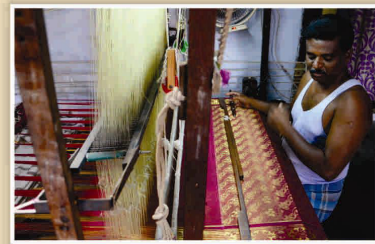


वार्षिक प्रतिवेदन Annual Report 2013-2014



केंद्रीय रेशम बोर्ड
वस्त्र मंत्रालय-भारत सरकार



CENTRAL SILK BOARD
Ministry of Textiles-Govt. of India

वार्षिक प्रतिवेदन
Annual Report
2013-14



केन्द्रीय रेशम बोर्ड

वस्त्र मंत्रालय - भारत सरकार
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बेंगलूरु - 560 068, भारत

CENTRAL SILK BOARD

Ministry of Textiles - Govt. of India
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Bangalore - 560 068, INDIA

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**HIGHLIGHTS
OF
ACTIVITIES**

- **Introduction**

The Central Silk Board (CSB) is a statutory Organization created by an Act of Parliament viz., CSB Act 1948 functioning under the Ministry of Textiles, Govt. of India. The Board has been assigned the responsibility for the overall development of silk industry in the country, besides advising Govt. of India in the matters related to the silk industry. The various developmental programmes and inter-related supportive programmes as well as R&D schemes are being implemented by Central Silk Board throughout the country. Board is also directly responsible for organising sericultural research, training of sericulture personnel, basic seed production, monitoring of prices and impact of imports and exports, standardization and quality control measures etc.

The mandates of CSB are being carried out and continued by the research units and service centers located in different states under 3 Central Sector Schemes. Basically, Central Sector Schemes comprises of three major Schemes viz., (a) Research and Development, Training, Transfer of Technology and IT Initiatives (b) Seed Organization, Coordination and Market Development (HRD) and (c) Quality Certification System during XII Plan under Plan programmes of Central Silk Board. Most of the R&D institutions are actively engaged in developing (i) new technologies (ii) Breeds of silkworm (iii) varieties of host plants and (iv) innovations on existing tools and techniques to increase the silk productivity in India. The Govt. of India has approved a new scheme on Export Promotion/Brand Promotion of Indian Silk for implementation during XII Plan by Central Silk Board and Indian Silk Export Promotion Council (ISEPC).

Central Silk Board has been implementing a Centrally Sponsored Scheme viz., “Catalytic Development Programme (CDP)” during XII Plan in collaboration with various State Sericulture Departments and other implementing agencies like

NGOs & SHGs etc., for the overall development of sericulture industry in the country and for the welfare of the people involved in the silk industry. The CDP is a unique and effective tool for transfer of technologies in the field evolved by the Research Institutes. During XII Plan the core objective of the Catalytic Development Programme is to scale up production particularly, of quality bivoltine and improved cross breed silk cocoons in the country through cluster approach. The CDP has been redesigned to meet the sectoral requirements and to ensure that the sector grows at a healthy pace.

- **Achievements in Research and Development**

Central Silk Board has established 3 major Research Institutes for mulberry at Mysore (Karnataka), Berhampore (West Bengal) and Pampore (Jammu & Kashmir). The Institute at Ranchi (Jharkhand) deals with tasar, whereas, the Institute at Lahdoigarh (Assam) is looking after research and development related to muga and eri cultures. Post-cocoon R&D activities are carried out by Central Silk Technological Research Institute (CSTRI), Bangalore. The Silkworm Seed Technology Laboratory (SSTL), Bangalore (Karnataka), is engaged in research on issues relating to seed production. While the Central Sericultural Germplasm Resource Centre (CSGRC), Hosur (Tamil Nadu) has the responsibility of maintaining sericulture Germplasm, the Seri-Biotech Research Laboratory (SBRL), Bangalore, attends to R&D in frontier areas like molecular characterization of silkworm races and mulberry varieties. During 2013-14, 102 research projects are continued, 23 new research projects are initiated and as per target 42 research projects were concluded.

Mulberry sector

Mulberry sericulture is the most popular and technically equipped as a viable enterprise and contributes to 79% of total raw silk production. Three categories of mulberry silkworm are reared

in the country viz., Bivoltine which produces high quality silk of import substitute 3A grade, Improved Cross Breed (ICB) capable of producing gradable silk for consumption in power looms and Cross Breed/Multivoltine, which are much hardy and easier to rear and adopted to fluctuations in the environmental conditions. From the already available plantation and by providing supporting infrastructure for the new plantation, the production of mulberry silk is targeted to reach 23,000 MT by the end of XII Plan.

Mulberry improvement

A core sub-set of 150 mulberry germplasm accessions with maximum genetic diversity was identified from 300 diverse germplasm through SSR markers analysis and morphological traits. Thirteen accessions viz., *Philippines*, *Cyprus*, *M.rotundiloba*, *Kolitha-3*, *Kolitha-8*, *Tollygunge-A*, *Mysore local*, *C-1726*, *C-741*, *C1540*, *S-1622* and *S1618* were identified with early sprouting and late senescence. Out of 10 germplasm bank accessions analyzed for biochemical parameters, *Koksu-27* showed higher protein content and *Limoncina* showed higher carbohydrate content. A talc based bioformulation of endophytic bacteria were developed to control/suppress the root rot disease caused by *Rhizoctonia bataticola* in mulberry. A few transgressive progenies of S-1 x Vietnam cross was identified with better resistance to Powdery Mildew and leaf yield potential higher than S-1. Multilocation trials on newly evolved mulberry selections have revealed that selection S-140 performed better than the other selections and the control Goshorami, the ruling mulberry genotype in Kashmir in terms of leaf yield, rooting ability, early sprouting and frost tolerance.

Under TOT, application of fertilizer to scattered mulberry trees increased the leaf yield upto 14.71% as compared to the control. *Trichoderma roseum* & *T. parceramosum* Bisset were identified to use against mulberry diseases. *Scymnus pallidicollis* is reported as the native predator of mealy bug for the first time.

Micro plot technique was found as suitable method for evaluation of stress tolerance in mulberry. Low leaf necrosis and Na⁺K ratio for salinity tolerance and chlorophyll stability for alkalinity tolerance were found important parameters to screen mulberry germplasm. Thirty four new mulberry germplasm stocks were introduced during the year.

Silkworm improvement

The double hybrid, Krishnaraja showed an improvement of 19.97% and 5.27% in cocoon yield over the controls, CSR2 x CSR4 and PM x CSR2 respectively under popularization trials. A rearing package for L14 breed and L14 x CSR2 hybrid was developed for the benefit of the seed rearers as well as commercial hybrid rearers.

The Multi x Bi hybrids, N x (SK6 x SK7) and M6DPC x SK4C got authorized for commercialization. Three hybrids namely, Gen3 x Dun22, Gen3 x D6(P) N and Gen3 x SK6 were identified as suitable for highly fluctuating and varied climatic conditions of the region.

Among the new silkworm hybrids evaluated, SOH1 yielded 70 kg cocoons/100 dfls under sub-optimal rearing conditions. 12 Silkworm hybrids evaluated for high pupation rate, the hybrid BPH-1 showed 91-93% pupation rate.

Vanya sericulture

The Vanya silk production has increased significantly reaching up to 7004 MT which includes tasar 2619 MT, eri 4237 MT and muga 148 MT. The increase in production can be attributed to the research and development support extended to the stakeholders.

Host plant improvement

➤ Fifteen cross combinations were made between selected *T. arjuna* and *T. tomentosa* accessions for development of quantitatively and qualitatively superior hybrids. The lines, thus developed are under evaluation. The calendars on incidence of Tasar Host Plant

Pests & Silkworm Parasites & Predators of Tropical Tasar culture have been developed.

- Ten accessions of kesseru, *Ailanthus excelsa* and *A. grandis* were collected, characterized and added into germplasm bank. Chemoassay of different kesseru genotypes revealed high content of carbohydrate, soluble protein, soluble sugar, crude fibre, phenol and tannin. The bioassay revealed highest cocoon (3.20g) and shell weight (0.40 g).
- Soil samples from different wild castor growing localities and isolated eight *Azospirillum sp.*, fourteen *Azotobacter sp.*, fifteen phosphate solubilizing bacteria (PSB) and eight *Pseudomonas sp.* were analyzed. These microbes could be used as biofertilizers.

Silkworm improvement

- Three breeding groups of Daba ecorace have been developed with fecundity range of 241-260, 261-280 and 281-300, respectively.
- High levels of phenolics, tannin and oxidants in Sal leaves coupled with low digestive enzyme activity in silkworms can be attributed to the low productivity of Laria ecorace on Sal.
- Twelve ecoraces of tropical tasar and one ecorace of oak tasar silkworm were maintained at the Institute and RTRS Imphal, respectively for characterization and further studies.
- Breeding for induction of tolerance in commercially exploited eco-races of Daba BV and Daba TV to AmCPV indicated achievement of 12.5% tolerance at the end of 4th generation.
- For early detection of pebrine and CPV infection in tasar silkworms, Phenoloxidase and Acid Phosphatase based marker system has been developed.
- Suitable technology has been developed for preservation of muga silkworm eggs without

affecting the hatching and rearing performance.

- Utilizing the eight wild muga silkworm breeds maintained at the institute, new breeds were developed which showed high fecundity, hatching, survivability, cocoon yield, cocoon weight, shell weight, over that of control. The new breeds are under experimental trial.
- 417 insect specimens were collected from muga ecosystem of Assam, Bodo Territorial Council (BTC), Nagaland, Meghalaya and Manipur and preserved for identification and documentation.
- 30 nos. of gut-microflora isolated from muga silkworm larvae from different muga potential areas of Assam and Meghalaya were subjected to biochemical and molecular analysis.

Patent/commercialized

Patent applications were filed with National Research Development Corporation (NRDC), New Delhi for the following technologies:

- i) cocoon harvester; ii) seri room heater; iii) chawki dusting machine; iv) PVC chawki stands; v) water jetting system and also processes for; vi) using spent moths, and vii) Culturing *Cordyceps*. Further, cocoon harvester and seri room heater were commercialized through private entrepreneur.
- Sericilin, a silkworm bed disinfectant was filed for patenting and also commercialized.
- Patents were filed for CSTR I Eco Degumming Machine and protocol for degumming silk hank under the pressurized conditions are under process.

Post-cocoon Technology

Prototype of a new reeling machine has been developed and evaluated in Champa (Chhattisgarh), Kurva, Dumka (Jharkhand) and

Mahadevpur (AP). The machine produced promising results in terms of improvement in reeling performance and output (275-300 g silk per day).

- Fabricated a low cost 8-end multiend reeling machine suitable for both tasar and muga cocoon reeling. Developed 4-end reeling machine package and recommended for tasar and muga sector.
- A technique for applying the sizing on tasar yarn has been developed through a prototype machine and dissemination of technology is under progress.
- To utilize the pupae by-product, hot-air dryer and pupa separation machine was fabricated and commissioned on experimental basis. Drying parameters for pupae have been standardized.
- The following products/fabrics were developed viz., Mill matka x Mill matka, Sherwani fabric (tasar x muga spun), Silk noil yarn carpet, Men's T-shirt (Eri knits) with & without collar, Ladies top (eri knits - pure eri), Ladies top (eri + cotton knits), Sericin powder, Chemically texturised mulberry silk fabric, Tasar shawl with balkal yarn and natural dyed eri denim (bio polishing, bouncy finish, stone wash & sand wash).
- A concept of 10-end Automatic Silk Reeling Machine was developed by CSTRI, Bangalore with the assistance of JICA experts in one of the private CSTRI authorized reeling machinery manufacturing unit.
- MoUs signed by CSTRI, Bangalore during 2013-14 with the following Organizations:
 - Central Coir Research Institute, Coir Board, Kalavoor, Alappuzha, Kerala with the objective of "Development of Silk-Coir Union Blended Fabrics and Products" (Oct 2013)
 - NIFT-TEA Knitwear Fashion Institute (NIFT-TEA-KFI) with the objective of

establishing a "Centre for Research and Development" to facilitate development of silk knitted products both in mulberry and *vanya* silks (Dec 2013)

Seed Organization

The seed organizations of CSB under mulberry and *Vanya* have effectively contributed in supplying quality basic seed to States and other agencies for multiplication resulting into reaching the silk production to the level of 26480 MT during 2013-14 from 23060 MT of XI Five Year Plan, which is a remarkable achievement. The target set for raw silk production during XII Five Year Plan is 32000 MT of which, mulberry silk is 23000 MT and *Vanya* silk, 9000 MT.

Mulberry seed

During 2013-14, National Silkworm Seed Organization (NSSO) produced 338.57 lakh dfls against the target of 325 lakh, despite the severe drought in large parts of the country. This is the third year on the trot, the production level crossed the 3 crore mark.

Basic Tasar Silkworm Seed Organization (BTSSO) is responsible for organizing the systematic seed production and supply of Tropical Tasar, functioning at Bilaspur, Chhattisgarh with its wings of 21 Basic Seed Multiplication & Training Centres (BSM&TCs) for Tropical Tasar functioning in different States and a Central Tasar Silkworm Seed Station (CTSSS) at Kota in Chhattisgarh. The Central Tasar Silkworm Seed Station (CTSSS) is responsible for production and distribution of tasar nucleus seed to BSMTCs for further multiplication besides maintaining germplasm of different silkworm races. CTSSS Kota has produced and supplied 29185 tasar nucleus dfls during the year. There is a gradual improvement in performance of these 21 BSM&TCs located in 9 states that has produced 37.89 lakh dfls during the year 2013-14.

Oak tasar: The cumulative production by two RTRSSs, one Oak Tasar grainage, three RECs and two REC-cum-BSMTCs located in 6 states in Oak Tasar seed production was 0.55 lakh dfls during the year.

Muga Silkworm Seed Organization (MSSO)

The cumulative performance of Muga Basic Seed Stations during the year 2013-14 was 3.44 lakh muga dfls. Besides, one muga SSPC located at Kaliabari (Boko) in Assam has produced 1.56 lakh muga dfls.

