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State and central government initiatives to strengthen sericulture sector in Andhra Pradesh

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Abstract

Silk is considered one of the finest natural fibers, admired worldwide for its unique luster, smooth texture, excellent dyeing capacity, high absorbency, lightweight, and remarkable strength. Because of these qualities, it is often referred to as the "Queen of Textiles." Apart from its aesthetic appeal, sericulture serves as an important source of income for millions of people, as it is a labor-intensive, low-investment, and highly rewarding activity. Its strong rural base, combining both farm and non-farm components, along with its capacity to generate employment on a large scale, has made sericulture an important sector for the socio-economic growth of countries with predominantly agrarian economies, such as India.

India is uniquely positioned as the only nation that produces all five commercially significant varieties of silk: mulberry, tropical tasar, oak tasar, eri, and muga. Among these, muga silk, known for its golden-yellow sheen, is found exclusively in India. The cultivation of mulberry silkworms is mainly concentrated in Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal, Jammu and Kashmir, which are the major silk-producing states. Additionally, the North Eastern Region stands out as the sole area in the country that produces four types of silk—mulberry, oak tasar, muga, and eri—and contributes around 18% to the total national silk output. With these advantages, India continues to hold the position of the world's second-largest silk producer.

Keywords: Sericulture, rural youth, enterprise, opportunities, empowerment

Introduction

Silk is considered one of the most luxurious textiles globally, admired for its unmatched elegance, natural luster, excellent dye absorption, lightweight nature, smooth texture, and exceptional durability. Often referred to as the "Queen of Textiles," silk not only holds a special place in fashion and culture but also serves as a significant source of livelihood. Its production is labor-intensive, requires relatively low investment, and offers substantial returns, making it an important sector for rural employment and economic development in agrarian economies like India. The industry's ability to generate employment through both on-farm and off-farm activities has drawn the attention of policymakers, who regard it as a vital contributor to socio-economic growth.

India holds a unique position as the only country in the world producing all five commercially known types of silk—mulberry, tropical tasar, oak tasar, eri, and muga. Among these, muga silk, famous for its natural golden sheen, is exclusive to India. Mulberry sericulture is predominantly practiced in Karnataka, Andhra Pradesh, West Bengal, and Tamil Nadu, Jammu and Kashmir, which are the leading silk-producing states. The North Eastern region of India is distinct as it is the only area producing four varieties of silk—mulberry, oak tasar, muga, and eri—and contributes about 18% to the country's total silk output.

During 2023–24, India produced 38,913 metric tonnes (MT) of silk, with the following distribution:

1. Mulberry silk – 76.81% (29,892 MT)
2. Tasar silk – 4.07% (1,586 MT)
3. Eri silk – 18.45% (7,183 MT)
4. Muga silk – 0.64% (252 MT)

In the same year, India earned ₹2027.56 crores from silk exports. The sericulture industry provided employment to approximately 7.65 million people. The demand for high-quality bivoltine silk is steadily increasing for both domestic use and export-oriented value-added products. To support this growth, the Ministry of Textiles, Government of India, along with state sericulture departments, offers technical and financial assistance to boost bivoltine silk production.

Geographical indications of silk in india

1. Baluchari Saree – West Bengal
2. Salem Silk – Tamil Nadu
3. Arani Silk – Tamil Nadu
4. Molakalmuru Sarees – Karnataka
5. Ilkal Sarees – Karnataka
6. Muga Silk – Assam
7. Orissa Ikat – Odisha
8. Kancheepuram Silk – Tamil Nadu
9. Mysore Silk – Karnataka
10. Chanderi Fabric – Madhya Pradesh
11. Dharmavaram Silk – Andhra Pradesh
12. Pochampalli Silk – Telangana

Policy Measures for the Growth of the Silk Industry

Sericulture, which falls under the jurisdiction of the Ministry of Textiles, involves a combination of agricultural and industrial activities. The process encompasses on-farm operations, which are seasonal, and off-farm activities that require expertise in insect rearing, handling, and disease management. This sector supports the livelihood of over 9 million people, predominantly in rural areas, and requires robust strategic planning, implementation, and monitoring.

