

**FUNCTIONING OF CENTRAL SILK BOARD
&
PERFORMANCE OF INDIAN SILK INDUSTRY**

(As on 1st January, 2024)



CENTRAL SILK BOARD
(Ministry of Textiles, Govt. of India)
Bengaluru-560 068

A. STATUS OF SILK INDUSTRY

Silk is the most elegant textile in the world with unparalleled grandeur, natural sheen, and inherent affinity for dyes, high absorbance, light weight, soft touch and high in durability. Because of these unique features, silk is known as the **“Queen of Textiles”** the world over. It provides livelihood opportunity for millions, owing to its high employment potential, low capital requirement and remunerative nature of its production. The very nature of this industry with its rural based on-farm and off-farm activities and enormous employment generation potential has attracted the attention of the planners and policy makers to recognize the industry among one of the most appropriate avenues for socio-economic development of a largely agrarian economy of India.

Silk has been intermingled with the life and culture of the Indians. India has a rich and complex history in silk production and its silk trade dates back to 15th century. Sericulture industry provides employment to approximately 9.2 million persons in rural and semi-urban areas in India. Of these, a sizeable number of workers belong to the economically weaker sections of society, including women. India’s traditional and culture bound domestic market and an amazing diversity of silk garments that reflect geographic specificity has helped the country to achieve a leading position in silk industry. India has the unique distinction of being the only country producing all the five known commercial silks, namely, Mulberry, Tropical Tasar, Oak Tasar, Eri and Muga, of which Muga which is produced only in India with its golden yellow glitter is a prerogative of India.

India is the second largest producer of silk in the world. Among the four varieties of silk produced in 2022-23, Mulberry accounted for 75.59% (27,654 MT), Tasar, 3.60% (1,318 MT), Eri 20.09% (7,349 MT) and Muga 0.71% (261MT) of the total raw silk production of 36,582 MT.

B. FUNCTIONING OF CENTRAL SILK BOARD

The Central Silk Board (CSB) is a Statutory Body, established during 1948, by an Act of Parliament (Act No.LXI of 1948). It functions under the administrative control of the Ministry of Textiles, Government of India, having head quarter at Bengaluru. The Board comprises 39 members comprising 20 Officials and 19 Non-official members appointed as per the powers and provisions conferred by Sub-Section 3[Section 4] of the CSB Act 1948, for a period of 3 years.

The table below indicates the detail composition of the Board as per Section 4(3) of CSB Act 1948:

Section of Board Act	Number of members	Details
4(3)(a)	1	Chairperson-appointed by Govt. of India
4(3)(b)	3	Official members (Vice Chairperson, MoT representative, Member Secretary) appointed by the Central Govt.
4(3)(c)	6	Members of Parliament; 4 from Lok Sabha & 2 from Rajya Sabha
4(3)(d) to 4(3)(h)	18	Members nominated by State Governments representing silk producing states
4(3)(i)	3	Nominated by Central Govt. covering newly developed sericulture states not covered above
4(3)(j)	8	Eight persons nominated by Central Govt. representing stake holders of silk industry, Labour, experts in sericulture
Total	39	

The mandated activities of CSB are Research and Development, maintenance of four tier silkworm seed production network, leadership role in commercial silkworm seed production, standardizing and instilling quality parameters in the various production processes and advising the Government on all matters concerning sericulture and silk industry. These mandated activities of Central Silk Board are being carried out by the 159 units of CSB located in different States through an integrated Central Sector Scheme *viz* “**Silk Samagra-2**” approved by the Union Cabinet for development of silk industry with a total outlay of Rs. 4679.86 crore for implementation during 2021-22 to 2025-26 with the following four components:

1. Research & Development, Training, Transfer of Technology and I.T. initiatives.
2. Seed Organization.
3. Coordination and Market Development.
4. Quality Certification Systems, Export, Brand Promotion & Technology up-gradation.

The four Regional Offices of Central Silk Board located at New Delhi, Kolkata, Hyderabad, and Guwahati maintain a close liaison with the State Sericulture Departments, to co-ordinate the sericulture development programme in different states. Regional Offices are also conveners of State Level Sericulture Co-ordination Committee meetings constituted by the Central Silk Board. The existing staff strength of CSB is **1494 as on 01.01.2024.**

1. RESEARCH & DEVELOPMENT, TRAINING, TRANSFER OF TECHNOLOGY AND I.T. INITIATIVES

Research & Development

The Research and Training Institutes of the CSB provide scientific and technological support for enhancing production and productivity for sustainable sericulture through innovative approaches. The main institutes at Mysuru (Karnataka), Berhampore (West Bengal) and Pampore (Jammu and Kashmir) deal with Mulberry sericulture, whereas Ranchi (Jharkhand) deals with Tasar culture and Lahdoigarh, Jorhat (Assam) deals with Muga, Eri and Oak tasar culture. Regional Sericulture Research Stations and the extension activities under these institutes have been functioning for the development of region specific technology package and dissemination of research findings as per regional needs. In order to provide Research and Development support in post cocoon sector, the Board has established Central Silk Technological Research Institute at Bengaluru. In addition, the CSB has also set up Silkworm Seed Technology Laboratory (for the research support for the seed sector) in Bengaluru (Karnataka), Central Sericultural Germplasm Resource Centre (focussing on conservation and utilization of Seri-biodiversity in the country) at Hosur (Tamil Nadu) and Seri Biotech Research Laboratory (for biotechnological research for the improvement of host plants and silkworm strains) at Bengaluru.

