially viable and labour-intensive component of the sericulture value chain. Table 6, based on Gulzar and Nazeer (2011), details the cost structure for raising mulberry saplings over a two-year nursery period.

Table 6: Economics of Mulberry Sapling Nursery (Per Acre, Two-Year Cycle)

Category	Labour/Qty	Rate	Cost/Value (Rs.)
First-year labour (4-month saplings)	319 mandays	Rs.213/manday	67,947
Maintenance labour (Year 1)	110 mandays	Rs.213/manday	23,430
Cutting preparation	33 mandays	Rs.213/manday	7,029
FYM (8 MT) + chemical fertilisers	Various		12,235
Total Year 1 expenditure			1,10,641
Year 2 maintenance (labour + inputs)	110 mandays + inputs		35,065
Total 2-year cost per acre			1,46,306
Surviving saplings (70% of 99,000)			69,300
Cost per sapling			Rs. 2.11
Government selling price per sapling			Rs. 12.00
Benefit per sapling			Rs. 9.89

Source: K. Gulzar, S. Nazeer et al. (2011). *Entrepreneurial Opportunities in Temperate Sericulture*.

Indian Horticulture Journal, 6, p. 113.

The benefit-to-cost ratio of nearly 5.7:1 at the government selling price of Rs. 12 per sapling is an indication of a profitable nursery management practice. Labour is the major cost (Year 1 462 mandays at Rs. 213/manday highlighting the labour intensity of these operations and their impact for rural employability independent of cocoon-rearing.

Role of Stakeholders in the Revival of Silk Industry

7.1 Policy and Government

It is difficult to revive sericulture in Kashmir without government intervention due to the structural problems poor infrastructure, productivity, access to inputs and marketing which individual farmers can not resolve on their own. The Jammu and Kashmir government has cleared a holistic project of Rs. 91 crore to upgrade the entire sericulture value chain (mulberry cultivation, quality of silkworm seed, scientific rearing centres and reeling and processing units). The Department of Sericulture has introduced beneficiary-oriented schemes under the Holistic Agriculture Development Programme (HADP) with subsidy components of 80-90%, which has made it easier for small and marginal farmers to enter the industry.

The Wool Processing, Handicrafts and Handloom Policy (2020) offers capital subsidy of 10% of working capital (up to Rs. 5 lakh) along with increased loan limits under the Artisan Credit Scheme and a subvention of 3-5% on loan interest on working capital. NABARD has highlighted silk as a focus sector in its focus paper on J&K and has provided credit-linked schemes under HADP with an outlay of Rs. 5,012 crore over five years to support, among others, silkworm rearing expansion and cold-chain establishment.

7.2 Research and Technical Institutions

The Central Sericultural Research & Training Institute (CSR&TI), Pampore, hosts more than 111 races of silkworm and 82 mulberry accessions invaluable genetic resource for long-term productivity gains. Capacity Building and Training (CBT) at CSR&TI trained 1,088 people in 2021-22 in Intensive Sericulture Training, Farmer Skill Training (400 participants), Technical Orientation Programmes (86 participants) and post-cocoon technologies (25 participants) with an annual investment of Rs. 16.35 lakh (Annual Report CSR&TI, 2021-22, p. 44). The Extension Communication Programmes in 2021-22 involved 629 stakeholders in 26 technical demonstration events, 1,283 stakeholders in 24 awareness-raising events and 1,311 stakeholders in 24 farmers' field days. The Annual Action Plan for 2023-24 has targets for capacity building of more than 1,100 stakeholders and extension outreach to more than 4,400 beneficiaries.