National Silk Policy

This policy outlines the vision, mission, and strategies for advancing the silk sector. It serves as a model that can be adapted by individual states to enhance sericulture development.

Sericulture under RKVY

Recognized as an allied agricultural activity under the Rashtriya Krishi Vikas Yojana (RKVY), allowing farmers to access financial support for all stages of sericulture, including reeling.

Quality Standards in Silkworm Seed Production

The Government of India has amended the Central Silk Board (CSB) Act, Rules, and Regulations to enforce strict quality control in silkworm seed production.

Forest Conservation Act Amendment

This amendment classifies non-mulberry sericulture as a forest-based activity, enabling farmers to rear wild silkworms (Vanya silk) in natural host plantations within forests.

Anti-Dumping Duty on Chinese Raw Silk

To protect domestic producers, an anti-dumping duty of USD 1.85 per kg has been imposed on imported Chinese raw silk (Grade 3A and below) as per DGAD notification dated 4 December 2015.

CDP-MGNREGA Convergence

Guidelines have been issued jointly by the Ministry of Textiles (MoT) and the Ministry of Rural Development (MoRD) to integrate the Catalytic Development Programme (CDP) with MGNREGA, allowing sericulture farmers to access benefits under the employment guarantee scheme.

Central silk board

The Central Silk Board (CSB) is a statutory body established in 1948 through an Act of Parliament. It operates under the administrative control of the Ministry of Textiles, Government of India, with its headquarters located in Bengaluru. The Chairperson of the Board, appointed by the Central Government, holds a rank not lower than that of a Joint Secretary. The Board consists of 39 members, whose appointments are made in accordance with the provisions of the CSB Act, 1948.

The vision of the CSB is to position India as a global leader in the silk industry.

To achieve this vision, the Government has been implementing an Integrated Scheme for the Development of the Silk Industry (ISDSI), popularly known as "Silk Samagra", since 2017-18. This scheme focuses on the

following four major components:

1. Research & Development, Training, Transfer of Technology, and IT Initiatives
2. Seed Organization
3. Coordination and Market Development
4. Quality Certification Systems, Export Promotion, Brand Promotion, and Technology Upgradation

In line with the Silk Samagra program, the state of Andhra Pradesh is actively working to promote sericulture and the silk industry. The state government prepares annual project proposals aimed at extending advanced technologies to underdeveloped regions, thereby promoting sericulture as a means of livelihood enhancement for stakeholders.

These proposals are reviewed and approved by the State Level Project Monitoring Committee, chaired by the Commissioner of Sericulture, Andhra Pradesh, based in Guntur. Once approved, they are forwarded to the Central Silk Board for the sanction of funds and subsequent implementation under the integrated Central Sector Schemes.

Autonomous Bodies for Sericulture Development in Andhra Pradesh

A. Andhra Pradesh State Sericulture Research & Development Institute (APSSRDI)

The Andhra Pradesh State Sericulture Research & Development Institute (APSSRDI) is an autonomous body located at Kirikera village near Hindupur in Anantapuramu District. It was established to meet the research requirements of both Andhra Pradesh and Telangana. After the state bifurcation, the institute was listed under the 10th Schedule, enabling it to serve both states.

The primary objective of APSSRDI is to undertake comprehensive research in sericulture, with particular focus on adaptive research and the development of silkworm breeds suited to specific regions and seasons. The institute operates under the administrative supervision of the Special Chief Secretary to Agriculture & Cooperation (Horticulture & Sericulture) Department, who also chairs its Governing Council. Current research activities include maintaining breeding stocks, purification and isolation of inbred lines, and testing various bivoltine hybrid combinations across multiple regions. In addition to research, the institute functions as a training centre for stakeholders in sericulture.