The key indicators of Research and Development during the year 2023-24, up to the end of **3rd Quarter** (December, 2023) are given below:

Sl.no	Key Indicators of R&D	No.of projects (upto December -2023)
1.	Projects concluded (Also includes projects of previous years (Nos.))	18
2.	New projects initiated (Nos.)	5
3.	Projects continued (Also includes projects of previous years)(Nos.)	87
a	Mulberry	44
b	Vanya	24
c	Post cocoon sector	7
d	Specialized sectors (Germplasm, Seed Technology and Biotechnology)	12

Out of on-going **87** projects, **17** are on basic research and **70** are on applied research.

Highlights of Research Programmes

(i) R&D on Mulberry Host Plant

- Optimized a suitable fertilizer dose @ NPK: 258:103:103g/tree/year +15kg FYM/plant/year for tree mulberry cultivation.
- Registered five mulberry varieties *viz.*, G-2, RC-1, AR-12, Sahana and MSG-2 were registered under (Protection of plant varieties and farmers right act,2001) PPV&FR Act 2001 [G-2 (REG/2021/0048), RC-1 (REG/2021/0051), AR-12 (REG/2021/0052), Sahana (REG/2021/0049) and MSG-2 (REG/2021/0050)] under PPV & FR Act, 2001. Characterized with 19 (Distinctness, uniformity & stability) DUS characters for 50 genotypes .
- Standardized protocol for studying chromosome number in shoot tip in mulberry. Ploidy variation *viz.*, diploids (2n=28), triploids (2n=42), tetraploids (2n=56), hexaploids (2n=84), decasoploids (2n=308) were observed. Out of 200 accessions, 183 are diploid, 7 are triploid, 6 are tetraploid, 3 are heaxaploid and 1 is decasoploids.
- Developed integrated root rot disease management practices by combining chemical, biological and cultural methods. The formulations of microbial consortia namely Mr. Pro (LF) Mr. Pro (SF) were developed for management of root rot, the above formulations will be commercialized for large scale production and marketing through NRDC.
- Laboratory tests revealed that three botanical insecticides (*name of the insecticides*) are found to be effective against defoliator and sucking pests of mulberry.
- Identified and shortlisted drought tolerant mulberry genotypes for rainfed hill farming system, the selected genotypes are under assessment for physio-biochemical parameters

R&D efforts have helped in improving the mulberry productivity from 50 MT/Ha/yr during 2005-06 to 65-67 MT/Ha/yr during 2023-24.

(ii) R&D on Mulberry Silkworm

- A total of 62,600 DFLs of BFC1xBFC10 double hybrid had been supplied across southern states for field evaluation.
- Chitosan conjugated nano particles (NPs) prepared and characterized. Toxicity evaluation of NPs in mice model were carried out.
- A total of 3,39,050 dfls of double hybrid TT21 x TT56 was evaluated in different agro-climatic regions of India. The test double hybrid has performed better than the existing hybrid.
- Developed new cross breeds of Nistari lines i.e. IN(P) x SK.6.7 and IN(M) x SK 6.7 with high productivity and superior silk filament.

- High humidity and high temperature tolerant breeds have been identified based on pupation rate, gene expression pattern of pyrexia and painless; and using MAS. Five pure lines SK7HH, B.Con4HH, N5HH, HTH10HH & WB1HH along with Two single hybrids (SK7HH X CSR2; WB1HHX X CSR2) and two Foundation crosses (SK7HH X CSR4; and WB1HHX X CSR4) have been developed with high survival (>68%) and shell % (~21%).
- Evaluated 16 hybrids during Autumn season and found autumn specific hybrid, ASH-14 superior with 71-74 kg/100DFLs yield.
- Identified three nutrigenic hybrids *viz.* CSR50 X Bcon1, CSR50 X Bcon4 and RSJ14 X Bcon1 that are suitable for spring and autumn season in sub tropical condition of NW India.
- Hybrid Authorization Committee (HAC) recommended 12Y x BFC1 crossbreed for commercial exploitation in E & NE region of India.
- Three new bivoltine foundation crosses *viz.*, NFC11(P) x NFC18(P), NFC19(D) x NFCR(D) and NFC18(M) x NFC12(M) were identified as potential male components based on the shell content (>19%) and survival (>85%) for improving crossbreed productivity in E&NE regions.
- Two Bivoltine Double Hybrids *viz.* BK17×BK9 & BK20×BK7 were developed with yield potential of 60-74kg/100 dfls and renditta of 6.8 to 7.5 for North Western India.
- Two elite bivoltine hybrids *viz.*, Hybrid-10 (BP2xLine-13) and Hybrid-12 (BP2xSO17) were shortlisted after completion of six trials of hybrid evaluations
- Developed *B. mori* bidensovirus BmBDV resistant FC1XFC2 (Double hybrid) through molecular marker assisted selection and the on station trials showed 3-10% increase in the yield compared to control at the 4 RSRs stations. Further, SK6xSK7 hybrid showed >90% survival for the BmBDV incidences under laboratory conditions at SBRL Kodathi.
- Bioassay data among 20 marker-identified BmBDV-tolerant accessions revealed highest pupal survival of 60.51% in APS-9 (BBI-0337) followed by 38.24 % in APS-8 (BBI-0336) and 34.73% in SK-6 (BBI-371).
- Whole genome re-sequencing (WGS) of four silkworm races *viz.* Pure Mysore (PM), CSR-2, SK-6 and Nistari were completed. Structural variation was studied with long read sequences (ONT) data.