Eri Silkworm Seed Organization (ESSO)

ESSO located at Guwahati, Assam performed well with its single eri SSPC in North-East region and four eri SSPCs in non-traditional states producing 3.61 lakh eri dfls during 2013-14 for distribution to different state departments.

Policy intervention

Initiatives taken for the development of silk industry

As a result of action initiated by the Central Silk Board to protect the interest of the domestic silk industry, the Govt. of India had taken the Policy Decisions as detailed below:

(a) Anti-dumping Duty on raw silk and silk fabric

The Govt. of India had imposed anti-dumping duty on import of raw silk and fabric from China. As a result, a reference price of US \$ 37.32 per kg fixed for import of raw silk of 2A grade and below was in force till January 2014. Action has been initiated to file a case with the DGID for imposing anti-dumping duty on import of raw silk from China for another term of 5 years. Similarly, a reference price of US \$ 2.08 to 7.59 per metre fixed for import of silk fabric weighing from 20-100 g/m shall be in force till December 2016. The imposition of anti-dumping duty on import of raw silk and fabric resulted in significant growth of the sericulture sector.

(b) Customs Duty on import of raw silk

During the Budget announcement of 2013-14, the basic customs duty on import of raw silk was enhanced from 5% to 15% and the same was notified vide Customs Notification No.12/2013-

Customs dated 01-03-2013. The enforcement of duty on import of raw silk resulted in significant growth of the sericulture sector.

- **Parliament related matters**

Replies furnished to parliament questions

During the year 2013-14, CSB had furnished reply material for 72 Parliamentary Questions that were related to MoT, as per the break-up given below:

House of the Parliament	Budget session April 2013	Monsoon session Aug -2013 - Sept-2013	Winter session Nov.2013 - Feb.2014	Total
Lok Sabha	13	20	16	49
Rajya Sabha	4	2	17	23
Total	17	22	33	72

Parliamentary committee meetings

The Parliamentary Committee on Welfare of SCs/STs under the Chairmanship of Shri Gobinda Chanda, MP (Lok Sabha) and other members of the said Committee had visited Central Sericultural Research & Training Institute, Mysore on 28th October 2013 and held an interaction meeting with CSB and other representatives of MoT. Discussions were held on welfare measures taken by CSB for SC/ST employees of CSB. Actions taken by CSB to implement the development schemes for SC/STs were also reviewed by the Committee during the meeting.

- **Right to Information Act, 2005**

Under the RTI Act, 2005 the designated 40 Central Public Information Officers and 215 Assistant Public Information Officers at headquarters and field units, respectively provide sericulture related information to the public. CSB has uploaded & published 17 manuals/reports in the CSB website: www.csb.gov.in as per the provisions of the Act.

Under RTI, CSB has received 180 applications seeking information, of which 13 applications were pending for disposal as on 31st

March, 2014. To ensure proper implementation of the RTI Act, 2005 CSB has trained 26 nos. of CPIOs/APIOs during the year 2013-14. The information cell is also integrated to Kisan Call Centre (Toll Free Number 1551).

- **Official Language**

Apart from ensuring full compliance of Section-3(3) of the Official Language Act, 1963, letters received in Hindi were replied to in Hindi and bilingual only under Rule-5 of Official Language Rules, 1976. Targets fixed for original correspondence, fax etc., in the Annual Programme 2013-14 were also achieved. One

hundred and six offices including Board Secretariat have so far been notified under Rule 10(4) of Official Language Rules, 1976 and Order/Memorandum were issued for attending work in Hindi under Rule 8(4) of Official Language Rules, 1976.

- **Video Conference facility**

Video Conferencing facility established at Central Office, CSB is being used extensively to conduct meetings, reviews etc., covering the entire country. CSB units are in the process of establishing VC studios for effective communication and review.

**FUNCTIONS
AND
ORGANIZATIONAL SET-UP**

• **Functions of the Board**

The Central Silk Board coordinates and assists in:

- Promotion of development of Silk Industry by such measures as it thinks fit.
- Undertaking, assisting and encouraging scientific, technological and economic research.
- Devising means for improved methods of mulberry cultivation, silkworm rearing, developing and distribution of healthy silkworm seeds, improved methods of silk reeling and spinning of the cocoons and silk-waste, improving the quality and production of raw silk, if necessary, by making it compulsory for all raw silk to be marketed only after the same has been tested and graded in properly equipped raw Silk Testing

and Conditioning Houses.

- Improving the marketing of raw silk.
- Advising the Central Government on all matters relating to the development of silk industry including import and export of raw silk.
- Collection of sericulture statistics.
- Preparation of other reports related to silk industry for Ministry of Textiles, Government of India.

• **Constitution of the Board**

Central Silk Board is constituted by 39 members appointed as per the powers and provisions conferred by Sub-Section 3 of Section 4 of the CSB Act 1948, for a period of 3 years. The table below indicates the details of new members appointed during the period under report.

Sl. No.	Name of the designation of nominated Member	Period of Nomination	Notification details
1	The Joint Secretary (Silk), Ministry of Textiles, Govt. of India	07.05.2013 to 06.05.2016	25012/56/99-Silk dtd.07.05.2013 under section 4(3)(b)
2	The Director, Directorate of Sericulture, Govt. of Maharashtra	07.05.2013 to 06.05.2016	25012/56/99-Silk dtd.07.05.2013 under section 4(3)(l)
3	The Director, Directorate of Sericulture, Govt. of Nagaland	07.05.2013 to 06.05.2016	25012/56/99-Silk dtd.07.05.2013 under section 4(3)(l)
4	Director, Directorate of Sericulture, Govt. of Uttarakhand	07.05.2013 to 06.05.2016	25012/56/99-Silk dtd.07.05.2013 under section 4(3)(g)
5	Spl. Secretary - cum - Director, Handloom, Sericulture & Weaving, Department of Industries, Govt. of Jharkhand	07.05.2013 to 06.05.2016	25012/56/99-Silk dtd.07.05.2013 under section 4(3)(g)
6	Principal Secretary, Rural Industries Department, Govt. of Chhattisgarh	24.06.2013 to 23.04.2016	25012/56/99-Silk dtd.24.06.2013 under section 4(3)(g)
7	Shri Humayun Kabir, Murshidabad, West Bengal	01.08.2013 to 31.07.2016	25012/56/99-Silk dtd.01.08.2013 under section 4(3)(f)
8	Shri Azad Kumar Chalasani, Hyderabad	12.09.2013 to 11.09.2016	25012/56/99-Silk dtd.12.09.2013 under section 4(3)(i)
9	Shri N. Ramesh, Chikkaballapur Dist, Karnataka	12.09.2013 to 11.09.2016	25012/56/99-Silk dtd.12.09.2013 under section 4(3)(i)
10	Shri R.K.Rama Krisnappa, Chikkaballapur, Karnataka	05.09.2013 to 04.09.2016	25012/56/99-Silk dtd.05.09.2013 under section 4(3)(i)
11	Shri M.P.Lakshmikanth, Vijayanagar, Bangalore	05.09.2013 to 04.09.2016	25012/56/99-Silk dtd.05.09.2013 under section 4(3)(i)
12	Shri Pitchikala Lakshmi Narayana, West Godavari, Andhra Pradesh	17.10.2013 to 16.10.2016	25012/56/99-Silk dtd.17.10.2013 under section 4(3)(j)
13	Shri Abdul Gani Vakil, Srinagar, Jammu & Kashmir	26.09.2013 to 25.09.2016	25012/56/99-Silk dtd.26.09.2013 under section 4(3)(j)
14	Shri B.C.Umesh Babu, Anekal Taluk, Bengaluru	18.09.2013 to 17.09.2016	25012/56/99-Silk dtd.18.09.2013 under section 4(3)(j)
15	Shri R.H.Jairam Reddy, V. Kota Mandal, Chittoor, A.P.	27.09.2013 to 26.09.2016	25012/56/99-Silk dtd.27.09.2013 under section 4(3)(j)

A list of Members of the Board as on 31.03.2014 under different sections is enclosed at **Annexure-I**.

Changes in senior level officers

Central Silk Board has filled the vacancies at the level of Directors of Research Institutes, as a part of its administrative and financial responsibility for smooth running of the sericulture development works. During the period under report, the following Directors have taken over the charge:

- Dr. S. Nirmal Kumar has taken over the charge of Director, Central Sericultural Research & Training Institute, Berhampore on 22-04-2013.
- Dr. C. Jai Shankar has taken over the charge of Director, Basic Tasar Silkworm Seed Organization, Bilaspur on 22-04-2013. He has also taken additional charge of Central Tasar Research & Training Institute, Ranchi on 18-07-2013.
- Dr. B. B. Bindroo has taken over the charge of Director, Central Sericultural Research & Training Institute, Mysore on 25-04-2013.

- Dr. B.S. Angadi has taken over the charge of Director, National Silkworm Seed Organization, Bangalore on 08-07-2013.
- Dr. V. Sivaprasad has taken over the charge of Director, Seri-biotech Research Laboratory, Bangalore on 09-07-2013. He has also taken additional charge of Central Sericultural Germplasm Resources Centre, Hosur on 05-09-2013.
- Shri R. Sathish Kumar, IOFS (1996) has assumed the charge of the post of Director (Finance), Central Silk Board, Bangalore on 04-10-2013.
- Shri M. K. Ghosh, Scientist-D has taken over the charge of Central Silk Technological Research Institute, Bangalore as Director In-charge on 05-03-2014.

- **Meetings of the Board and Standing Committee**

During 2013-14, two Standing Committee Meetings were convened on 12-11-2013 & 26-02-2014 and one Board Meeting on 12-11-2013.



MAJOR PLAN PROGRAMMES OF CSB

R&D/Transfer of Technology

• Introduction

The appropriate scientific and technological support extended by the Research and Development Institutes of Central Silk Board has helped in enhancing the quality of silk production (in both mulberry and vanya sectors), raising the economic benefit of the weaker sections, promoting and preserving the cultural heritage of silk industry. The remarkable growth recorded in quality bivoltine silk production marks as an evidence of the contributions made by the Research and Development efforts of CSB institutions through Cluster Promotion Programme (CPP). This also helped in significant reduction in our dependence on import of silk.

The major institutes engaged in research and development of mulberry sector are Central Sericultural Research & Training Institutes at Mysore (Karnataka), Berhampore (West Bengal) and Pampore (Jammu & Kashmir), while Central Tasar Research & Training Institute at Ranchi (Jharkhand) and Central Muga Eri Research & Training Institute, Lahdoigarh (Assam) cater to the scientific and technical needs of the *Vanya* sector. Further, Silkworm Seed Testing Laboratory at Kodathi (Karnataka) provides technical support to the seed sector of both mulberry and *Vanya* and Seribiotech Research Laboratory at Bangalore (Karnataka) assists in biotechnology research. The Central Sericultural Germplasm Resource Centre, Hosur, Tamil Nadu maintains and provides genetic resources of mulberry silkworm and its host plants. The Central Silk Technological Research Institute, Bangalore fulfills the R&D requirements of the post-cocoon sector. The research endeavours are enumerated hereunder:

Mulberry Sector

• Central Sericultural Research & Training Institute (CSR&TI), Mysore (Karnataka)

During the year, the crop improvement, production and protection of mulberry and silkworm, extension and training have been addressed to fulfill the needs of on-farm sector of

southern states, Maharashtra and Madhya Pradesh. As a testimony of excellence in quality management in R&D, training and service support to sericulture industry, the Institute has been accredited with ISO 9001: 2008 certification.

Mulberry crop improvement, production and protection

- Mulberry hybrids like MS-2, MS-7 and MS-26 have yielded 20.4%, 17.23% and 35.5% more leaf, under moisture stress conditions under final yield trials over S-13.
- The distinctiveness, uniformity and stability descriptors for 48 characters (morphological, reproductive, anatomical & growth) have been finalized for mulberry varieties being tested under the study.
- A core sub-set of 150 germplasm accessions with maximum genetic diversity has been identified through SSR marker analysis and morphological traits.
- Soil pH, soil organic carbon and bulk density are found to be the major factors for nutrient uptake.
- Nitrification inhibitors with urea significantly improved nutrient uptake and leaf yield.
- A talc based bio-formulation of endophytic bacteria was developed to control /suppress the root rot disease caused by *Rhizoctonia bataticola*.
- Based on the soil analysis, fertilizer recommendations were provided to soil samples of 2086 farmers.
- Foliar disease calendars were prepared along with SEM images, of mulberry diseases to develop a website.

Silkworm crop improvement, production and protection

- The double hybrid, Krishnaraja showed 19.97 and 5.27% improvement in cocoon yield over, CSR2 x CSR4 and PM x CSR2 popularization trials at Srirangapatna Taluk, Mandya District.

- Large scale field trial of CSR16 x CSR17 with 1250 farmers in southern states recorded an average yield of 64.2 kg/100 dfls.
- Two selected three-way-cross hybrids, FC1 x CSR2 and FC3 x CSR17 performed better than the popular single hybrid, CSR2 x CSR4 and at par with the double hybrid, FC1 x FC2.
- The SSR markers (LFL0329 and LFL1123) associated with thermo-tolerance were identified and taken up as a breeding programme employing these markers for marker assisted selection breeding using the donor parents, APS110 and SK4C to develop thermo-tolerant breeds.
- BmNOX marker has assisted in identifying 10 lines for development of NPV tolerant bivoltine breeds.
- Eight stress tolerant (NPV and high temperature) polyvoltine lines were short-listed through F9 generation.
- L14 lines with least trimoulters and hibernation as well as with uniform cocoon colour, shape and size have been identified through multi-locational breeding approach under improvement of L14 breed.
- Indigenous method of culturing high value product *Cordyceps* was developed for biomedical and pharmaceutical applications and three isolates of *Cordyceps spp.* (Is89, Is90 & Is91) were successfully grown *in-vivo* on pupae of silkworm with 80-100% infection rate. Culture media have also been standardized for *in-vitro* culturing. Patent for the process has been filed.
- Rearing package for L14 breed and L14 x CSR2 hybrid was developed.
- Formulation of 2.5% Metaldehyde pellets @ 2kg/acre coupled with manual collection and destruction by burning or dipping in 25% salt solution has been recommended for the management of giant African snails in mulberry garden.
- Recovery of predatory beetles was found to be highest with mulberry in the vicinity of mixed crop species.
- Adoption of non-chemical pest and disease management package (placement of uzi trap, release of *N. thymus* pouches and packing/burying of silkworm litter) has brought down the uzi fly infestation below 2% in the adopted villages.
- The use of bio-control agent (predatory beetles) was popularized for control of tukra and *N. thymus* against uzi fly in southern states and Maharashtra.
- Phylogenetic analysis of MetAP2 gene of *Nosema bombycis* showed similarity to *Nosema sp.* of honey bee.
- Silkworm disease survey has revealed below 5% incidence of muscardine, grasserie and flacherie in three southern states *viz.*, Karnataka, Andhra Pradesh and Tamil Nadu. There was no incidence of pebrine disease during this period.
- A new technology for disinfection of rearing sheds using micro-jets was fine tuned and this technology helped in reducing drudgery in silkworm rearing, saved the disinfectants and avoided exposure of farmers to chemicals.
- A known probiotic bacteria *Bacillus subtilis* was found to have antagonistic activity against pathogenic bacteria, *B. thuringiensis* and *Streptococcus faecalis* of silkworm *Bombyx mori* L. Simultaneously, a bacterium from silkworm gut which proved to be antagonistic against *B. thuringiensis* was isolated.