7.3 Cooperative Societies, Financial Organisations and Civil Society

The beginning of formal organisation in Indian silk is traced to the Royal Commission on Agriculture (1928) which concluded that native silk industries in villages could not compete with factories without collective organisation. Cooperative societies now offer access to inputs, collective marketing, shared reeling units and credit, with important positive impacts on women and small producers. Public and cooperative banks and credit assistance through NABARD support loans for mulberry plantation, rearing house construction, and equipment purchase with NABARD norms permitting loans of up to Rs. 1.6 lakh for first-generation sericulture entrepreneurs. The RAMP Strategic Investment Plan of the J&K Industries and Commerce Department (2024) highlights sericulture as an employment-intensive sector with high elasticity, suggesting public investment in select areas and technological upgradation with guaranteed market support. NGOs and CSOs play a role at the local

level in providing training, empowering women, mobilising Self-Help Groups and awareness of government initiatives. They play a significant role in conflict or remote areas with weaker institutional presence and social inclusion.

8. Discussion

This paper presents historical evidence to support a number of conclusions. First, the silk industry in Kashmir is not a colonial legacy, but rather a native institution with a continuous history from at least the 7th century CE, bolstered by royal support from the Sultanate period onwards. The indigenous ecology of Kashmir as suitable for *Bombyx mori* sericulture confirmed by Thomas Wardle's 1904 report and contemporary agro-climatic zoning provides a sustainable competitive advantage.

Second, the Dogra period is the first major attempt at scientific and institutional modernisation of the industry, with state monopoly, foreign expert advice, disease control, mulberry protection law (1905) and electrification (1908). The ten-fold increase in rearers and six-fold increase in raw silk production between 1900 and 1913 shows the tangible effects of collective state action. The revenue loss in the 1930s also show the vulnerability of the sector to international markets and the unsustainability of monopolistic production without suitable risk mitigation. Third, post-Independence data demonstrate that coordinated policy, research and infrastructure investments through the CSB and Five-Year Plans have led to steady growth from 15,857 MT production and 5.4 million workers in 2000-01 to 38,913 MT production and 9.48 million workers in 2023-24. In J&K, the 2008-2020 period shows that price support and productivity enhancement can generate significant income increases (cocoon income increased by more than five times from Rs. 455.67 lakh to Rs. 2,300 lakh) without commensurate growth in volume of production, confirming the value-chain upgrade approach as a potential revival strategy. Fourth, the current crisis rearers falling from 60,000 in the 1940s to around 5,000 now, cocoon production 16 lakh kg to 9 lakh kg is a "competition" crisis. The boom in apple horticulture, which alone accounts for 8.2% of J&K's GDP has rendered sericulture's low returns less competitive. The challenge in policy for revival is not just to boost production inputs but to increase the net return to family labour in sericulture so it is competitive with horticulture and other rural employment opportunities, especially for the young.

Conclusion

Kashmir's silk industry has undergone a complicated history from pre-medieval indigenous roots to royal sponsorship, colonial scientific modernisation, post-Independence integration into the national economy and present stagnation. The evidence presented here shows that periods of growth were linked to concerted institutional efforts: Sultanic artisan exchanges, Dogra state monopoly and filatures, Wardle-inspired scientific reforms, and post-Independence CSB investment. Each crisis period was marked by disease, political inaction, bureaucratic incompetence, or market opportunity change.

The industry has inherent advantages: environmental fit for high-quality bivoltine silk, labour intensity in the entire value chain, fit with agricultural seasons, social inclusion, and export potential for authentic Kashmir silk. With approximately Rs. 7.26 crore in annual income generated by sericulture-related families, 173 mulberry nurseries across 1,021 acres, and 33,000 households engaged across 2,800 villages, the infrastructure base for revival exists. The revival requires a multi-sectoral approach integrating price stabilisation and subsidy delivery by government, research institution-based training and extension (CSR&TI provides training to over 4,400 beneficiaries annually), cooperative organisation for collective marketing and input procurement, specialised financial

institution credit delivery, and civil society working with marginal rearers. Until net return to sericulture labour is increased to compete with alternative livelihoods especially horticulture the population shift from sericulture will continue, jeopardising the future of the age-old culture discussed in this study.

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