R&D efforts have helped in improving the yield from 48 Kg/100 dfls during 2005-06 to 70 Kg/100 dfls during 2023-24.

(iii) R&D on Vanya Host Plant

- Identified 7 superior *Terminalia* hybrids with high leaf yield (6-7kg/Tree/crop)
- Eight wild (name) / cultivated perennial castor accessions growing in North East were collected for their utilization in the pre-breeding programme.
- Estimated biomass carbon sequestration potential of *T. arjuna* (28.6 t/ha) & *T. tomentosa* (23.9 t/ha) with 10ft X 6ft and 12ft X 12ft spacing respectively.

In the last 10 years, four Vanya (name) host plants have been identified and recommended for commercial exploitation

(iv) R&D on Vanya Silkworm

- Standardized package of practices for Eri chawki rearing (*Samia ricini* D) and designed model chawki rearing house. About 20% more yield (90kg/100 dfls) was observed compared to conventional with BC ratio of 1:1.50.
- Homozygosity achieved as per milestone for four distinct (name) morphotypes of eri silkworm races/breeds. Segregating population currently in G8 generation.
- Mass production protocol of *Cordyceps militaris* over tasar silkworm refuse, such as egg, pupa and adult moth tissues was standardized
- Characterized viral pathogen, AaCPV4 that causes virosis in muga silkworm. Developed disinfectant for prevention of virosis.
- A new method for detection of pebrine (*Nosema* sp. Aa1) using Artificial Intelligence and Machine learning models was developed.
- Prototype for collection and purification of sericin from cocoon cooking water developed.
- Satellite map of Sal flora in Mandla, Madhya Pradesh have been digitized for the survey and collection of Mandla ecorace. Metadata had been collected from, Baraf and Jata Daba ecoraces prevailing ecopockets.
- Developed fish feed (RESHMEEN) from tasar waste pupae in collaboration with ICAR-CIFRI, Barrackpore
- Standardized the rearing and grainage technologies of *Antheraea frithi* for commercial adoption for Manipur condition.
- Different eri silkworm ecoraces, strains and breeds suitable for varied agro-climatic conditions of Manipur were maintained. Comparative analysis has revealed that ecorace Borduar and C2 breed are better performing in low as well as high altitudes with fecundity above 400 eggs and ERR% > 87%
- Three species of Oak tasar silkworm *A. proylei*, *A. pernyi*, *A. frithi* and nine evolved breeds, three eco-races of eri and muga silkworm are being maintained in GPB at RSRS, Imphal

In the last 10 years, 6 Vanya silkworm breeds (Tasar-1, Muga-2, Eri-2, Oak tasar-1) have been developed, which are under field trials for commercial exploitation.

(v) R&D on Post Cocoon Technology

- Developed and characterized wrinkle resistant and high drape soft silk fabrics. The process is technically feasible and economically viable
- Studies (*in-vitro* and *in-vivo*) for toxicity assessment of Mulberry silk sericin using animal and cell line models were carried out. Developed sericin based bread, chicken sausage, cookies, jelly, soap, etc.
- Developed a protocol for computerized zari testing. 90 fine zari samples have been prepared as Standards to calibrate the XRF-ED equipment
- Detail studies have been made on the influence of using coarse denier yarns in the limited range (26/28, and its ply, 40/44d and its ply) in place of finer/existing denier (20/22d and its ply) yarns specially in weft on the fabric properties in respect of Soft silk, Taffetta and Crepe fabrics.
- Developed 3D woven silk Fabrics and identified their suitable applications
- Fabrics developed with Silk/linen blended yarns in weft and linen warp can be used very well as summer wear for men, women and childwear
- A new cocoon cooking formulation that can facilitate efficient and uniform cooking of muga cocoons was developed.
- Designed and fabricated the simplified and improved moutage set-up for muga cocoon production with improved uniformity and raw silk recovery

R&D efforts have helped in improving the Renditta from 8.2 during 2005-06 to 6.3 during 2023-24.