Human Resource Development

Under Integrated Skill Development Scheme of Ministry of Textiles, Govt. of India, a total of 518 beneficiaries were trained in 27 batches on four subjects *viz.*, cocoon handicraft, mulberry

cultivation and its seed multiplication, quality bivoltine cocoon production and chawki rearing. Besides, 1539 persons were trained under structured and need-based programme at the main institute and its nested units. In addition, 37 CRC owners were trained in 3 batches for a period of 37 months on Commercial Chawki Rearing under the new CSB Seed Act. Four batches of Orientation Training Programme were also organized for 192 cluster facilitators for effective implementation of Cluster Promotion Programme. Further, an International Training Programme of 33 days and 10 days was organized for the benefit of 21 officials each from Bangladesh and Afghanistan, respectively.

Sericulture Extension

- Under the Cluster Promotion Programme (CPP) implemented in 106 clusters of 6 states 142.41 lakh dfls were reared and 8809 MT of cocoons were produced. The productivity of 68.31 kg for 100 dfls has led to a total raw silk production of 1420 MT. Mulberry plantation was expanded by 16515 acres with 12,341 farmers.
- Large scale field trial of Improved Cross Breed, L14 x CSR2, in the southern states and Maharashtra recorded an average yield of 51.75 kg/100 dfls.
- Workshops on the “Role of CRCs in bivoltine silk production” and “Sericulture for sustainable livelihood” were organized. 1076 extension communication programmes were organized for the effective transfer of the new technologies on bivoltine rearing, mulberry and silkworm disease management and quality cocoon production.

Patents and Commercialization

Patents were filed for machineries like; i) cocoon harvester, ii) seri room heater, iii) chawki dusting machine, iv) PVC chawki stands, v) water jetting system. Processes for vi) using spent MoThs and vii) Culture of *Cordyceps*/cocoon

harvester and seri room heater were commercialized through private entrepreneur.

Achievements of Regional Sericultural Research Stations (RSRSs)

RSRS, Ananthapur

- Among the Five elite mulberry varieties (G2, RC1, RC2, Taiwan, V-1 & Anantha) screened under semi-arid agro-climatic conditions, G2 recorded highest yield of 26.4 kg.
- The test hybrids, FC3 x CSR17, FC1 x CSR2, 2C x 4S and G11 x G19 performed better than the controls under on-station trials.
- *N. thymus* was produced and supplied to farmers for effective management of uzi fly. Technology demonstrations were conducted in hot spot areas to control root rot disease by application of Navinya.
- Under popularization of bivoltine hybrids, rearing of 1.5 lakh dfls of CSR16 x CSR17, CSR46 x CSR47, GEN3 x GEN2 and APS45 x APS12 resulted in a cocoon yield of 62.78 kg/100 dfls.
- Under ISDS, 105 unemployed women and youth were trained.
- Under Technology Upgradation Programme, 885 farmers were also trained.

RSRS, Chamarajanagar

- Development of Seri-Lac culture model for income augmentation was taken upto assess the feasibility of lac production in mulberry garden.
- RC-1 and RC-2 mulberry varieties were found suitable for cultivation under water stress conditions. AR-12 variety is found to be suitable for alkaline soil under irrigated conditions.
- Organic farming increased the mulberry leaf yield by 5.32% under irrigated condition at farmers' field.

- Three-way-cross hybrids, FC1 x CSR2 and FC3 x CSR17 had shown a higher survival and yield.
- Release of *N. thymus* and lady bird beetles in the field reduced the uzi fly infestation from 14.11 to 6.27% and mealy bug infestation from 20.67% to 6.83%.
- A total of 60 farmers in three batches were trained under the ISDS and 180 farmers under need based programme.

RSRS, Kodathi

- The three-way cross hybrids, FC3 x CSR17 and FC1 x CSR2, single hybrid, 2C x 4S and double hybrid, G11 x G19, D1 x D2 and D2 x D3 and multi x bivoltine hybrids, NDV6 x CSR51 and L14 x CSR50 were found to be superior in cocoon production and other post-cocoon traits.
- 549 soil samples were analyzed and suitable soil amelioration measures were suggested.
- The hybrid CSR16 x CSR17 recorded an average cocoon yield of 62.83 kg/100 dfls and L14 x CSR2 recorded a cocoon yield of 56.8 kg/100 dfls under popularization trials.
- Technology demonstrations of Integrated Nutrient Management (INM), Integrated Pest Management (IPM) for controlling Tukra and Uzi infestations and Navinya for root rot disease were taken up.
- 75 persons were trained under ISDS and 975 farmers under Technology Upgradation programme.

RSRS, Salem

- Three-way cross hybrids, FC3 x CSR17 and FC1 x CSR2; single hybrid, 2C x 4S; double hybrid, D1 x D2 and D2 x D3 and multi x bi hybrids, NDV6 x CSR51 and L14 x CSR50 were found superior in cocoon yield and post-cocoon traits.
- 94 soil samples were analyzed and suitable soil amelioration measures were suggested.

- *Acerophagus papayae* was mass multiplied and released to the field to keep the infestation of papaya mealy bug under control.
- 105 beneficiaries were trained under ISDS and 1230 farmers under Technology Upgradation Programme.

- **Central Sericultural Research and Training Institute (CSR&TI), Berhampore (West Bengal)**

Mulberry crop improvement, production and protection

- Thirteen early sprouting and late senescing accessions, Philippines, Cyprus, *M. rotundiloba*, Kolitha-3, Koitha-8, Tollygunge-A, Mysore local, C-1726, C-741, C-1540, S-1622, S-1662 and S-1618 were identified.
- Moderate tillage with a grass cover was found *at par* with the existing farming practice in terms of leaf yield and carbon assimilation.
- The Carbon Capturing Efficiency (CCE) of S-1635 has been worked out to be 5.84 to 7.03 MT/year.
- Cationic-micro-nutrient-spray schedule has been worked out for mulberry based on the optimum foliar requirement and the availability in soil.
- Ready reckoner of fungicide spraying for control of major fungal diseases has been developed.
- A database of root rot diseases of mulberry in the Gangetic plains of West Bengal is prepared.
- A disease forewarning system was developed and made available to the public through the institute website.
- Few transgressive progenies of S-1 x Vietnam cross with better resistance to Powdery Mildew and leaf yield potential (higher than S-1) have been identified.
- Major QTLs were identified for 7 important agronomic traits in mulberry and three

progenies with high foliage biomass potential.

- *Scymnus pallidicollis* has been reported as the native predator of mealy bug for the first time by this institute, which can be used for management of mealy bug.
- Thiamethoxam at 0.015% was found effective in suppressing the population of whitefly up to 96% within 15 days of spraying, leading to a leaf yield gain of 21-28%.
- Validation of simple Efficient Economic Eco-friendly Weed Mower-cum-Shoot Harvest/Pruning Machine (E3 WM © SH/PM) was carried out.
- Cost-effective Drum Kit Drip Irrigation System was developed based on the optimum requirement of irrigation water.

Silkworm improvement, production and protection

- The multi x bi hybrids, N x (SK6 x SK7) and M6DPC x SK4C were authorized for commercialization.
- Gen3 x Dun22, Gen3 x D6 (P) N and Gen3 x SK6 hybrids were found to be suitable for the highly fluctuating and varied climatic conditions.
- High temperature and high humidity tolerant breeds were short listed for breeding programme.
- Large scale field trials of authorized silkworm hybrids/BV double hybrid, FC1 x FC2 has recorded a cocoon yield of 47 kg /100 dfls, 54.16 kg/100 dfls in multi x bi hybrid, M.Con1 x B.Con4 and 30.18 kg/100 dfls in Multi x Multi hybrid and M.Con1 x M.Con4
- Cost-effective, safe, user-friendly, bio-degradable, non-hazardous, less-corrosive, and non-irritative broad spectrum fumigant was identified for room disinfection.

Technology transfer

- Implementation of Institute Village Linkage Programme (IVLP) has resulted in 14.2%

gain in leaf yield and 16.6 to 29.1% gain in cocoon yield of different hybrids under irrigated conditions while under rainfed conditions, the increase in leaf yield was 17.5%. The increase in cocoon yield was 10% in multi x multi hybrids, 13% in multi x bi hybrids and 19.4% in bi x bi hybrids.

- Sulphur fertilization, application of KCl and pest management technologies were demonstrated to 100 farmers in five locations.
- Demonstration of mobile disinfection model ensured enhanced crop protection leading to increased income at farmers' level.
- High yielding mulberry variety was planted in 52.56 ha involving 168 farmers.

Human Resource Development (HRD)

1003 candidates were trained under Transfer of Technology (PGDS-55, Management Development Programme-20, Skill Upgradation Programme-92, Integrated Skill Development Scheme-391 and Ad hoc-445). Besides, regular training was imparted to farmers/participants on mulberry cultivation, silkworm rearing technologies, disease and pest management etc.

Extension communication programmes

425 Extension communication programmes were conducted to disseminate the institute evolved technologies in the field.

Patents and commercialization

Sericilin, a silkworm bed disinfectant was filed for patenting and also commercialized.

Achievement at Regional Sericultural Research Stations (RSRSs)

RSRS, Kalimpong (West Bengal)

- Under improvement of rearing technology, shoot rearing technology yielded better as compared to leaf feeding.
- Incidence of 1.5 to 6% grasserie was recorded during April to September under disease monitoring programme.

- Muga Augmentation Programme was initiated in collaboration with MSSO, Guwahati.

RSRS, Koraput (Odisha)

- Application of test based chemical fertilizers resulted in a leaf yield gain of 12.5% (11.4MT/ha/year).
- Adoption of Transfer of Technology (ToT) registered a leaf yield gain of 12.5% and cocoon yield gain of 12.15% in Bivoltine x Bivoltine and 11.5% in Multivoltine x Bivoltine (33.21 kg/100 dfls).
- Under popularization of high yielding mulberry varieties, saplings of S1635 and C1730 were raised and supplied to DoS of Chhattisgarh and Odisha.
- Seed crop rearing was conducted during September & November, 2013 and the seed cocoons were supplied to West Bengal graineurs.

RSRS, Ranchi (Jharkhand)

Benefits of application of vermicompost @10 MT/ha/year + Azotobactor @ 10 kg/ha/year + 75 N: 50P: 50K to mulberry under rainfed conditions in Jharkhand was demonstrated to the farmers. Application of soil test based fertilizer application under rainfed conditions increased the leaf yield to the tune of 8.3% to 13.1%.

RSRS, Jorhat (Assam)

- Factors responsible for yield gap in mulberry gardens of North-eastern states were identified.
- Newly authorized bivoltine silkworm hybrids recorded 8.9% higher cocoon yield at farmers level.
- Implementation of IVLP recorded a gain of 15.82% leaf and 13.70% cocoon yield.
- Under quality BV silk Promotion; 6.24 MT of BV and 0.768 MT of CB silk were produced.
- High yielding mulberry varieties were planted in 15.5 acres.

- Five beneficiaries were trained under ISDS.

- **Central Sericultural Research & Training Institute (CSR&TI), Pampore (Jammu & Kashmir)**

Central Sericultural Research & Training Institute (CSR&TI) at Pampore serves the need of R&D and Transfer of Technology of sericulture through a network of three RSRSs and 18 Extension Centers across seven North-western states. Besides, 49 clusters are operating under XII plan across North-West India under bivoltine production programme.

The major findings of the Institute are as follows:

Mulberry improvement, production and protection

- The newly evolved mulberry selection, S-140 has performed better under multi-location trials than Goshoerami, the ruling mulberry genotype in Kashmir in terms of leaf yield, rooting ability, early sprouting and frost tolerance.
- INM approaches have shown increased microbial load in the soil from 1.18 to 1.56 x 10⁶ CFU/g of bacteria and 1.2 to 2.1 x 10⁵ CFU/g of fungal biomass.
- *Glomus macrocarpum*, *Glomus arboreum*, *Glomus clarum* were the most predominant Arbuscular Micorrhizal fungi in rhizospheric soils of mulberry in Jammu and Kashmir and most of the bacterial isolates were positive for oxidase and catalase enzymes.
- *Koksu-27* showed higher protein content and Limoncina showed higher carbohydrate content, under biochemical evaluation of germplasm accessions.
- Under ToT, application of fertilizer to scattered mulberry trees increased the leaf yield upto 14.71% as compared to the control.
- Saplings of Vishala recorded 68% survivivity at farmer's field.

- Under parasitoids study, *Perilampus sp.*, *Campoletis sp.* and *Brachymeria lasus* (Walker) were reported for the first time from Kashmir region.
- Five Coccinellids viz., *Halzia tschitscherini* (Sememor), *Illeisindica* (Timb.), *Halyzia sancria* (Mulsant), *Propylea luteopustulata* (Mulsant) and *Stethorus aptus* (Kapur), were recorded which fed on powdery mildew. The latter three were reported for the first time from Kashmir region.
- *Trichoderma roseum* & *T. parceramosum* (Bisset) were identified to use against mulberry diseases.