B. Federation of Sericulturists & Silk Weavers Cooperative Societies (SERIFED)

The Federation of Sericulturists & Silk Weavers Cooperative Societies, known as SERIFED, plays a vital role in supporting sericulture activities in Andhra Pradesh. It operates silk exchanges at Dharmavaram and Hindupur in Anantapuramu District, Proddatur in Kadapa District, and maintains sales outlets at Peddapuram in East Godavari District and Chirala in Prakasam District. These facilities facilitate the marketing and sale of raw silk and twisted silk yarn produced by reelers.

Additionally, SERIFED ensures the supply of essential sericulture inputs such as rearing equipment, disinfectants, organic supplements, and micronutrients to farmers as well as government units, thereby contributing to the overall growth and sustainability of sericulture in the state.

Sericulture Development in Andhra Pradesh

Sericulture is a traditional agro-based activity that plays a crucial role in generating employment, especially for rural women, thereby contributing significantly to the rural economy. This sector ensures consistent income for farmers, providing an average earning of around ₹1, 50,000 per acre annually. It also creates approximately 7.36 lakh man-days of direct and indirect employment each year.

The practice is particularly suited to drought-prone areas, helping to address agrarian distress. Notably, over 60% of women participate in various sericulture activities, including mulberry cultivation, silkworm rearing, silk reeling, twisting, and weaving, making it a women-centric industry.

Importance of Sericulture in Andhra Pradesh

Andhra Pradesh stands as the second-largest silk-producing state in India and has been recognized as the “Best Bivoltine Practicing State” by the Central Silk Board, Ministry of Textiles, Government of India.

Mulberry cultivation, which requires less water compared to many commercial crops, is particularly suitable for the drought-affected Rayalaseema districts. As a perennial crop, mulberry can be cultivated for about 15 years on a minimum area of two acres, ensuring monthly returns similar to a regular salary.

Government Support

To ease the financial burden on farmers and promote sustainable livelihoods, the Andhra Pradesh government provides extensive support, including:

Financial assistance for mulberry cultivation.

Subsidies for constructing rearing sheds and supplying equipment.

Distribution of disinfectants for on-farm activities.

Incentives for bivoltine cocoon production and raw silk processing.

To encourage the post-cocoon sector, subsidies are also provided for setting up Automatic Reeling Machinery (ARM), multi-end reeling, and twisting units. These initiatives have enabled the production of International Grade 3A and above Bivoltine Raw Silk at competitive prices.

The state boasts several traditional silk weaving hubs such as Dharmavaram, Hindupur, Narayanavanam, Venkatarigi, Jammalamadugu, Proddutur, Uppada, Peddapuram, and Kodumur, renowned for their heritage silk sarees and fabrics.

With strong government measures and Central Silk Board support, Andhra Pradesh has successfully reduced dependence on silk imports, especially from China. Moreover, the price of bivoltine hybrid cocoons has risen from ₹350/kg to ₹650/kg, ensuring better farmer remuneration.

Goal

To create sustainable livelihoods for farmers and stakeholders through sericulture activities.

Mission

To produce superior-quality bivoltine cocoons for the manufacture of international-standard bivoltine raw silk.

Strategies

Expanding mulberry acreage through RBKs (Rythu Bharosa Kendras).

Implementing drip irrigation across mulberry fields.

Promoting the chawki rearing concept via CRCs (Chawki Rearing Centres).

Adopting a cluster approach for pre- and post-cocoon activities.

Incentivizing chawki, cocoon, and raw silk production.

Establishing automatic reeling units to produce Grade 3A and above raw silk.

Organisational Structure

The Sericulture Department operates under a two-tier administrative system:

State Level: Headed by a senior IFS/IAS officer, assisted by an Additional Director, Assistant Directors (technical and non-technical), and Sericulture Officers.

District Level: Managed by Joint Directors, Deputy Directors, and Assistant Directors, depending on the concentration of sericulture activities.

Currently, the state has 3 Joint Directors, 5 Deputy Directors, 35 Assistant Directors, and 133 Sericulture Officers, supported by 378 Village Sericulture Assistants functioning at RBKs to ensure technology transfer to farmers.