(vi) Technologies/Products/Process-Patents (applied/granted) & Commercialisation:

a. Patents applied

- Design and Development of an Automatic Kilcha (Skeing) machine (202341038530) - 05.06.2023 – CSTRI-Bengaluru
- Method for obtaining purified sericin protein from tasar cocoon cooking water (202331037751) - 01.06.2023 – CTRTI-Ranchi
- A process to mass produce *Cordyceps militaris* on vanya silkworm refuses (202331038944) - 07.06.2023 – CTRTI-Ranchi
- Cocoonase enzyme variant based cocoon processing to get value added tasar silk (202331039147) - 08.06.2023 – CTRTI-Ranchi

b. Patents granted

- Heating system for use in sericulture (433551) - 01.06.2023 – CSRTI-Mysuru
- Supporting stands for rearing silkworms [PVC stands for chawki] (440879) – 27.07.2023-CSRTI-Mysuru

- A novel slow volatile, broad-spectrum, user-friendly composition for disinfecting rearing house, rearing appliances and rearing environment (440850) –CSRTI- Berhampore
- Hot air drier for cocoons (438088) – 10.07.2023 – CSRTI- Berhampore
- The process for obtaining phyto-ecdysteroids from weeds of Amaranthaceae for the synchronized maturation of mulberry silkworm (440485) – CSRTI-Pampore & FRI-Dehradun

c. Commercialization

- Vijetha supplement powder (silkworm bed disinfectant) (Anil Industries)- 13.06.2023 – CSRTI-Mysuru
- Leaf Surface Microbes (LSM) –Tasar Rakshak (Biosafe Hygiene Private Limited)- 10.07.2023- CTR&TI-Ranchi
- Ankush (A new silkworm bed disinfectant) (Healthline Private Limited) – 10.10.2023 – CSRTI-Mysuru

(vii) Collaborative and externally funded R & D projects

- CSB R&D institutes, in addition to the multi-institutional collaboration (between CSB R&D institutes), are also collaborated with other research Institutes such as NESAC Shillong, ICAR (NBAIR Bengaluru, IHR Bengaluru), CSIR (CFTRI-Mysuru) and State Universities (University of North Bengal, Central University-Manipur, Vel Tech University-Chennai), Adichunchanagiri University-Mandya, PRADAN, NABARD, Real Silk Foundation-Surat, Kalyan Foundation-Sabarkanth etc. At present, 16 such projects are being carried out in collaboration with these institutes/ organizations
- International collaboration has also been undertaken by the CSB R&D institutes. At present, two research projects undergoing in collaboration with international institutes namely Tokyo University of Agri. & Technology-Japan, Yamaguchi University-Japan, Uzbek Research Institute-Uzbekistan
- In addition to the in-house funding, CSB R&D institutes also expedite financial assistance from national agencies *viz.*, DST, DBT, PPV&FR and NABARD etc. a total of **10** research projects with external funding are being carried out at various units of CSB.
- A total of **70** research fellows (SRF-4, JRF-30, PA-36) are working under on-going CSB coded projects (in-house & externally funded projects); revised research fellowship/remuneration (on par with DBT/DST/ICAR norms) to research fellows working under CSB institute.
- MOU has been made with research institutions in Bulgaria, Japan, China, and Australia for exchange of Genetic material to improve hybrid vigor of mulberry silkworm.

Transfer of Technology (TOT)

The technologies emanated out of the concluded projects are being effectively transferred to the field through various extension communication programmes (ECPs) *viz.*, Krishi Melas cum exhibitions, Farmers' Field Days, Awareness programme, Group Discussions, Enlightenment programmes/ Technology demonstrations, workshops/ seminar/ conference etc. During the year 2023-24 up-to end of **December 2023**, a total of **313** ECPs were organized under sericulture sector and various technologies developed by the CSB R&D institutes were transferred effectively among **17,640** stakeholders, covering pre & post cocoon sectors. A total of **74,023** lots of cocoons, raw silk, fabrics, dyes, water etc were tested for physical, chemical and eco-parameters.

Training

The R&D institutions of CSB spread across the country are intensively involved in training, skill seeding and skill enhancement on a sustainable basis, covering all activities of the silk value-chain pertaining to all the four silk sub-sectors. Capacity Building and Training initiatives of CSB have been structured under the following five heads:

- (i) Skill Training & Enterprise Development Programmes (STEP):** Under this category, variety of short-term training modules focusing on entrepreneurship development, in-house and industry resource development, specialized overseas training, popularization of sericulture technologies, lab to land technology demonstration programmes, training impact assessment surveys *etc.* have been planned. Some of the popular programmes under this component are Entrepreneurship Development Programme, Technology Up-gradation Programme, Resource Development Programme / Trainers Training Programme, Competency Enhancement Training Programme, Disciplinary Proceedings Training, Management Development Programme *etc.*
- (ii) Establishment of Sericulture Resource Centre (SRC):** SRCs are training cum facilitation centres established in selected Mulberry Bivoltine & Vanya clusters to act as an important link between Extension Centres of R&D labs and the beneficiaries. The purpose of these SRCs is technology demonstration, skill enhancement, and one-stop shop for Seri-inputs, doubt clarification and problem resolution at cluster level itself. As on date, 23 SRCs are functioning and three more are planned to be set up during the current financial year.
- (iii) Capacity Building & Training by R&D Institutes of CSB:** In addition to conducting structured long-term training programmes (Post Graduate Diploma in Sericulture & Intensive Sericulture Training), the R&D institutes of CSB conduct technology-based training for farmers and other stakeholders.
- (iv) Capacity Building in Seed Sector:** Silkworm seed is the most critical sector that drives the entire silk value chain. The quality of seed determines the quality of industry output. Therefore, addressing the capacity building and training needs of this sector is of paramount importance. It is proposed to conduct a variety of training programmes to cover industry stakeholders

viz., Pvt. Silkworm Seed Producers, Adopted Seed Rearers, Managers and work force attached to Govt. owned grainages.