Silkworm improvement

- Under the new silkworm hybrid evaluation, SOH1 yielded 70 kg cocoons/100dfls under sub-optimal rearing conditions.
- Under evaluation of silkworm hybrids for high pupation rate, the hybrid BPH-1 showed 91-93% pupation rate.

Genepool and seed production

- 80 mulberry genotypes were maintained at Pampore as temperate germplasm, 82 accessions were maintained at Sahaspur as sub-tropical germplasm and 18 accessions are under evaluation at RSRS, Jammu.
- 165 silkworm accessions were maintained at Pampore as temperate germplasm and 54 at Sahaspur as sub-tropical germplasm.
- 2752 dfls of basic seed of CSR2, CSR4, CSR6, CSR26, CSR27, SH6 & NB4D2 were supplied to DoS, Jammu and Kashmir for preparation of double hybrids and conventional hybrids for spring 2013 rearing.

Human Resource Development / capacity building

- 554 DoS officials from the states of J&K, Uttarakhand and HP were trained on various aspects of sericulture during the year 2013-14.

- Under ISDS programme 662 unemployed youth from J&K, Punjab, H.P., Uttar Pradesh and Uttarakhand were trained on young age commercial silkworm rearing, recycling of sericulture waste, kisan nurseries, cocoon handicrafts and disinfection and hygiene, besides 40 scientists/DoS officials were trained under Trainers Training.
- 1359 farmers (847 male & 512 female) were trained on various aspects of mulberry and silkworm rearing technologies under Farmer Field School.
- 42 students have participated in 'Certificate Course in Sericulture' under IGNOU study centre.

Transfer of Technology

- Under popularization programme, rearing of 2,68,910 dfls resulted in a total cocoon yield of 99327.210 kg with an average yield of 36.94 kg/100 dfls.
- Under the project women empowerment through sericulture technologies in Kashmir valley, an improvement of 11.35% was recorded with an average yield of 41.20 kg/100 dfls.

Extension activities

- During the year, 5507 farmers participated in 163 Group Discussions, 101 Awareness Programmes, 49 Film Shows, 56 Farmers Field Days and 15 Vichar Goshtis.
- Improved methods of disinfection, use of disinfectants, impact of chawki rearing, impact of shoot harvesting technology, drying of cocoons under black cloth and sorting of cocoons were disseminated to farmers.

Achievements of Regional Sericultural Research Stations (RSRS) RSRS, Sahaspur

This Station (along with twelve RECs/ CDCs) continues its research endeavors to provide support to the states of Uttarakhand, Uttar

Pradesh, Haryana, Himachal Pradesh and Rajasthan. 23 Clusters function under three states.

RSRS, Jammu

- Five collaborative research projects namely, (1) Improvement of *Bombyx mori*. (L); (2) All India Silkworm Germplasm evaluation programme-II; (3) AICEM Phase-III; (4) Empowerment of women through sericulture technologies in Jammu region, and (5) Post-authorization trial of silkworm hybrids in North-West India (AIB-3492) were continued during the period under report.
- Four new projects/ToTs were initiated during the period under report.
- Under technology transfer, 20-25% improvement was recorded in cocoon productivity with the adapted rearers of Tikri and Nowshera areas.
- Under “On-farm trails”, sapling plantation of Vishala, S-146 and S-1635 varieties carried out in tree mode on the bunds and periphery of farmers farming fields, showed 100% survivivity.
- Under women empowerment through sericulture technologies – peripatetic training of the new technologies has resulted in an increase of cocoon yield up to 45.340 kg/100 dfls and in turn an income of Rs. 8330.
- Highest average cocoon yield of 51.650 kg/100 dfls during spring 2013 and 40.880 kg/100 dfls during autumn 2013 was recorded through the adapted rearers under REC, Sujanpur, Punjab followed by 48.640 kg/100 dfls during spring 2013 and 32.360 kg/100 dfls during autumn 2013 reared through REC, Barnoti, Jammu.
- 584 sericulture farmers have been trained under Farmers Field School through REC, Sujanpur (Punjab), REC, Nowshera (J&K) and SREC, Tikri (J&K).

- During the year, 18 students were enrolled under IGNOU study centre of RSRS, Jammu for ‘Certificate Course in Sericulture’.
- Sixteen in-service candidates, sponsored by DOS, J&K were given training under capsule/ adhoc courses of sericulture.
- An amount of Rs.1,41,681 was generated as revenue from sale of cocoons, sale of pruned wood, sale of intercrops, etc., by RSRS, Jammu and its sub-units.

- **Central Sericultural Germplasm Resource Centre (CSGRC), Hosur (Tamil Nadu)**

Central Sericultural Germplasm Resources Centre is established for conservation and utilization of Seri-biodiversity in the country. The Centre is recognized as a National Active Germplasm Site for mulberry by National Bureau of Plant Genetic Resources (NBPGR), New Delhi and for silkworm by National Bureau of Agriculturally Important Insects (NBAIL), Bangalore. The long-term vision of CSGRC is enhancement of sericultural germplasm resource utilization by breeders (primary users) and other researchers to sustain investment on gene bank operations and to provide inputs for sericulture research. The highlights of research activities are:

Mulberry Division

- 1269 mulberry germplasm accessions were maintained in the *ex situ* field gene bank. 34 new mulberry germplasm accessions were introduced during the year.
- 125 accessions were conserved in the cryo-gene bank. National accession numbers were assigned to 31 accessions (NBPGR, New Delhi)
- Of the 120 accessions evaluated, 17 accessions were short listed for water use efficiency and 25 accessions for nitrogen use efficiency.
- 20 accessions for saline and 18 for alkaline tolerance were identified for use as parents

to develop salt and alkaline tolerant varieties and also to develop molecular markers of these traits.

- Micro-plot technique was found suitable for evaluation of stress tolerance in mulberry. Low leaf necrosis and Na⁺/K⁺ ratio for salinity tolerance and chlorophyll stability for alkalinity tolerance were found to be important parameters to screen mulberry germplasm.
- Based on molecular analysis and its correlation with quantitative and qualitative traits, 150 core mulberry accessions were identified and a e-Herbarium was prepared for unique mulberry accessions.
- 22 mulberry germplasm accessions were characterized for morphological, reproductive, anatomical descriptors and 25 accessions for propagation, growth and yield traits including incidence of major fungal diseases in the *ex situ* field gene bank. 60 accessions were evaluated for crop performance and data updated in the Mulberry Germplasm Information System.
- A Mulberry Germplasm Catalogue (Vol.5) containing data on morphology, reproduction, leaf anatomy, growth and yield, propagation, biochemical, disease incidence and passport information was published for 150 accessions.

Silkworm Division

- Six new accessions were introduced to 458 existing silkworm germplasm containing 77 MV, 361 BV and 20 mutants. Data on rearing performance and post-cocoon parameters were updated in Silkworm Germplasm Information System.
- Eight multivoltine and two bivoltine accessions were evaluated for post-cocoon parameters and 37 accessions were evaluated for fibroin/sericin content.
- Ten bivoltine accessions were evaluated during spring and autumn seasons in 8 network centres.

- 71 mulberry and 196 silkworm accessions were supplied to various R&D institutions for research and breeding purpose.

- **Silkworm Seed Technology Laboratory (SSTL), Kodathi, Bangalore (Karnataka)**

Broadly, the Laboratory is engaged in developing the embryonic chart for mulberry and *vanya* silkworm breeds, standardization of silkworm seed preservation schedules and seed handling techniques, disease monitoring and generation of trained manpower for the silkworm seed sector. The research endeavours are enlisted as follows:

- The efficacy of the solar passive rearing house developed in association with The Energy and Resources Institute (TERI) was evaluated and found to be ideal in maintaining temperature and humidity during different seasons for silkworm seed crop rearing. Rearing of CSR2 & CSR4 breeds in the rearing house yielded 60-71 kg/100 dfls in all the seasons.
- Safe utilization of the existing hibernation schedules was demonstrated for the preservation of univoltine race, Barapat and bivoltine hybrid, SK6 & SK7 upto 10 months without affecting their hatchability and rearing parameters.
- A suitable double step preservation schedule was developed for eri silkworm eggs for a period of 12 days without affecting the hatching and rearing performance.
- Under disease monitoring, 2062 samples (525 bivoltine & 1537 multivoltine) from southern states and P4 & P3 Basic Seed Farms were tested for screening pebrine incidence and its containment in seed crop rearing and basic seed production.
- Under technology transfer, technologies including long-term preservation of cross breed layings, egg production and handling

techniques, seed crop rearing and silkworm disease management have been demonstrated. 492 personnel from DoS of Karnataka, Andhra Pradesh, Tamil Nadu and NSSO, seed farmers and registered seed producers were benefited.

- Under human resource development, 303 persons from state DoSs, CSB and farmers were trained through nine training programmes of ISDS & other courses on seed crop rearing and seed production technology.

- **Seribiotech Research Laboratory (SBRL), Kodathi, Bangalore (Karnataka)**

Seribiotech Research Laboratory carries out intensive basic and applied research on silkworms and their host plants through modern biotechnological tools to improve productivity and quality of silk, to utilize silk proteins as biomaterials and translate research outputs to commercial products. Using the state of the art facilities, the Laboratory carries out cutting-edge research through a multi-disciplinary approach. The Institute has already made its mark on development of transgenic silkworms, identification and utilization of molecular markers, elucidation of gene functions, easy and precise detection of pathogens and diversification of the usage of silk proteins to new avenues with considerable economic and health care benefits. The major achievements made during the year are as follows:

- Two sets of BmNPV resistant transgenic silkworm lines were developed from the popular bivoltine breeds CSR4 and CSR27 through a mix of RNAi approach and conventional breeding. The transgenic lines at BC4-F8 and BC5-F1 generations showed 40% survival upon exposure to BmNPV.
- Two new microsporidia were identified belonging to the genus *Nosema* and one to the genus *Vairimorpha* in mulberry silkworm based on rRNA sequence analysis.

- Two sets of primers were developed for species-specific detection of microsporidia.
- Seven bivoltine parental breeds having thermo tolerance and resistance to BmNPV were identified based on gene expression and survival during autumn seasons in North & North-West India.
- Characterization of lipophorin receptor (LpR) and vitellogenin receptor (VgR) gene from *Samia ricini* and VgR from *Bombyx mori* was done. Role of yolk protein receptors in egg development was demonstrated through RNAi silencing. Among the silkworms, VgR gene expression level was higher in Pure Mysore, Sarupat, CSR2, CSR26 and NB4D2.
- Expression analysis of BmNPV resistant genes viz., Arylphorin, Lebocin, Gloverin, Cathepsin and dicer-2 revealed significant up-regulation of these genes in Nistari as compared to the same in CSR2.
- The causal organism of the tiger band disease of oak tasar silkworm was identified as *Antheraea proylei* Granulosis Virus (ApGV) and a PCR based detection system for the virus was also developed.

Vanya Sector

- **Central Tasar Research & Training Institute (CTR&TI), Ranchi (Jharkhand)**

Central Tasar Research and Training Institute is the flagship research institute catering to the R&D needs of tasar and oak tasar sectors. Endowed with responsibility of generation of useful information and technologies suited to the tropical and temperate tasar sectors, it is providing support to all tasar growing states through a network of five Regional Stations (RTRSs) for tropical and three for temperate areas, eight Research Extension Centres (RECs) for tropical and two for temperate areas along with three P4 stations. The highlights of the works conducted by the Institute and its nested units during 2013-14 are briefed as follows:

Host plant improvement

15 hybrid combinations of *Terminalia* sp. were developed and selected 22 F₁ seedlings based on the morphological and growth parameters for further evaluation.

Silkworm improvement, production and protection

- Three breeding lines of Daba BV have been isolated through recurrent selection and introgression of traits from wild Daba, based on male shell weight, female pupal weight and fecundity (>250).
- Under *ex situ* condition, brushing of Laria on Sal during mid to late September was found conducive for successful crop.
- As a part of the development of artificial niche, Barharwa ecorace was introduced into the eco-restored site of abandoned dolomite mines at Purnapani area of Odisha.
- Quantitative trait improvement was noticed in F1 hybrid of Laria x Raily, reared on Sal flora.
- Two enzyme markers *viz.*, acid phosphatase and phenoloxidase were identified to detect Pebrine and CPV infection in tasar silkworm.
- Tolerance to AmCPV to the tune of 14.34% and 14.28% was induced in Daba BV and Daba TV respectively, at the end of 6th generation.
- Preservation of tasar cocoons at 20°C for 15 days delayed the emergence for 10-15 days and helped in synchronization of grainage.
- Validation of Depuratex, the newly developed egg washing and surface disinfection formulation, in BSMTCs, PPCs of Jharkhand, grainages of PRADAN, DoS of Andhra Pradesh and West Bengal showed 2% improvement in hatching besides reducing the manpower requirement for washing.

- To manage bacteriosis and virosis of tasar silkworm in the field, a total of 527 vials of LSM and 110 packets of Jeevan Sudha were supplied to farmers.
- Pest calendars and prediction models have been developed for different pests of host plants and silkworm.

Post-cocoon Technologies

- A motorized reeling charkha was developed that produces 333.84g of raw silk of 60/70 denier per operator in 8 hours at field level, which reduced breakages, improved reelability by 30% and silk recovery by 14%. A patent application for this machine has been filed.
- The motorized vertical reeling-cum-spinning machine *Kamadhenu* developed during the year exhibited 22% reelability, 55% silk recovery and production of 70 denier reeled tasar. Patent application has been filed.
- A non-peroxide cooking method was developed using borax to retain the natural colour and physical properties of tasar silk yarn.
- Isolation of dissolved sericin from cocoon cooking waste water is being standardized.

Achievements of P-4 Tasar Silkworm Breeding Stations

- P- 4 Tasar Breeding Station, Kargi, Kota processed 30,221 seed cocoons and prepared 3,959 dfls of which 2,441 dfls were supplied and 1,518 dfls were used for departmental rearing and breed maintenance. Departmental rearing resulted in production of 56,758 cocoons with an yield of 37 cocoons/dfl.
- P-4 Tasar Breeding Station, Chakradharpur prepared 7,575 dfls from 58,000 seed cocoons. 6,475 dfls were supplied and 1,100 dfls were used for departmental rearing, resulting in production of 53,245 cocoons with an yield of 48 cocoons/dfl.