Schemes Implemented

Various schemes are implemented with financial assistance under State Development Schemes, Silk Samagra, and RKVY-RAFTAAR, benefiting both sericulture farmers and silk reellers:

1. Production of high-yielding mulberry saplings through Kissan Nurseries.
2. Supply of improved saplings for establishing mulberry gardens.
3. Promotion of chawki rearing to enhance cocoon quality.
4. Assistance for construction of rearing sheds and provision of equipment.
5. Procurement of Tasar seed cocoons and support to tribal farmers under the Tribal Sub-Plan (TSP).
6. Incentives for reeling cocoon production to encourage quality output.
7. Incentives for raw silk production using multi-end and automatic reeling machinery.
8. Provision of disinfectants for disease prevention.
9. Support for farm mechanization.
10. Training for farmers and field staff through Dr. YSR Pattu Badi programs.
11. Convergence with MGNREGS to assist farmers in mulberry plantation and rearing shed construction.

Andhra Pradesh sericulture initiatives

The Department of Sericulture, Andhra Pradesh, has undertaken several initiatives to boost the growth of the sericulture industry and enhance farmer income. Key measures include:

1. Implementation of e - Marketing

Introduced e - marketing across all Government Cocoon

Markets to ensure transparent and fair transactions between sericulture farmers and silk reelers.

2. Promotion of Bivoltine Cocoon Production

Transitioning CB (Cross Breed) cocoon producers to Bivoltine cocoon farming by conducting workshops, training programs, and exposure visits.

Aim: To increase the production of international-grade raw silk through improved cocoon quality.

3. Supply of Bivoltine Chawki Worms

Supplying 100% Bivoltine Chawki worms instead of DFLs (Silkworm eggs) to farmers.

This measure enhances cocoon quality, productivity, and ensures production of 3A and above international-grade raw silk using ARMS (Automatic Reeling and Management Systems).

4. Enhancement of Productivity Targeting an increase in Bivoltine cocoon productivity to 75 kg per 100 DFLs through the adoption of new technologies.
5. Encouragement of Local Cocoon Consumption Promoting the installation of Automatic and Multi-end Reeling Machinery to process locally produced cocoons. This initiative supports farmers while enabling production of premium-grade raw silk.

6. Empowerment of SC & ST Families

Providing 90% financial assistance to SC and ST families to create sustainable livelihoods through sericulture activities. These initiatives collectively aim to modernize sericulture practices, enhance productivity, ensure fair pricing, and improve the socio-economic status of rural communities dependent on this sector.

Present status

Particulars	Mulberry	Tasar
Sericulture villages	5352	45
Sericulture farmers	79588	892
Silk reelers	298	90
Spinners	465	79

Variety	2023-24
Mulberry plantation (ha)	58283
Mulberry raw silk (MT)	
BV	2308
CB	8181
Total	10489
Vanya silk (MT)	
Tasar	2
Vanya total	2
Grand total	10492

The district wise achievements under sericulture

S. No	District	Mulberry		Tasar	
		Mulberry plantation (ha)	Mulberry raw silk (MT)	Tasar plantation (ha)	Tasar raw silk (MT)
1.	Sri sathya sai	21668	4410		
2.	Ananthapuramu	3035	542		
3.	Chittoor	17588	3503		
4.	Tirupati	1007	199		
5.	YSR Kadapa	564	70		
6.	Annamayya	5571	906		
7.	Kurnool	853	119		
8.	Nandyal	1017	139		
9.	Prakasham	1572	116		
10.	Bapatla	382	26		
11.	SPS Nellore	430	9		
12.	Guntur	70	6		
13.	Palnadu	451	41		
14.	Krishna	167	20		
15.	NTR	217	27		
16.	Eluru	1222	83		
17.	East Godavari	226	18		
18.	Kakinada	1325	184		
19.	Konaseema	8	1		
20.	Alluri sitaramaraju	333	31	3000	2
21.	Anakapalle	327	11		
22.	Vishakapatnam	27	1		
23.	Vizianagaram	384	11		
24.	Manyam	180	3		
25.	Srikakulam	341	13		
26.	Total	58283	10489	3000	2

Schemes being implemented in sericulture sector

Following Schemes of State & Central Government are being implemented in the state.