Upto December, 2023 a total of 7383 persons were trained on various sericulture activities under the above programmes against the annual target of 12979 persons.

(v) SAMARTH: The textile and apparel industry is one of the earliest industries developed in India. In order to meet the skill gap in the industry, the Government of India launched the scheme “**Samarth**”- a “Scheme for Capacity Building in Textile Sector (SCBTS)”. The objectives of the scheme are to develop the skill in youth for gainful and sustainable employment in the textile sector, to provide demand driven, placement oriented NSQF compliant skilling programmes covering the entire value chain of textiles, to promote skilling and skill upgradation in the traditional sectors of handlooms, handicrafts, sericulture & jute, and to enable provision of sustainable livelihood either by wage or self-employment to all sections of the society across the country.

The Central Silk Board is one of the sectoral organizations under Ministry of Textiles carrying out multifaceted tasks such as physical verification of training centres, implementing partner for conducting the training across the country and also as a ToT agency in silk sector. Under the Samarth scheme, CSB has been nominated as one of the physical Verification Agencies and in this capacity and at the end of December, 2023 CSB has inspected a total of 1285 Training Centres allotted to CSB, to ascertain suitability for undertaking skill development programmes under Samarth. 373 batches of SAMARTH training has been completed with 8523 stakeholders.

The details of number of persons trained under the above said programmes organized by Research & Training Institutes of CSB during the years 2020-21, to 2023-24 is given below:

#	Training courses	No. of persons Trained							
		2020-21		2021-22		2022-23		2023-24 (upto Dec,2023)	
		Target	Achmt	Target	Achmt	Target	Achmt	Target	Achmt
1	Structured Courses (PGDS, Mulberry & Non-Mulb. Courses & Intensive sericulture training)	150	109	150	75	250	99	210	47
2	Farmers Skill Training, Technology Orientation Programmes, Capsule & Adhoc Courses and Exposure Visit and training in seed	6865	6454	6570	6196	6538	7827	7739	3895
3	Other Training Programmes	1490	1434	1030	1740	480	3267	1130	910

4	Skill Training & Enterprise Dev. Programme (STEP) – Resource Dev. Programme, MDP, EDP, Trainers training Prog., Competency Enhancement Programme, etc.	860	780	710	953	952	1003	850	390
5	Training under SRC	2500	3301	2650	3199	2900	2976	3050	2141
Total under Silk Samagra		13225	12804	11110	12163	11120	15172	12979	7383
6	SAMARTH		726		1369	8815	4227		8523*

*Cumulative achievement till respective quarter

I.T. Initiatives

- **mKisan:** CSB has widened the outreach of scientists and experts to disseminate information to provide scientific advisories to farmers through their mobile phones using mKisan Web Portal. All the main institutes are regularly providing advisories through this portal. Till 31.12.2023, total of 939 advisories and 56, 94,170 SMS messages were sent.
- **SMS service:** Day-to-day market rates of Silk and Cocoons are regularly sent through mobile phones for the use by the farmers and other stakeholders of the industry. Both PUSH and PULL SMS services are in operation. Mobile numbers received from DOS are updated and all the 14,112 registered farmers are receiving SMS messages on daily basis.
- **SILKS Portal:** Sericulture Information Linkages and Knowledge System portal has been developed in association with North Eastern Space Application Centre, Dept. of Space by capturing geographical images through satellite and used for analysis and selection of potential areas for promoting Sericulture activities in those areas. Multi lingual, multi district data are being updated regularly.
- **Video Conference:** CSB has full-fledged Video Conference facility at CSB Complex, Bangalore, CSR &TI, Mysore, Berhampore & Pampore, CTR&TI, Ranchi, CMER &TI, Lahdoigarh, RO, New Delhi and MESSO Guwahati. Till 31.12.2023, 753 multi-studio Video conferences and web based video conferences were conducted.
- **CSB website:** Central Silk Board has a website “csb.gov.in” in bi-lingual English and Hindi. Maximum information is disseminated through this portal for the benefit of common citizen, to access organization, schemes and other details. Publicity of sericulture plan programmes, achievements and sharing of success stories are featured in the website.
- **National Database for farmers and reelers:** Farmers and Reelers database has been designed and developed to help policy makers by providing appropriate information for effective decision making. As on 31.12.2023, a total number of 7,69,966 farmers and 15,584 reelers details have been recorded by the states in the database.

2. SEED ORGANIZATION

The CSB has a chain of Basic Seed Farms supplying basic seeds to the States. Its commercial seed production centres augment the efforts of the States in supplying commercial silkworm seed to farmers.