- P4 Tasar Breeding Station, Batote (J&K) reared 200 dfls of oak tasar and harvested 15,485 cocoons @ 77.42 cocoons/dfl, preserved 7,605 seed cocoons and processed 5,853 seed cocoons. Of 611 dfls prepared, 411 were supplied to sister units and remaining 200 dfls were used for departmental rearing.

ACHIEVEMENTS OF REGIONAL STATIONS

Regional Tasar Research Station, Warangal (Andhra Pradesh)

Under conservation of Andhra Local tasar eco-race, 78 dfls were released into the forest for natural proliferation and 479 dfls were used for multiplication. Improved technologies to trainees/farmers were demonstrated in the tasar technology park and 25 farmers were trained in the Farmers Field School at village Tirumalgandi.

Regional Tasar Research Station, Bhandara (Maharashtra)

This station continued to provide support for conservation of Bhandara ecorace. To facilitate improvement of productivity under group approach, the six SHGs maintained by the Unit reared 9740 DTV dfls during commercial crop season (64 farmers) producing 5.94 lakh cocoons @ 61 cocoons/dfl.

Regional Tasar Research Station, Baripada (Odisha)

Technical support to DOS, Odisha was extended for conservation and evaluation of tropical tasar silkworm races including the Modal eco-races in Similipal Biosphere Reserve. Under popularization of Sukinda (TV), 600 dfls were reared and 24260 cocoons were produced. Five pre-cocoon Self Help Groups (with 100 farmers) were provided with seed support and technical guidance in commercial crop rearing to popularize cost effective integrated technology package with farmers' participatory approach.

Regional Tasar Research Station, Jagdalpur (Chhattisgarh)

This station continued to provide technical support to DOS, Chhattisgarh for conservation, multiplication and popularization of Raily eco-race. Under transfer of technology, rearing of 2,400 dfls was taken by 12 Seed Rearers under CPP and 1,29,900 cocoons were produced with an average yield of 54.13 cocoons/dfl. 26,400 dfls were produced by six graineurs, 1,15,000 cocoons were processed and supplied to 132 commercial rearers. For commercial crop, 132 commercial rearers undertook rearing of 26,400 dfls and harvested 15,23,310 cocoons @ 57.7 cocoons/dfl. Under Farmers Field School, 5 meetings were conducted covering 25 farmers in each meeting in Bakawand block.

Regional Tasar Research Station, Dumka (Jharkhand)

Under conservation of Sarihan eco-race, 500 dfls were reared on Arjun plants and 5320 dfls were produced. Dissemination of technologies through the Tasar Technology Park has been undertaken.

Regional Tasar Research Station, Bhimtal (Uttarakhand)

15850 dfls of tasar silkworms were supplied to different agencies. Indoor rearing of 200 dfls was undertaken during preponed crop and 140 cocoon per dfl. were produced. During spring, rearing of 200 dfls yielded 80 cocoons per dfl. A Tasar Technology Park was maintained for dissemination of proven technologies among the farmers.

Regional Tasar Research Station, Imphal (Manipur)

Survey for *Antheraea frithi* Moore was conducted on *Lithocarpus dealbata* and 15040 seed cocoons were collected from Phaibung Khullen forest (1700m ASL), Senapati district. Surveys at various districts of Manipur (700m–2000m AMSL) revealed occurrence of *Samia canningi*, *Attacus atlas*, *Actias selene*, *Bombyx huttoni*, *Antheraea roylei*, *A. frithi*, *A. helferi*,

Dendrolimus grisea etc., *S.canningi* and *Attacus atlas*. The Station also undertook conservation of *A. proylei*, *A. pernyi*, *A. frithi* and different breeds viz., PRP₂, PRP₃, PRP₅, PRP₁₂, RPP₄, Blue, C₂₇, B₆, BY₁, RP RPP, PR and PPR in the germplasm bank.

Human resources development, extension communication and transfer of technology

- 1295 persons were trained under different programmes in 65 batches.
- Under transfer of technology, establishment of chawki garden of *T.arjuna* for two crop system was tested at different locations and obtained encouraging results.
- Validation of SM5 with 20 farmers of REC, Kapistha showed an increase of 30.85% in leaf yield and 22.25% in cocoon yield.
- Multi-location trial of BDR-10 was conducted at RTRS Bhandara, Warangal; REC Kapistha, Robertsganj & Katghora.
- 1,504 farmers were maintained in 81 SHGs.
- An integrated package for rearing was developed by incorporating chawki garden with nylon net, application of neem based insecticide, foliar spray of 1.5% urea and leaf surface microbes.
- For development of cooperative culture in oak tasar, 152 farmers were maintained in 11 SHGs. For seed crop, 16,600 dfls was reared by 78 farmers with an yield of 28.21 cocoons/dfl. Commercial rearing of 2,500 dfls yielded 20.57 cocoons/dfl.
- 211 farmers participated in 13 events of field school.
- 300 farmers were trained in 12 batches under various aspects of tasar culture.
- 54,616 oak tasar dfls were reared and supplied to DoS and NGOs as per requirement.

- **Central Muga Eri Research & Training Institute (CMER&TI), Lahdoigarh, Jorhat (Assam)**

The Central Muga Eri Research & Training Institute along with its network of RMRS, RERS and RECs provides research and developmental support for muga and ericulture in North-East and other parts of the country. The Institute conducts basic, strategic and applied research to increase production and productivity of silkworms and their host plants. It also conducts socio-economic research for assessing sustainability of newly developed technologies and consistently strives to disseminate the research findings to the end users through extension and training mechanisms. Considering its excellent quality performance, the Institute was awarded ISO 9001: 2008. The brief highlights of the R&D activities carried out during 2013-14 are as follows:

- Ten accessions of Kesseru, *Ailanthus excelsa* and *A. grandis* were collected, characterized and added into germplasm bank. Chemo-assay of different Kesseru genotypes revealed high content of carbohydrate, soluble protein, soluble sugar, crude fibre, phenol and tannin. The bioassay revealed highest cocoon (3.20g) and shell weight (0.40g).
- Soil samples were analyzed from different wild castor growing localities and 8 *Azospirillum sp.*, 14 *Azotobacter sp.*, 15 phosphate solubilizing bacteria (PSB) and eight *Pseudomonas sp.* were isolated for use as biofertilizers.
- Embryonic chart of muga silkworm was prepared. A suitable technology was developed for preservation of muga silkworm eggs without affecting the hatching and rearing performance.
- Eight wild muga silkworm breeds maintained at the Institute were utilized. New breeds were developed that showed high fecundity,

hatching, survivability, cocoon yield, cocoon weight and shell weight over that of control. The new breeds are under experimental trial.

- 417 insect specimens were collected from muga eco-system of Assam, Bodo Territorial Council (Assam), Nagaland, Meghalaya and Manipur and preserved for identification and documentation.
- 30 gut - microflora were isolated from muga silkworm larvae from different muga potential areas of Assam and Meghalaya and were subjected to bio-chemical and molecular analysis.
- 20 eri spinning machines, 90 plastic mountages and 90 sets of bamboo platform rearing equipment were supplied along with other critical inputs such as disinfectants, manure and grainage materials to 405 beneficiaries selected from three districts of Assam viz., Jorhat, Golaghat and Sivasagar and also formed 20 Self Help Groups to distribute the materials.
- 12 technology demonstrations and 5 training/skill development programmes were conducted covering 226 and 205 beneficiaries respectively. By adopting the recommended package of practices, the Eri cocoon production enhanced from 7.20 to 12.85 kg per 100 dfls. Adoption of pedal-cum-motorized eri spinning machines reduced the drudgery of women besides enhancing the yarn productivity upto 205g/8 hours.
- 17 species of wild silk moths were collected from different states of North-East India and a Monograph is under preparation.
- A forewarning calendar for pests and diseases of muga host plants and silkworm has been prepared and uploaded in the Institute's website for effective disease management. SMSs are also being sent in local language to forewarn the farmers.
- The efficacy of the four cheaper analogues of juvenile hormone for enhancing fecundity

in the muga silkworm is being tested at farmers' level.

- By adopting indoor rearing up to 2nd stage, 50.5% ERR was achieved in muga silkworm.

Extension, HRD and Transfer of Technology

- 635 farmers have participated in farmers awareness programmes conducted in coordination with National Institute of Agricultural Marketing (NIAM), Ministry of Agriculture, Jaipur, India on eri and muga cultures at Meghalaya, Nagaland, BTC (Assam), Tripura, Arunachal Pradesh and Manipur.
- 150 staff of DoS of Manipur, Nagaland, Mizoram and BTC (Assam) were imparted training under NIAM sponsored core training programme.
- 398 beneficiaries were trained on different technologies under peripatetic and capsule training.
- 310 persons were trained under ISDS on muga and eri silkworm rearing as well as post-cocoon activities.
- Training was organized for research scholars/post-graduate students and the facilities available at Biotech Hub was demonstrated to carry out research projects.
- 400 demonstration programmes were conducted to popularize 13 different technologies on eri and muga cultures. Front line demonstration on integrated technology for muga and eri culture was also conducted in association with Krishi Vignan Kendra (KVK) at selected locations, DoS and farmers of Jorhat and Sonitpur districts of Assam.
- Eri C2 breed was reared in seven state sericulture ESG/ECC farms. The performance of C2 was better in all test centres and farmers in Assam, BTC and Meghalaya. Large scale field trials in association with DOSs are under progress in different locations.

- In order to popularize new technologies, two krishi melas, six exhibitions, 28 field days and 18 technology awareness programmes were conducted.

ACHIEVEMENTS OF REGIONAL RESEARCH STATIONS (RRSs)

RMRS, Boko

- Eight wild genetic resources were maintained under *ex-situ* conditions.
- Two disease tolerant som morphotypes, S3 and S6 were identified and multiplied in large scale for field supply.
- Spraying the newly developed chemical formulation (2% TSP, 1% urea and 0.5% slaked lime in water) on muga host plants reduced the larval mortality and enhanced the cocoon yield to the extent of 15-20%.

RERS, Shadnagar

- Eight castor genotypes were evaluated in semi-arid region based on growth, physiological parameters, chemo-assay and bio-assay.
- Field trials were undertaken for popularization of the eri silkworm breed evolved at RERS, Mendipathar. The rearing and reproductive performances of 10 eri eco-races were evaluated and found that four accessions *viz.*, RERS E-201, RERS E-206; RERS E-207 and RERS E-202 were found better. However, E-201 was found to be superior in reproductive performance on castor and tapioca with regard to good cocoon (81.8% and 80.0%) and male moth emergence (46.7% and 48.0%).

- **Central Silk Technological Research Institute, (CSTRI) Bangalore (Karnataka)**

Central Silk Technological Research Institute along with its network of 11 Demonstration-cum-Technical Service Centres (DCTSC), six Silk Conditioning and Testing Houses (SCTH), four Textile Testing Laboratories (TTL), one Zonal

Office, two Raw Silk Testing Centres (RSTC), two Cocoon Testing Centres (CTC) and one Regional Silk Technological Research Station (RSTRS) caters to the technical and scientific needs of the silk industry in India. The significant contributions of CSTRI during the period are:

- A low cost eight multi-end reeling machine suitable for both tasar and muga cocoon reeling was fabricated. Field trials revealed that a reeler can conveniently maintain only 4-ends/basin. Accordingly, 4-end reeling machine was fabricated and 4-end reeling machine package has been recommended for tasar and muga sector.
- Existing reeling and spinning machines are modified to suit tasar silk sector. The modified dry, wet and Anna reeling machines were well accepted in the field.
- A technique for applying the sizing on tasar yarn has been developed through a proto type machine and dissemination of technology is under progress.
- Hot air drier and pupa separation machine was fabricated and commissioned. Drying parameters for pupae have been standardized to develop a processing package. Results are encouraging.
- Studies on the abrasion resistance of silk upholstery fabrics; design and development of silk based composite biomaterials for wound dressing applications; evaluation of muga cocoon stifling process on cocoon storage, reeling performance and quality of muga raw silk; development of automatic conveyor cocoon drying machine; development of eri and eri-blended knits and development of silk-coir union blended fabrics and products were undertaken in project mode.
- A total of 87036 lots of cocoon and raw silk and 9504 lots of fabric, dyes and textile auxiliaries were tested by the main institute

and its nested units. In addition, 2006 lots were tested by Textile Testing Laboratory, Bangalore for physical, chemical and eco-parameters.

- A concept of 10-end Automatic Silk Reeling Machine was developed by CSTRI, Bangalore with the assistance of JICA experts in one of the private CSTRI authorized reeling machinery manufacturing unit.
- MoUs signed by CSTRI, Bangalore during 2013-14 with the following Organizations:
 - Central Coir Research Institute, Coir Board, Kalavoor, Alappuzha, Kerala with the objective of “Development of Silk-Coir Union Blended Fabrics and Products” (Oct 2013)
 - NIFT-TEA Knitwear Fashion Institute (NIFT-TEA-KFI) with the objective of establishing a “Centre for Research and Development” to facilitate development of silk knitted products both in mulberry and vanya silks ((Dec 2013)

Exploratory works

Enzymatic, chemical and permeation methods of cooking processes for tasar cocoons were undertaken. While the tasar cocoon cooking by sodium perborate method has provided improved results, the permeation chamber has enhanced the effectiveness of cooking using hydrogen peroxide and sodium silicate. Modification of sodium perborate method for cooking tasar cocoons in permeation chamber was completed.

Product development

The following products/fabrics were developed viz., mill matka x mill matka, sherwani fabric (tasar x muga spun), silk noil yarn carpet, men’s T-shirt (Eri knits) with and without collar, ladies tops (eri knits - pure eri), ladies tops (eri + cotton knits), Sericin powder, chemically texurised mulberry silk fabric, tasar shawl with balkal yarn and natural dyed eri denim (bio-polishing, bouncy finish, stone wash and sand wash).