- a. State Development Schemes (SDS)

- b. Central Sponsored Schemes (SilkSamagra)
- c. RKVY (Rastriya Krishi Vikas Yojana)
- d. Convergence Scheme (MG-NREGS)

The pattern of assistance

Category	Govt assistance	Beneficiary contribution
General	75%	25%
SCSP	90%	10%
TSP	90%	10%

Components of the schemes

SL No	Name of the component	Units	Unit cost [Rs]
1	Kissan nursery	Acres	150000
2	Support for mulberry bush plantation	Acres	14000
3	Construction of rearing shed		
	a. Type-1 (1000 sq.ft)	Nos	400000
	b. type- 2 (600 sq.ft)	Nos	300000
4	Supply of rearing equipments		
	For type-1 - sheds	Nos	75000
	For type -2 - sheds	Nos	50000
5	Supply of disinfectants to farmers	Nos	5000
6	Assistance for form mechanization	Nos	100000
7	Assistance for chawki charge to	Per 100 Dfls	2000
8	Cocoon incentive to farmers		
	BV for all district's	Per kg	50
9	Cocoon incentive to Tasar farmers/ per each cocoon	Nos	1
10	Assistance for Tasar Dfls	Nos	12
11	Wage compensation to Tasar tribal	Per family	2500
12	Raw silk incentive to silk reelers		
	CB silk/kg	Kgs	85
	BV silk/kg	Kgs	130
13	Popularization of chawki rearing centres with incubation chambers transportation vehicles	Nos	1200000
14	Supports for establishments of multiend reelig units(10 basins)	Nos	1709000
15	Supports for establishments of indiginious automatic reeling units -400 ends	Nos	14102000
16	Automatic reeling units – 200 ends	Nos	7683000
17	Assistance for establishments of twisting units (480 spindles)	Nos	974000
18	Banificiary empowerment programme	Nos	7000

Innovations in sericulture practices

1. Supply of 100% Chawki Worms to Farmers

Through Chawki Rearing technology, farmers receive healthy, uniformly grown silkworms.

The rearing duration at the farmer's level is reduced to 17–18 days.

This leads to improved cocoon yield in both quality and quantity.

2. Installation of Turbo Ventilators & Cooling Systems

Turbo ventilators and cooling systems are being installed in rearing sheds.

These help maintain the required temperature and humidity during silkworm rearing, ensuring better cocoon production.

3. Adoption of Shoot Rearing System

The shoot rearing method saves time and reduces labor requirements by nearly 40% during late-age rearing.

Mulberry leaf consumption is reduced by 15–20%.

This technology is widely embraced by farmers due to its efficiency.

4. Tree Mulberry Plantation

Tree mulberry cultivation is being promoted to address drought and low irrigation challenges, ensuring sustainable leaf production.

E-Governance Initiatives in Sericulture

Direct Benefit Transfer (DBT): Financial benefits to farmers and silk reelers are transferred directly through CFMS/PFMS systems.

E-Marketing of Cocoons:

Online auctioning ensures transparency and competitive pricing.

Provides equal opportunities to all silk reelers (buyers).

Creates a global platform for cocoon transactions.

Andhra Pradesh is the second state in India, after Karnataka, to introduce this system.

Implementation of E-Marketing System in Cocoon Markets

The government operates eight cocoon markets throughout the year (except on Republic Day and Independence Day).

Advantages

Transparent auction process.

Competitive and better prices for farmers.

Equal access for all buyers.

Sericulture Development through Rythu Bharosa Kendras (RBKs)

Village Sericulture Assistants (VSAs) at RBKs are actively involved in expanding mulberry cultivation.