The Table below indicates the total quantity of seed production during the year 2021-22 to 2023-24 (up to December, 2023)

(Unit: Lakh DFSL)

Particulars	2021-22		2022-23		2023-24	
	Target	Achmnt.	Target	Achmnt.	Target	Achmnt. (up to December, 2023)
Mulberry	410.53	340.13	435.53	360.16	360.53	275.08
Tasar	51.40	47.46	46.23	35.95	33.44	28.21
Oak Tasar	0.14	0.053	0.1035	0.04	0.10	0.032
Muga	6.463	6.20	6.59	6.51	7.60	6.26
Eri	6.00	6.45	6.20	6.79	6.40	6.67
Total	474.53	400.29	494.65	409.45	408.07	316.252

IT initiatives under Seed sector:

- Registration of Seed Producers under the provision of Central Silk Board (Amendment) Act, 2006: CSB has developed a newer version of web- based online registration platform to facilitate application for new renewal of Registrations through www.csb.gov.in which eases the process of paperless submission of application.
- Similarly, in order to monitor the Seed Production Units and Chawki Rearing Centres and ascertain the quality standards as laid down by the Act are being maintained at by Regd. Producers a newer version of android- based mobile application has been launched by National Silkworm Seed Organization , Central Silk Board for real-time onsite inspection by seed analysts and seed officers. This enables quick submission of inspection reports to the Seed Act Cell, Central Silk Board.

3. COORDINATION AND MARKET DEVELOPMENT

Central Silk Board administration includes Board Secretariat, Regional Offices, Certification Centres and Raw Material Banks. The Board Secretariat of CSB monitors the implementation of various schemes and coordinates with Ministry and States in implementation of various projects in sericulture sector. Besides, Board secretariat undertakes activity to mobilize additional funds through convergence with the programmes/schemes of various Ministries of Govt. of India. Several National meetings, Board meetings & Review meetings and other high level meetings are being carried out by the Board Secretariat. The Raw Material Banks operate floor price to stabilize the market price of cocoons to ensure remunerative price to primary producers.

PRODUCT DESIGN, DEVELOPMENT AND DIVERSIFICATION (P3D)

The activities under P3D are to give special focus on fabric engineering, silk blends, designing new fabric structures, design and development of new products in silk and silk blends, product development in the clusters, commercialization of developed products, assisting the commercializing partners in providing backward linkage, technical know-how and assisting/coordinating in sample development.

Activities of P3D

- Revival of Traditional Silk Products
- Design development and diversification of products with blends
- Product development based on certain identified preferences and requirement in terms of both the design and end uses
- Generating market information, updating market data and forecasting fashion trends.
- Generic and Brand promotion of Indian Silks by organising theme pavilions and display of products in silk expos /exhibitions.
- Assist silk manufacturers and exporters in development of innovative designs and fabrics in tune with the market demand.
- Display of latest developments in silk products and ultimately to create a Centre of excellence for innovations in Indian Silks.

Products Developed:

1. Muga Satin fabric on power loom and Garments
2. Eri silk denim fabrics for Blazer and garments, Eri and Mulberry knits, Eri silk blanket and carpet & Eri silk thermal wear.
3. Tasar silk fabric on power looms for bridal dress.
4. Pure silk sarees and Fabrics in Chanderi cluster.
5. Kanchipuram sarees with Muga silk is designed for replacement of Zari.
6. Stain guard and Aroma treated sarees.
7. Silk life style products – Ladies purse, bags, socks, gloves, accessories.
8. Silk sarees /fabrics printed in Bagh (MP) cluster.
9. Products with traditional Lambani art work.
10. Mulberry x Eri sarees with Bomkai Design.
11. Mulberry saree with Nagaland tribal motif and Silk /linen, silk / cotton, silk / modal fabrics.

4. QUALITY CERTIFICATION SYSTEM, EXPORT BRAND PROMOTION & TECHNOLOGY UPGRADATION

One of the main objectives of the Quality Certification System is to initiate suitable measures towards strengthening quality assurance, quality assessment and quality certification. Under the scheme, two components viz. “Cocoon and Raw Silk Testing Units” and “Promotion of Silk Mark” are being implemented.

Besides, Central Silk Board is popularising “Silk Mark” to ensure the purity of silk products through the Silk Mark Organisation of India (SMOI). “Silk Mark”, an assurance label, protects the interest of the consumers from the traders selling artificial silk products in the name of pure silk. Support has been provided for establishment of 5 no’s of Raw Silk Testing Centres in north eastern region during the year 2023-24.

The progress achieved under the Silk Mark Scheme during 2021-22 to 2023-24 (Upto December, 2023) is given below:

Particulars	2021-22		2022-23		2023-24 (Upto December'23)	
	Target	Achmnt.	Target	Achmnt.	Target	Achmnt.
Total No. of new Members enrolled	200	360	275	399	350	346
Total No. of Silk Mark Labels sold (Lakh nos.)	20	30.42	27	40.27	34.0	26.56
Awareness Programmes/ Exhibition/ Fairs/ Workshop/ Road shows	300	497	600	808	700	638

Silk Mark Expos

In order to ensure that Silk Mark gains further credibility & popularity, Silk Mark Expos were organized exclusively for Silk Mark Authorized Users across the country.