Patents

Patents were filed for CSTRI Eco-Degumming Machine and process protocol for degumming silk hank under the pressurized conditions.

Training

3107 persons were trained by the main institute and its sub-units under various training programmes, in which 1272 persons were trained under STP/QEP/RTP/BEP/ adhoc courses/ capsule courses and 1835 persons were trained under ISDS.

Extension activities

509 technology demonstrations and field programmes were conducted during the period under report covering about 7635 beneficiaries. 67 reeling/twisting/weaving/dyeing and non-mulberry units were adopted by the Institute and its nested units covering more than 1005 beneficiaries. Besides, more than 1370 field visits were undertaken by scientists and staff of the Institute and nested units for resolving field related issues.

Sub-units

The sub-units of CSTRI were involved in organizing various training programmes, conducting technology demonstrations and field interaction programmes, implementation and monitoring of various XI Five Year Plan CDP schemes. The sub-units were also involved in adoption of reeling, weaving, twisting and dyeing units for continuous monitoring for overall improvement. Silk testing service is the other major activity of the sub-units.

- **Training**

CENTRAL ACADEMIC AFFAIRS (CAC)

The CSB organizes a number of trainings at its Research and Training Institutes under different human resource development programmes. The training details indicate that the large number of stake holders were covered under different trainings during the period.

Sl. No.	Training Courses	No. of persons trained	Category of Trainees
1	Structured Courses (PGDS Mulb. & Non-Mulb. Course)	45	DoS
2	Capsule Courses	1199	CSB/DoS/NGO
3	Adhoc Courses (TUP + SDP + MDP + RDP + Need-based + Farmers Trg Prog.)	6421	Farmers/ Beneficiaries/ Entrepreneurs
4	Integrated Skill Development Scheme	8235	Beneficiaries/DoS/ CSB Officials
5	Other Programmes	2824	Farmers/Officials
	TOTAL	18724	

In addition to the regular training courses, CSB has launched a Six-month Certificate in Sericulture Course, in English, in collaboration with Indira Gandhi National Open University (IGNOU), New Delhi. 511 persons have registered under the programme from 10 states enrolled through nine Programme Study Centres distributed throughout the country. The course material is under translation in nine more Indian vernacular languages for benefit of their understanding.

Further, development of e-content on sericulture for the country-wise class room on the request of Electronic Multi-media Research Centre (EMRC) under UGC Project through the 104 identified scientist experts/resource persons of Central Silk Board and its Research Institutes is under progress.

• IT initiatives

Computerization

The Central Silk Board has been using the Information Technology to improve the functioning of the Board as well as assisting scientists in their research activities for the past 24 years. Central Silk Board has taken many initiatives to make end users reap advantages of Information Technology in reducing time and improving accuracy and speed, providing access to various data and reports through sets of databases maintained at Central Office, CSB.

Information Technology infrastructure in Central Silk Board:

- a. CSB has hosted bi-lingual website www.csb.gov.in and intranet service for CSB units with two state-of-the-art servers with a high speed internet (10 Mbps IBW).
- b. Linux and Windows Server 2003 operating systems are used in servers. Windows-7, Vista, Windows-XP and Linux are used on desktop computers.
- c. MS-Office 2000/2007/2010 and Open Office are used for general office correspondence, research, technical and statistical data maintenance. Power Builder, VB.net, ASP.net, PHP, Java is used for developing front end and web interfaces on LAN. Oracle, My SQL, MS-Access and Foxpro are used for managing data, handled through applications. SPSS and WinDoStat are used for analysis of research and statistical data.
- d. About 950 computers installed in CSB, including servers, Core i7, Core i5, Core i3 & Dual core computers and Notebooks, are extensively used for research data compilation, analysis of data, sericulture statistics, office productivity and routine correspondence in CSB and its nested units.
- e. Biometric finger print capturing system for recording attendance is installed in CSB complex and also in all other CSB nested units to ensure punctuality and discipline.
- f. Major applications developed and deployed during the year are:
 - i. *SMS Services*: Sericulture products rate are made available

by SMS. The SMS facility has gone a long way in updating on price.

ii. *SERI5K Database*: SERI5K database is designed and developed to maintain and manage Bivoltine cluster farmers all over India.

iii. *SILKS Portal*: Sericulture Information Linkages and Knowledge System (SILKS) 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 unutilized land for promoting sericulture. The SILKS portal is hosted and maintained by Computer Section.

g. Major applications and information systems presently in use (in-house developed as well as outsourced) are:

1. Personal Information System
2. Financial Accounting System/Payroll System
3. Confidential Reports
4. Address Master
5. GSLIS Information system
6. GPF Information System
7. Medical Bills Processing System
8. Sericulture Management Information System (SMIS)
9. Sericulture Production Statistics
10. GPF Investment Management
11. Pension Processing
12. Fixed Deposit Management

13. Recruitment Information System
14. Indian Silk Magazine Monitoring System
15. Medical Identity Card for Employees and their dependents
16. CSB website on Internet
17. Intranet containing services like Email, Online Circulars, Online Request transfers and GPF Info etc.
18. Study Leave, Training and Compassionate Appointment
19. Funds transfer
20. Income Tax
21. Children Education Allowance
22. Inward Letter Management
23. Seed Act application maintenance
24. Record Room Database
25. Pension Follow-up
26. SILKS portal
27. Online recruitment web application

The other Research units of CSB have also created websites to give Research and Scientific Information:

- i. CSR&TI, Mysore - www.csrtimys.res.in
- ii. CSR&TI, Berhampore - www.csrtiber.res.in
- iii. CSR&TI, Pampore - www.csrtipam.res.in
- iv. CTR&TI, Ranchi - www.ctrtiranchi.co.in
- v. CSGRC, Hosur - www.silkgermplasm.com
- vi. CMERTI, Lahdoigarh - www.cmerti.res.in
- vii. BTSSO, Bilaspur - www.btsso.gov.in
- viii. CSTRI, Bangalore - www.cstri.res.in
- ix. SMOI - www.silkmarkindia.com

- **Application of Remote Sensing (RS) and Geographic Information System (GIS) in sericulture development**

SILKS module, which is a single window ICT based information and advisory services system for the farmers practising sericulture, got completed in all the selected 108 districts in 24 states. The "SILKS" are aimed to 1) Provide computerized information storage, value addition

and supply sericulture knowledge to farmers; 2) Provide planning and advisory services in formats and language appropriate for the local sericulturists, and 3) Supply the information and advisory services through Internet and satellite-based communication.

- a) A detailed district-wise, block-wise summary of potential area identified was made available to CSB units and also to the respective states for immediate usage.
- b) A new web server was installed in CSB headquarters on the Windows platform and Beta version of SILKS web portal was made available.
- c) Appraisal survey was completed in the suggested taluks/blocks of Tamil Nadu, Karnataka and Andhra Pradesh.
- d) Improvements were brought in major module components based on the suggestions and farmer useful modules with loads of district specific information and farmer specific technologies in regional languages has been incorporated in the districts of Andhra Pradesh and the same process is on for other states too in a phased manner.
- e) Launching of “SILKS” web portal : On 9th October 2013, the then Union Minister of Textiles launched the SILKS web portal during the Conference of State Ministers of Textiles at New Delhi. The SILKS web portal provides extensive spatial and non-spatial information and statistics for the planners to formulate and manage the schemes/plans. It also provides useful information like weather forecasting and disease forewarning for the benefit of stake holders.
- f) With a view to appraise the user departments about the SILKS portal, North-eastern Space Application Center (NESAC), Shillong, in collaboration with the Regional Remote Space Centre of the concerned state(s) had organized one day “Hands on training workshops” and provided first hand training to district officers in usage of the SILKS portal for various planning, development and Transfer of Technology activities. Such workshops were also held for Karnataka, Mizoram, Manipur, Himachal Pradesh, Jammu & Kashmir, Punjab, Uttar Pradesh, Uttarakhand, West Bengal, Bihar and Tamil Nadu states.

• **Seed Organization**

a. **Mulberry Seed**

National Silkworm Seed Organization (NSSO) that is recognized in more than one way in sericulture industry in the country covering generation of quality basic silkworm seed besides production and supply of quality oriented commercial bivoltine and cross breed silkworm hybrids, continued serving its clientele with distinction during the year 2013-14. NSSO has excelled in the mulberry quality seed production in the country during the year 2013-14 and played a pivotal role in the country's mulberry raw silk production. In line with the mandate and served by a dedicated team, NSSO fulfilled the entire seed requirements by different stake holders including basic and parent silkworm seed during the year under report. This organization scaled to further heights with best ever record production surpassing the targets set for seed cocoon generation, basic seed production and bivoltine commercial seed production. Further, while touching the highest production of bivoltine hybrids ever in its history, NSSO has maintained its clientele for crossbreed silkworm seed also with a considerable share. NSSO with all its seed production centres, ISO 9001:2008 certified, ensured seed production of highest quality. The might and excellence of the organization in the mulberry seed sector in the country is mainly attributed to the total commitment and unstinted support of its work force including its extension personnel.

Seed Cocoon Generation and Basic Silkworm Seed Production at Basic Seed Farms

The Basic Seed Farms (BSFs) formed the back bone of NSSO operations through generation of quality seed cocoons and basic seed. In this direction, precise planning, scientific and systematic execution for seed maintenance and multiplication (P3, P2 and P1) at its 19 Basic Seed Farms (nine Bivoltine and 10 multivoltine) and the lone Centre for Sericulture Development (CSD) of NSSO by the dedicated teams assured the generation of quality seed cocoons and production of basic seed meticulously by

following one way system of multiplication of approved breeds. These farms performed exceedingly well and for the first time surpassed the targeted generation of both bivoltine and multivoltine seed cocoons. A quantity of 63.14 lakh bivoltine and 70.13 lakh multivoltine seed cocoons were generated as against the target of 58.30 and 70.03 lakh respectively. The comparative bivoltine and multivoltine seed cocoon generation at BSFs over the last five years is presented in **Figs. 1 & 2**.

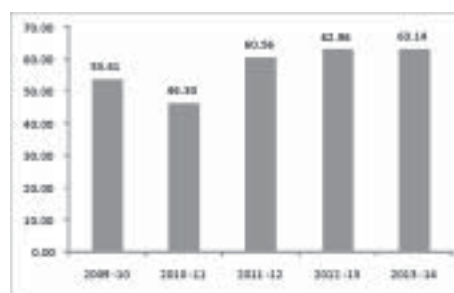


Fig.1 : Comparative Bivoltine Seed Cocoon Generation in BSFs of NSSO

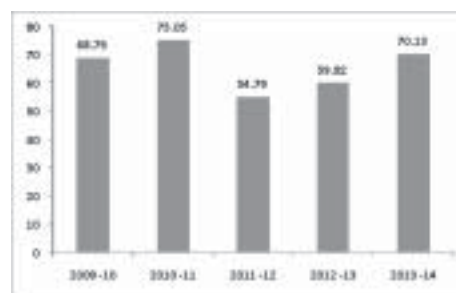


Fig.2: Comparative Multivoltine Seed Cocoon Generation in BSFs of NSSO

During the year 2013-14, a total of 15.45 lakh basic seed dfls (11.77 lakh bivoltine and 3.68 lakh multivoltine) were produced and 9.61 lakh bivoltine dfls were distributed and entire quantity of multivoltine seed and the details are presented below:

Basic seed production and supply				
Breed		P3	P2	P1
Production	Bivoltine	5014	50654	1125277
	Multivoltine	2479	23110	342345
	Total	7493	73764	1372989
Supply	Bivoltine		20277	941192
	Multivoltine	2479	23110	342345
	Total	2479	43387	1283537

The state-wise P1 bivoltine and multivoltine basic seed distribution by NSSO during 2013-14 is presented in **Figs. 3, 4, 5 & 6.**

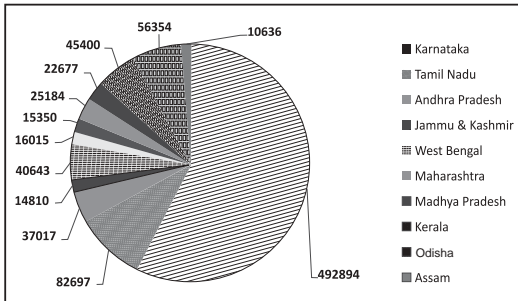


Fig. 3: State-wise bivoltine basic seed distribution by NSSO

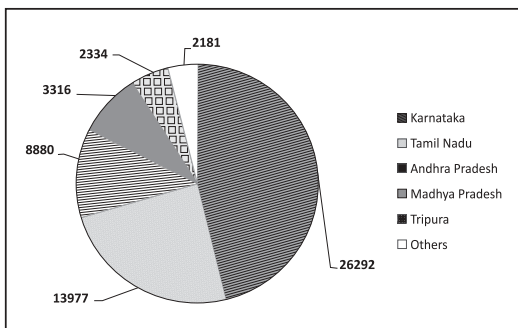


Fig. 4: State-wise multivoltine basic seed distribution by NSSO

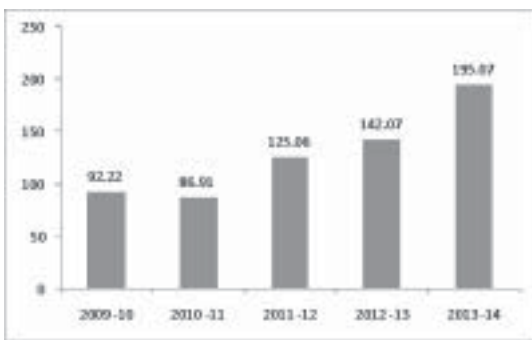


Fig. 5: Comparative Bivoltine Commercial Seed Production of NSSO

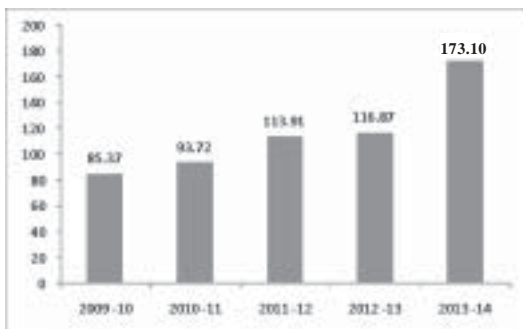


Fig. 6: Comparative Bivoltine Commercial Seed Distribution by NSSO

Generation of quality seed cocoons:

Aided with highly successful ‘Adopted Seed Rearer’ (ASR) system involving technically sound and competent seed rearers adopted by different SSPCs, 799.46 lakh bivoltine seed cocoons were generated during the year for production of bivoltine hybrid and crossbreed dfls. Besides SSPCs, NSSO has also supported the DoS, Registered Seed Producers (RSPs) and SSPCs of NSSO of West Bengal and DoS, Uttar Pradesh by raising 57.70 lakh (32.32 lakh – West Bengal and 14.73 lakh - Uttar Pradesh) bivoltine seed cocoons in South India and supplying to them against their indent of 47.05 lakh seed cocoons (32.32 lakh – West Bengal and 14.73 lakh - Uttar Pradesh) registering an achievement of 122.64%.