RBKs serve as platforms for technology dissemination to farmers.

Under the Dr. YSR Pattubadi programs, departmental officers conduct training and exposure visits with progressive sericulture farmers.

Technical Service Centre (TSC) staff organize demonstrations and farmers' meetings to promote innovative technologies.

Sericulture Promotion through Convergence with MGNREGS

The Andhra Pradesh government is integrating sericulture development with the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) along with the Silk Samagra schemes of the Central Silk Board. Financial assistance includes:

Development of Mulberry Bush Plantation (per acre for 3 years): ₹1, 25,326

Construction of Silkworm Rearing Shed (Type-I): ₹6, 59,900

Construction of Silkworm Rearing Shed (Type-II): ₹4, 55,400

Development of Mulberry Tree Plantation (per acre for 3 years): ₹1, 30,081

Sericulture development through rkvy:

Under RKVY programme, an amount of Rs.4.17 crore sanctioned for implementation of the following Schemes for sericulture development.

1. Support for construction of CRC Shed for Seed Farmers.
2. Cooling Systems to Rearing Sheds
3. Creation of Farm Ponds
4. Solar Lighting with Uzi Nashan to Rearing Shed.
5. Training to farmers on sericulture through the programme Dr. YSR Pattu Badi".

Non-farm activities

Private Sector

Different types of following silk reeling units are

functioning for producing the Raw Silk in Andhra Pradesh.

Charka units	- 231 Nos.
Multi-End Reeling Units	- 322 Nos.
Automatic Reeling Units	- 9 Nos.
Twisting Units	- 269 Nos
Tasar silk reeling units (Buniyad machines)	- 78 Nos
Tasar Silk Spinning units	- 55. Nos

Indigenous A.R.M developed by C.S.B, government of India under "make in India" concept

S.NO	Capacity of the unit	Unit cost	Approved CSB unit cost	CSB share (50%)	State share (25%)	Beneficiary share (25%)
1	400 ends	148.37250	141.02000	70.51	35.255	35.255
2	200 ends	88.56300	79.83000	39.915	19.9575	19.9575

Indigenous automatic reeling machinery (ARM)

Silk Fabric producing clusters in Andhra Pradesh are Dharmavaram, Mudireddipalli (Anantapuramu dist.) Uppada, Peddapuram (E.Godavari dist.), and Neerugattuvuripalli (Chittoor dist.) Silk Sarees are Traditional Heritage of Andhra Pradesh.

Tasar culture in Andhra pradesh

Tasar culture is Forest based industry reared in the Forest where the Nalla Maddi and Thella Maddi trees (*Terminalia arjuna* & *Terminalia tomentosa*) in East Godavari District. Reared in 3,000 Ha of Forest area by 1,770 tribal farmers in (45) villages of Chinturu, Kunavaram Mandals in East Godavari district.

Three Crops can be reared in a year and can get 50.00 lakh nos of Tasar Cocoons with an annual income of Rs.30, 000/- to Rs.40, 000/- per Tribal family.

Tasar cocoons are converted into Tasar silk through "Buniyad reeling machines" & Spinning production 78 nos. of Buniyad and 55 nos. of spinning units are functioning in Chinturu and Kunavaram Mandals of East Godavari dist.

Tasar spinning machines vision for 2024-25

S. No	Item	Plan for 2023-24 to 2024-25		
		Plan for 2022-23	Plan for 2023-24	Plan for 2024-25
	Existing acreage (acres)	138000	150000	162500
1	Mulberry plantation (acres)	12000	12000	12500
2	CB cocoon production (MT)	59466	68500	77750
3	BV Cocoon production (MT)	13125	15600	18200
4	CB Raw silk production (MT)	7929	7500	8800
5	BV Raw silk production (MT)	2019	2400	2800
6	Tasar cocoon production (in lakh nos)	45	45	50
7	GVA no cocoon production (Rs.in cr)	1294.68	1500	1711

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