- Guwahati Silk Mark Expo organised by SMOI, Guwahati Chapter from 6th to 10th octobe, 2023. Expo inaugurated by Smt.Nishitha Goswami, Film Personality. Totally 48 participants from several states participated in this Expo. Approximately 6000 people visited this Expo and the total business in this Expo was Rs.2.8 Crore.
- SMOI, NewDelhi and 05(Five) SMOI Members participated in “ DEEP UTSAV” exhibition organised by IAS officers Wife’s association at Moti Baugh, New Delhi on 29-10-2023.
- SMOI, New Delhi chapter participated in the Expo organised by DOS, UP at Lucnow from 3rd to 11th NOV.’2023. Chief Guest for this event was Sh. Rakesh Sachan, Honble Minister Khadi Gramyodyog and Textiles Industry, Govt. of UP and inaugurated the Expo. 16 SMOI members participated in this event and the total sale was 15.2 lakh.
- SMOI, New Delhi participated in the India International Trade Fair (IITF) at Pragati Maidan , New Delhi from 14 to 27 November,2023.

- SMOI, Varanasi chapter participated in the event 2nd UJJAWAL programme at Mathura, UP from 28th to 30th OCT.'2023. This event was inaugurated by Smt. Hemamalini, MP, Mathura, UP.
- SMOI, Mumbai chapter participated in the “One Bharat Sari Walkathon” event on 10-12-2023 and The Hon’ble Minister for Textiles, Shri. Piyush Goyal inaugurated the event.

5. FINANCIAL PROGRESS

The table below indicates year-wise financial performance of the Central Silk Board during the years 2021-22 to 2023-24 (upto September, 2023):

(Rs. in Crores)

BUDGET HEADS	2021-22		2022-23		2023-24	
	Allocation (Approved RE)	Exp.	Approved Outlay	Ex.	Approved Outlay	Exp. (upto December, 2023)
Administrative Expenditure	500.44	488.52	492.68	492.68	509.46	389.50
Scheme Outlay	374.56	365.55	382.32	382.32	365.54	237.62
Total	875.00	854.07	875.00	875.00	875.00	627.12

6. OTHER SCHEMES

A. CONVERGENCE EFFORTS:

CSB, Ministry of Textiles, GOI is extending support to the sericulture sector through implementation of Central Sector Scheme “Silk Samagra”. On the other hand, efforts are being made for sourcing funds for developmental activities from the schemes viz., RKVY, MGNREGA & other state and central schemes with the collaboration of line Ministers/Departments including Ministry of Rural Development (MoRD), Ministry of Agriculture and Farmers welfare and Ministry of Environment Forestry and Climate Change, to support plantation and infrastructure creation, both for pre & post cocoon activities up to yarn production and extension for horizontal expansion of silk industry in the country.

During the year 2022-23, under convergence programme states have submitted 172 projects, of which 149 projects worth Rs.846.97 Crores were sanctioned and Rs.485.73 Crores of funds were released to the state for sericulture sector.

Further, during 2023-24, 16 projects worth Rs.60.30 Crore were sanctioned and Rs.32.09 Crores released to support sericulture activities upto December 2023 (data received from states).

B. SCHEDULED CASTE SUB-PLAN (SCSP)

During 2023-24, funds of Rs. 25.00 Crores have been allocated to the states towards implementation of beneficiary oriented components under Scheduled Caste Sub-Plan (SCSP) of Silk Samagra-2 Scheme. Upto December, 2023, Rs.14.38 Crores have been released to Karnataka, Tamil Nadu & Maharashtra state for implementation of beneficiary oriented components.

C. TRIBAL SUB-PLAN (TSP) & North East Tribal (NET)

During 2023-24, funds of Rs. 15.00 crores and Rs. 20.00 crores have been allocated to the states towards implementation of beneficiary oriented components under Tribal Sub-Plan (TSP) North East Tribal (NET), respectively. Upto December 2023 Rs.10.18 crores have been released to Karnataka, Tamil Nadu & Maharashtra state under (TSP) and Rs. 20.00 crores have been released to Nagaland & Arunachal Pradesh state under (NET) for implementation of beneficiary oriented components under the scheme Silk Samagra-2.

D. SERICULTURE DEVELOPMENT IN NORTH-EASTERN STATES (NERTPS)

North East being a non-traditional area for Sericulture, Govt. of India has given special emphasis for consolidation and expansion of Sericulture in all the North Eastern states with critical interventions at every stage of production chain from host plantation development to finished products with value addition. As a part of this, under NERTPS-an Umbrella scheme of Ministry of Textiles, the Govt. of India had implemented 38 Sericulture projects in the identified potential districts of all North Eastern states under four broad categories *viz.*, Integrated Sericulture Development Project (ISDP), Intensive Bi-voltine Sericulture Development Project (IBSDP), Eri Spun Silk Mills and Aspirational Districts.

As per the directives of Department of Expenditure, Govt. of India, Ministry of Textiles, has directed Central Silk Board to subsume the NERTPS scheme in Silk Samagra-2 scheme and continue the project based sericulture activities in North Eastern States in line with the NERTPS with necessary budgetary provision under NE Budget head of Ministry.

POLICY INITIATIVES

1. Customs Duty on imports: The basic customs duty on raw silk was enhanced from the level of **10% to 15%** on 1st Feb-2021. The basic customs duty on silk fabric is maintained at 20 %.