The Seed Cocoon Procurement Centre (SCPC) at Kunigal supported the SSPCs by procuring 93.37 lakh multivoltine seed cocoons for preparation of crossbreed layings. SCPC, Denkanikottai had distributed 36298 P1 dfls of Pure Mysore and other races and generated 82.38 lakh seed cocoons with an average yield of 41.13 kg per 100 dfls. Apart from this, 67.27 lakh seed cocoons were generated from Kunigal and 13.90 lakh from Punganur through the ASRs of the respective areas.

The record quality seed production is primarily attributed to the specific and successful production model supported by the Adopted Seed Rearers (ASRs) for seed cocoon generation and ensured quality seed production in the SSPCs.

Commercial Seed Production at Silkworm Seed Production Centres

The main task of NSSO is the production of dependable and quality commercial silkworm hybrid dfls (bivoltine x bivoltine & multivoltine x bivoltine) and their distribution among farmers. Accordingly, during the year 2013-14, a record quantity of 338.57 lakh dfls were produced against the target of 325 lakh dfls achieving 104.18% through its 19 ISO certified Silkworm Seed Production Centres (SSPCs). Out of the total

production of 338.57 lakh dfls, 195.07 lakh dfls were bivoltine hybrids (57.62%) (**Fig.5**) while the crossbreed layings were 143.50 lakh dfls (42.38%). 195.07 lakhs of bivoltine hybrids were produced against a target of 157 lakh (achievement of 124.25%). This includes 47.40 lakh CSR hybrids, 127.91 lakh double hybrids, 10.19 lakh traditional hybrids and 9.57 lakh new hybrids. PM x CSR2 formed (49.91 lakh) the core production of multi x bivoltine hybrid followed by Nistari x bivoltine (39.65 lakh).

Quality F1 dfls production: Seed quality is maintained in all its SSPCs and ISO quality management systems are in place at every level of seed production processes. The egg recovery in multi x bivoltine hybrids produced in the southern region was 29.39% against the norm of 28%. In bivoltine hybrids, the average egg productivity in the case of CSR hybrids was 61.79 g/kg cocoon against the norm of 60 g/kg cocoon and for double hybrids it was 61.62 g/kg cocoon against the norm of 65 g/kg cocoon.

NSSO supplied 173.10 lakh bivoltine hybrids (**Fig.6**) to various state departments and CSB units during the year.

Extension activities

The extension units including SSCs and SSUs together with scientists of SSPCs identified as CDFs for clusters of NSSO played a significant role in distribution of commercial seed produced at SSPCs of NSSO and in providing extension support through crop monitoring and transfer of proven technologies to the field. During 2013-14, 31 SSCs and 29 SSUs distributed 173.18 lakh dfls including 57.29 lakh bivoltine hybrid dfls. The comparative bivoltine commercial seed distribution by NSSO over the last 5 years is presented in **Fig.3**. Distribution of dfls through franchise CRCs gained immense popularity, as these CRCs procured dfls from the SSPCs, chawki reared and supplied them to commercial farmers which

resulted in improved cocoon productivity. 58 Franchise CRCs distributed 60.07 lakh dfls during the year.

Post-Authorization Trials (PAT) of new silkworm hybrids

Post-Authorization Trials (PAT) programme was continued as per schedule during the year under report with production and supply of dfls from different identified bivoltine, multi x bi and multi x multi combinations. NSSO has produced the hybrid dfls as per the programme with the supply of P1 dfls from respective research institutes and supplied them to the coordinating institutes for distribution among farmers for field evaluation. NSSO has made all the earnest efforts to produce and supply the dfls of the identified new combinations with the help of SCPCs, utilizing the seed cocoons of respective parental breeds by dedicated seed rearers quantity of 13.43 lakh dfls comprising 7.29 lakh of bivoltine x bivoltine combinations (7), 4.45 lakh of multi x bi combinations (5) and 1.69 lakh of multi x multi combinations (3) was supplied. The silkworm hybrids were distributed among the farmers of South, North and North-East India through the coordinating institutes.

Training programmes

NSSO also arranged various training programmes covering seed crop rearing, seed production and ISO awareness and a total of 448 persons were trained during the year under report against a target of 270. Besides, 89 officials of this organization were also trained under various programmes.

Seed Act implementation

NSSO continued its efforts for implementation of the provisions of Central Silk Board (Amendment) Act, 2006 during the year 2013-14.

A total of 3645 new applications received for registration during the year were scrutinized and processed. 3673 multi-colour, bilingual (Hindi-

English) Registration Certificates were prepared using the special software package developed for the purpose. Certificates in respect of 420 RSPs, 123 RCRs and 3130 RSCPs were printed and dispatched under 26 days of clearance, on an average. All the Registered Seed Producers and Chawki Rearers across various states in India were linked to the concerned Seed Officers (SOs) and Seed Analysts (SAs) and the SAs and SOs were regularly notified with the additions. The data base of registered stake holders were updated from time-to-time and sent to all the State Sericulture Departments and also uploaded to the CSB website. On-site inspection of the premises of RSPs and RCRs by Seed Analysts and Seed Officers was carried out for the purpose of system and product certifications, respectively. Certificate training course of three months duration was organized in CSR & TI, Mysore, for Chawki Rearing and in SSTL, Kodathi for Seed Production. 37 persons completed training in three batches in Chawki rearing and 57 persons in two batches in seed production techniques. Certificate training for matriculates makes them eligible for registration under Seed Act. A comprehensive bilingual booklet on 'Frequently Asked Questions' on Central Seed Act in Bengali-English was published.

Publications

A total of 46 numbers of publications including research/popular articles and papers presented/accepted for scientific seminars/workshops were made from NSSO scientists during the year 2014-15. Further, the following two booklets have also been published:

1. Frequently asked questions on Central Seed Act in Bengali-English (Bilingual)
2. Silkworm Seed Production Centre – ISO Certification Manual

Impact of NSSO on bivoltine raw silk production

NSSO leads the bivoltine raw silk production programme in the country by contributing nearly

60% of the country's bivoltine raw silk production through distribution of 173.10 lakh bivoltine hybrid dfls directly and another 40% indirectly through supply of bivoltine basic seed to various state sericulture departments for utilizing the same for commercial bivoltine silkworm seed production.

b. Vanya seed

Tropical Tasar - Basic Tasar Silkworm Seed Organization (BTSSO)

BTSSO is responsible for organizing the systematic seed production and supply of tropical tasar, functioning at Bilaspur, Chhattisgarh with its wings of 21 Basic Seed Multiplication & Training Centres (BSM&TCs) for tropical tasar functioning in different States and a Central Tasar Silkworm Seed Station (CTSSS) at Kota in Chhattisgarh. The CTSSS is responsible for production and distribution of tasar nucleus seed to BSM & TCs for further multiplication besides, maintaining germplasm of different silkworm races. CTSSS, Kota has produced and supplied 29185 tasar nucleus dfls during the year. There is a gradual improvement in performance of these 21 BSM&TCs located in 9 States that has produced 37.89 lakh dfls during the year 2013-14. A shift in production strategy has been adopted wherein the BTSSO will focus only on production & supply of entire nucleus seed requirement. The state seed production units will take up production of basic seed to meet their demand with private participation.

Oak tasar: The cumulative production by two RTRSSs, one oak tasar grainage, three RECs and two REC-cum-BSM & TCs located in six states in oak tasar seed production during the year 2013-14 was 0.55 lakh dfls.

Muga Silkworm Seed Organization (MSSO)

MSSO was established by CSB under the Muga Seed Development Project. It comprises of

two P4 and five P3 muga seed stations (central sector) and 10 P2 seed centers and six reeling units (state sector). The infrastructure created under state sector has been handed over to their respective state governments for further maintenance after completion of the project period. The present re-organized MSSO with the units created under central sector has two P4 units, six P3 units for production of basic seed and one MSSO Centre for the production of commercial seeds. Two muga seed zones have also been established at Kalimpong (WB) and Bageshwar (Uttarakhand) for production and supply of muga seed during summer and winter. The cumulative performance of Muga Basic Seed Stations during the year 2013-14 was 3.44 lakh muga dfls. Besides, one muga SSPC located at Kaliabari (Boko) in Assam has produced 1.56 lakh muga dfls.

Eri Silkworm Seed Organization (ESSO)

ESSO located at Guwahati, Assam performed well with its single eri SSPC in North-East region and four eri SSPCs in non-traditional states producing 3.61 lakh eri dfls during 2013-14 for distribution to different state departments.

• Co-ordination Organization of CSB

CSB is a statutory body created by an Act of Parliament viz., CSB Act 1948 functioning under the MoT, Govt. of India. The Board has been assigned the responsibility for the overall development of silk industry in the country,

besides, advising Govt. of India in the matters related to the silk industry. The various developmental and inter-related supportive programmes, as well as R&D schemes are implemented by CSB.

CSB headquarters located at Bangalore monitor the activities of research and development, front line demonstration, 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, Promotion of Indian Silk in domestic and international markets and advising the union government on all matters concerning sericulture and silk industry.

The organizational structure of Central Silk Board is at **Annexure II (a & b)**.

Staff Strength of CSB

The group-wise sanctioned strength and working strength of the Central Silk Board as on 31st March 2014 are indicated in the table:

Implementation of Reservation Policy

CSB is following the reservation policy as per the directions of Government of India for Scheduled Castes, Scheduled Tribes, OBCs, under Direct Recruitment and also reservation policy under SC and ST for Promotion. Apart from the above, the reservation policy is also extended to the Persons With Disabilities (PWD) for direct recruitment in all groups and for Promotion in Group 'C' category under the Equal Opportunities, Protection of Rights and Full Participation Act, 1995 of Government of India.

Group	Sanctioned	Filled	GEN	SC	ST	OBC	PWD	TOTAL
A	811	745	512	132	51	47	3	745
B	1499	1470	955	283	138	76	18	1470
C	1543	1345	664	398	189	76	18	1345
D	4	4	—	—	4	—	—	4
TOTAL	3857	3564	2131	813	382	199	39	3564
%			59.79%	22.81%	10.72%	5.58%	1.09%	100%

Out of the total staff strength of 3564, 813 employees belong to Scheduled Caste, 382 employees belong to Scheduled Tribe, 199 employees belong to Other Backward classes and 39 belong to PWD.

Vigilance

The main subjects assigned to the Cell as regards the vigilance aspect are furnished below:

- (a) Identification of points and sensitive posts vulnerable for corrupt practices and ensuring surprise and periodical inspections of the various units of the Board as and when situation demands.
- (b) Initiation of Disciplinary Cases against the erring employees concerned arising out of complaints/Preliminary Investigation Reports, inspections of surprise as well as regular nature/CBI Investigation Reports and of Internal Audit Reports, etc.
- (c) Processing of files at different stages, beginning with the receipt of complaints and of Preliminary Investigation Reports which culminate in the Imposition of Penalties and later on, at the stage of appeals and of the Writ Petitions filed by the delinquents.

Measures taken to strengthen the preventive vigilance by streamlining of procedures

The Units of the Board which are considered sensitive areas have been identified and measures for preventive vigilance, surveillance and detection have been taken. Besides, the Chief Vigilance Officer, the Directors/Officers-In-Charge of the Board stationed at different zones have been entrusted with the task of carrying out surprise inspections of the units/sensitive areas, clearly demarcating their areas of jurisdiction. The Surprise Inspection Reports that are periodically received are scrutinised and action taken wherever necessary. However, during the period 2013-2014, there arose no necessity to initiate any Disciplinary Proceeding based on such Reports. An Internal

Audit Wing - supported by Zonal Audit Teams of different zones - has been functioning to conduct the Internal Audit on the accounts of all the units. The Directors of the Research Institutes/Research Stations and the officers of the rank of Scientist-D holding independent charge of the various units have been delegated with powers to function as Disciplinary Authority in respect of certain categories of officials. The complaints and petitions received are examined and action taken as and when a *prima facie* case is established.

Expediting the completion of preliminary investigations/oral inquiries

Preliminary Investigations, wherever ordered, are being carried out as early as possible and action is being taken on the findings of the Preliminary Investigation Officers. As on 31-03-2014, 18 Disciplinary cases are pending for disposal. For the Disciplinary Cases initiated under Rule 14 of Central Civil Services (Classification, Control & Appeal) Rules, 1965, viz., Major Penalty Proceedings, serving as well as retired officers of the Board are appointed as the Inquiry Officers, with instructions to complete the inquiry process within the specified time limit and five Retired Judicial Officers (Retired District Sessions Judges) have, of late, been empanelled to be appointed as Inquiry Officers (as and when Disciplinary Cases crop up).

Observance of the Vigilance Awareness Week

In accordance with the guidelines issued by the Ministry/Central Vigilance Commission, New Delhi, Vigilance Awareness Week was observed at the Central Silk Board's Head Quarters and all its subordinate units between 28-10-2013 and 02-11-2013 in a befitting manner.

Staff/Public Grievance Redressal Machinery

As per the instructions of the Ministry of Textiles, senior officers of the Central Silk Board holding independent charge need to be nominated as Grievance Officers, in order to redress the

grievances of the Staff of the Board and the Public as well. During the year 2013-14, 70 Grievance Petitions were received, the balance brought forward from the end of the previous year (2012-13) being 17. Out of the total of 87 (70 + 17), 63 Grievances stood disposed off during the year. Action has been initiated to dispose the balance 24 petitions.