PERFORMANCE OF SERICULTURE SECTOR

Particulars	2020-21 Achmnt.	2021-22 Achmnt.	2022-23 Achmnt.	2023-24	
				Target	Achmnt. (April to November)
Mulberry Plantation (Lakh ha.)	2.38	2.42	2.53	2.69	2.65
Raw Silk Production (MT)					
Mulberry (Bivoltine)	6783	7941	8904	10200	6248
Mulberry (Cross breed)	17113	17877	18750	20550	13737
Sub Total (Mulberry)	23896	25818	27654	30750	19985
Tasar	2689	1466	1318	3200	950
Eri	6946	7364	7349	8240	6007
Muga	239	255	261	310	219
Sub Total (Vanya)	9874	9085	8928	11750	7176
GRAND TOTAL	33770	34903	36582	42500	27161

Source: Compiled at CSB from the data received from DOSs.

Raw Silk Production during 2022-23

The total raw silk production in the country was 36,582 MT during 2022-23 which is 4.8% higher than the production achieved during 2021-22 (34,903 MT) and around 89.7% of the annual targeted production for the year 2022-23.

The bivoltine raw silk production increased substantially by 12.1% from 7,941 MT during 2021-22 to 8,904 MT during 2022-23. Further, vanya silk, which includes Tasar, Eri and Muga silks, have reduced by 1.7% during 2022-23 over 2021-22. It is mainly due to reduction in the tasar silk production during 2022-23 compared to last year.

The area under mulberry has increased by 4.5% in 2022-23 compared to previous year. The state-wise productions of raw silk during 2020-21 to 2023-24 (up to November, 2023) are given in **Annexure- I**.

Raw Silk Imports:

The quantity and value of raw silk imported during 2019-20 to 2022-23 and 2023-24 (till November, 2023) are given below:

Year	Quantity (MT)	Value (Rs. in Crores)
2019-20	3315	1149.32
2020-21	1804	570.56
2021-22	1978	819.68
2022-23	3874	1713.68
2023-24 (Apr-November) (P)	1952	917.43
2022-23(Apr- November)	2962	1299.46

Source: Compiled from the statistics of DGCIS, Kolkata ; P : Provisional

Exports:

Export values of silk goods during 2019-20 to 2022-23 and 2023-24 (till November, 2023) are given below:

Item	(Rs. in Crores)					
	2019-20	2020-21	2021-22	2022-23	2022-23 (April-Nov)	2023-24 (April-Nov) (P)
Natural Silk Yarn	16.77	29.37	52.62	38.74	29.45	29.10
Silk Fabrics and made-ups	982.91	729.50	837.41	973.49	402.61	377.33
Readymade Garments	504.23	449.56	671.13	489.61	518.48	474.54
Silk Carpet	143.43	107.56	79.12	92.34	248.63	246.65
Silk Waste	98.31	150.61	208.67	179.19	214.10	118.28
Total	1745.65	1466.60	1848.96	1773.38	1413.27	1245.90

Source: Compiled from the statistics of DGCIS, Kolkata; P : Provisional

Employment Generation:

The employment generation in silk industry in the country is 9.2 million persons in 2022-23 compared to 8.8 million persons in 2021-22, indicating an increase of 4.5%.

State-Wise Raw Silk Production during 2020-21 to 2023-24 (up to November , 2023)

#	State	2020-21		2021-22		2022-23		(in MT) 2023-24 (up to November, 2023)(P)	
		Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.
1	Karnataka	12600	11292	12500	11191	12750	11823	13000	8213
2	Andhra Pradesh	8208	8422	9305	8834	9530	9312	10009	7305
3	Telangana	310	309	337	404	362	462	540	242
4	Tamil Nadu	2300	1834	2400	2373	2600	2589	2850	1686
5	Kerala	17	7	10	9	13	11	20	4
6	Maharashtra	475	428	560	523	620	620	660	443
7	Uttar Pradesh	354	316	395	355	430	373	470	188
8	Madhya Pradesh	80	47	74	33	85	22	85	7
9	Chhattisgarh	535	300	561	224	562	223	664	109
10	West Bengal	2520	872	1630	1632	1776	1966	2330	1558
11	Bihar	58	64	96	56	105	48	70	10
12	Jharkhand	2904	2185	2902	1052	2902	874	2255	780
13	Odisha	160	102	185	108	190	130	154	16
14	Jammu & Kashmir	142	80	150	99	150	100	165	115
15	Himachal Pradesh	45	20	40	28	40	31	60	25
16	Uttarakhand	25	25	42	42	46	41	53	
17	Haryana	1	1	1	0.75	2	0.3	2	0.9
18	Punjab	4.5	1	2	3.5	7	4	7	4
19	Assam	5519	5462	5855	5700	6063	5721	6245	4796
20	Ar. Pradesh	67	43	59	53	60	61	75	54
21	Manipur	542	327	530	462	557	454	711	58
22	Meghalaya	1245	1213	1367	1234	1372	1168	1375	1013
23	Mizoram	113	43	59	59	95	84	110	74
24	Nagaland	649	264	311	315	341	350	422	377
25	Sikkim	2	0.08	5	0.03	2	0.4	2	
26	Tripura	125	112	125	113	140	115	165	83
Total		39000	33770	39500	34903	40800	36582	42500	27161

Note: P: Provisional