As regards the complaints relating to sexual harassment at work places received from the women employees/Women Farm Workers of the CSB, Complaints Committees have been constituted at the Board's Secretariat and also at the Institutes' level to act as the Inquiring Authority in the cases involving such complaints.

Official Language Policy

Hindi Section's achievements

During the period under report, efforts were continued for achieving the targets fixed by the Department of Official Language, Ministry of Home Affairs, Govt. of India, New Delhi for implementation of the Official Language Policy of the Union for the year, 2013-14. As a result of accelerating the progressive use of Hindi in official purposes, offices of Central Silk Board were awarded from different Forums. Central Tasar Research & Training Institute, Ranchi received first prize from Kendriya Sachivalay, Hindi Parishad Ki Mahanagar Samanvay Samiti, Kolkata on 10.05.2013, Karyalay Deep Purskar from Rajbhasha Samsthan, Delhi on 26.04.2013 and also received Regional Rajbhasha third prize for the year 2012-13 on 07.03.2014 for excellent implementation of Official Language. The Central Silk Technological Research Institute, CSB, Bangalore received Regional Rajbhasha third prize for the Commendable work in Official Language for the year, 2012-13 on 10.02.2014. Central Sericultural Research & Training Institute, Pampore, J&K received Rajbhasha Second Prize for the excellent performance in the

implementation of Official Language Policy of the Union for the year 2012-13 on 31.03.2014. The Satellite Silkworm Breeding Station, Coonoor received Rolling Shield first prize from Town Official Language Implementation Committee, Ooty-Coonoor on 20.12.2013 and the MSSO, Guwahati received Citation from Town Official Language Implementation Committee, Guwahati on 20.12.2013. RTRS, Bhandara received Rajbhasha Vibooty Samman-2013 from Hon'ble Minister of Central Coal for writing research papers in Hindi and Hindi books on 28.10.2013. Special prize was awarded to Dr. Shashindran Nair, Scientist-C of National Silkworm Seed Organization, Bangalore for inter office Technical Article Competition organized under the auspices of Town Official Language Implementation Committee, Bangalore on 16.09.2013.

Compliance of Official Language Act, 1963 & Rules, 1976

Apart from ensuring cent percent compliance of Section-3(3) of the Official Language Act, 1963, letters received in Hindi were replied to in Hindi and bilingual only under Rule-5 of Official Language Rules, 1976. 106 offices including Board Secretariat have so far been notified under Rule 10(4) of Official Language Rules, 1976 and Order/Memorandum was issued for doing work in Hindi under Rule 8(4) of Official Language Rules, 1976.

Hindi training

Three Stenographers and three Lower Division Clerks of the Board's Headquarter Bangalore passed Hindi Stenography and Hindi Typing examinations, respectively.

Hindi computer training

Three one day full-time Hindi Computer Training was organized for officers and employees on 14th, 17th and 18th March 2014 in Central Hindi Training Institute, Kendriya Sadan, Bangalore, wherein 13 officers and 35 staff members were

trained. One official from CSTRl, Bangalore, three from NSSO, Bangalore, two each from SSTL and SBRL, Kodathi, Bangalore received Basic Computer Training under Hindi Teaching Scheme, Bangalore.

Translation training

The Asst. Director (O.L.) of CSTRl, Bangalore and one Sr. Translator (O.L.) of NSSO, Bangalore received High Level Translation Training Organized by Central Translation Bureau, New Delhi.

Meetings

Quarterly meetings of Official Language Implementation Committee which monitors Official Language Implementation Programme in Board Secretariat, Research Institutes and other main sub-ordinate offices were held on 24.06.2013, 20.09.2013, 19.12.2013 and 19.03.2014. The meetings of Official Language Implementation Committee were held in most of the sub-ordinate offices also.

Hindi day / week / fortnight

Hindi Fortnight was observed jointly by the Central Office, NSSO and CSTRl, Bangalore from 02.09.2013 to 13.09.2013 and Hindi Fortnight closing ceremony was organized on 17.09.2013 at CSB premises in Bangalore and competitions on Hindi reading, handwriting, noting-drafting, what does the picture say?, cross word, glossary, memory test, oral quiz and Hindi songs, etc., were organized.

Shri Divakar Y. Bhatt, Asst. Director (Insp.), Central Silk Board, Bangalore and Shri S.A. Hippargi, Scientist-C, CSTRl, Bangalore received Second & Consolation Prize respectively for Hindi Pick & Speak Competition and Shri S. Penchalaiah, Asst. Director (A&A), NSSO, Bangalore received first prize for Noting-Drafting Competition organized under the auspices of TOLIC, Bangalore on the occasion of Joint Hindi Divas-2013 held on 11.12.2013.

Hindi Day/ Week/ Fortnight was also organised in all the attached/subordinate units of the Board.

Hindi workshop

Three one-day full-time Hindi Workshops were organized for the employees on 28.06.2013, 26.09.2013 and 26.12.2013. A workshop-cum-Computer training was also organized on 14th, 17th and 18th March. Hindi Workshops were also organized by the sub-ordinate units of the Board.

Softwares and its use

Following the instruction of Department of Official Language, Ministry of Home Affairs, Govt. of India, Unicode software is being used in CSB and in all its main Institutes, ROs' and other offices. 'Leap Office 2000' is also being used in CSB and its units. Bank Script Software is being used for preparing pay slip in bilingual in Central Silk Board and in its Accounting Units.

Inspection

Inspection pertaining to the implementation of Official Language was carried out in 79 attached and sub-ordinate offices of the Board by CSB Head Office and its main institutes/units.

Third Sub-Committee of the Committee of Parliament on Official Language carried out inspection of BTSSO, Bilaspur, Chhattisgarh, REC, Haldwani, Uttarakhand and Board Headquarter, Bangalore on 15.04.2013, 17.06.2013 and 05.07.2014, respectively.

Translation

Hindi Section in Board's Secretariat has translated Annual Report 2012-13, Annual Accounts & Audit Report 2012-13, Draft Note for Cabinet Committee on Economic Affairs in Hindi, Note on the performance of Indian Silk Industry & Functioning of Central Silk Board in Hindi, Training Calendar 2012-13 for Sericulture Sector in Central Silk Board, Review of Central Silk Board work for

the year 2012-13, Point wise replies of CSB on the list of points raised by the Parliamentary Committee on Welfare of SC/ST for its visit to CSB-Mysore in Hindi, Study material of the Lok Sabha Committee on estimate and Wild Silks of India – A Users Compendium Volume-IV in Hindi.

Publication

“Resham Bharati” – a House Journal is devoted for the Promotion of Official Language of the Union. The June, 2012 issue of Resham Bharathi was published by Central Office. A Half-yearly House Journal “Resham Kiran” magazine June, 2013 issue was published by CSR&TI, Mysore. “Resham Vani” December, 2012 issue was published by CTR&TI, Ranchi. The Central Office continued to publish Annual Report, Annual Accounts & Audit Report for the year 2012-13 and Training Calendar 2013-14 for Sericulture Sector in Central Silk Board in Bilingual which was uploaded in the CSB website. CTR&TI, Ranchi published Annual Report for the year 2012-13 in bilingual, *Arjun Evam Asan Ke Muky Pam Rog – Unki Roktham Evam Vibhinn Gatividiyoun Sambandhi* Calendar, *Adhik Kosa Utpadan Ke Liye Chowki Bagicvha* and *Gall Keet Niyantran Hetu Ekikrut Peedak Prabandhan* Book/Brochure. MSSO, Guwahati also published Annual Report for the year 2012-13 in bilingual and CSR&TI, Mysore published Training Calendar 2012-13 in Bilingual.

Rolling shield award

In order to accelerate the tempo of implementation of Official Language in Board Secretariat and its attached units, Central Silk Board has introduced Rajbhasha Rolling Shield Scheme on 05.06.1995 for the Assessment year, 1993-94, which envisages awards for their performance during the year. The award function was organized on 20.09.2013. The recipients of the award for the year, 2011-12 were MSSO, Guwahati; BTSSO, Bilaspur; Zonal Office, DCTSC, Bilaspur and BSM & TC, Navarangpur, Odisha. A provision for a

separate Rolling Shield has also been made for the Sections of the Board Secretariat. Among the sections of the Board Secretariat, Bills Section bagged the Rolling Shield for the year, 2011-12. CTR&TI, Ranchi, CSR&TI, Berhampore and CSTRI, Bangalore also have introduced Rajbhasha Rolling Shield Scheme to boost the implementation of Official Language Policy in the main institute and in their respective units and sections. The CSB has implemented Hindi Prabodh Training for Group-D staff who were placed in Group-C as per VI Central Pay Commission.

Competitions

The CSTRI, Bangalore organized a ‘Hindi Pick & Speak’ competition on 31.10.2013 on the occasion of Joint Hindi Day-2013 at Town Level in the auspices of Town Official Language Implementation Committee, Bangalore, in which participants from the Central Govt. Offices, Autonomous Bodies and Statutory Bodies located in Bangalore participated.

Public Information Cell (PIC) - Implementation of Right to Information Act, 2005

40 CPIOs and 215 APIOs have been designated at its headquarters and field units together to provide information to the public. 17 manuals/reports were updated and uploaded in CSB website www.csb.gov.in. The Public Information Cell receives enquiries from the public and replies to them. 180 applications were received and 167 were disposed by 31st March, 2014. CSB has trained 26 CPIOs/APIOs during the year on RTI provisions. The PIC is also integrated to Kisan Call Centre (KCC) (Toll free number: 1551). Government of India has identified CSB as level II experts of this KCC.

The PIC facilitates computerized public interface for dissemination of information on services and activities of Central Silk Board to the public and other stakeholders and provides information on major activities of the organization.

It has set-up, technological advancement in sericulture and silk industry, prices of silk commodities, sericulture production data, silk export and import statistics, schemes/projects implemented, services offered by the Board either directly or through the DOS, NGOs, training imparted by various CSB units, literature, periodical publications, books, sericulture films available for sale, facilities provided by the Board on quality testing, certification, seed supply etc., to farmers, reelers, weavers, NGOs and quality clubs. PIC is equipped with printed materials like pamphlets, brochures, leaflets, display boards and computer etc.

PUBLICITY PROGRAMMES

Publications

The Publicity Section has brought out the following publications of the Central Silk Board:

Vanya - Wild Silks of India

The Publicity Section has also brought out the **Vanya – Wild Silks of India – A Users’ Compendium (Volume-IV)** – Profiles of Non-Farm Activities of the *Vanya* Wild Silk of India. This 210 pages multi-colour publication provides detailed information on non-farm activities *viz.*, Establishment of Tasar Silk Reeling Units, Muga Silk Reeling Units, Eri Spinning Units, *Vanya* Silk Twisting, Weaving, Dyeing, Printing, Finishing Units and also *Vanya* Silk Knitting Unit.

Annual Administrative Report 2012-13

The Annual Administrative Report of the Central Silk Board for the year 2012-13 was brought out during the month of October 2013. The Annual Administrative report of Central Silk Board is published every year with a view to provide the complete information about the activities of Central Silk Board and its nested units. This publication also offers detailed information on various projects and schemes being implemented by Central Silk Board and DOSs in various States.

CDP Manual – XII Five Year Plan 2012-17

The Publicity Section has also brought out 2 Boards’ publications *viz.*, (i) **Manual of Catalytic Development Program** (Centrally Sponsored Scheme) XII Five Year Plan (2012-17) and (ii) **Unit Cost Book – CDP- XII Five Year Plan (2012-17)** in coordination with CDP Cell. These publications provide complete information on objectives and approach during XII five year plan pertaining to sericulture and silk sector under the Catalytic Development Programme (2012-2017) and also the unit cost. These publications are also available in Compact Disc (CD).

Resham Bharati

The Publicity Section has brought out the **Resham Bharati** an in-house half-yearly Hindi Magazine devoted to the Promotion of official language (Hindi) in the Central Silk Board in coordination with the Hindi Section, Central Office, Bangalore.

Sericulture & Silk Industry Statistics - 2012

The Publicity Section has brought out the Board’s publication “**Sericulture & Silk Industry Statistics - 2012**” in association with the Statistical Section, Central Office, Bangalore. This publication provides detailed statistical information on production and prices of cocoon and raw silk. It also gives details on exports and imports of silk goods for the terminal year of X Plan (2006-07) and XI Plan (2007-08 to 2011-12).

Handbook of Sericulture Technology

The Publicity Section, Central Office, Bangalore has initiated action for printing and publishing the Board’s publication “Handbook of Sericulture Technology” in English, Kannada and Telugu languages.

Press and Media Relations

The Publicity Section has issued a number of press notes to Print and Electronic Media highlighting various training programmes offered by CSTRl, Bangalore *i.e.*, on Silk Twisting

Technology, Quality Raw Silk Production by adopting multi-end reeling/automatic silk reeling and chemical testing methods for maintenance of silk etc. The Publicity Section also issued press notes from time-to-time covering various developments made in sericulture and silk sector. In addition to the above, press conferences were also organized facilitating the Hon'ble Union Minister of Textiles, Chairperson and Member Secretary of Central Silk Board to address the representatives of press & media. The print and electronic media gave wide coverage about the press conferences.

Participation in Exhibition and Trade Fairs

The Publicity Section, Central Office, Bangalore in association with CSR&TI, Berhampore participated in the 17th National Expo of Central Calcutta Science & Culture Organization for Youth which was held at Ramakrishna Mission, Vidya Mandira Gram, Belur Math, Howrah, West Bengal during 21st to 25th September 2013. **The CSB has bagged the Best Technology Pavilion award** in the above said expo. Besides, the Publicity Section also had put up a stall in the Krishi Mela held on 28th January, 2014 at CSR&TI, Mysore.

Audio-Visual Publicity

The Publicity Section has approached DAVP for production of print and electronic media advertisement materials. The Central Silk Board has requested the DAVP to provide the details about the short listed empanelled creative agencies to entrust the job of production of audio visual publicity materials for print and electronic media and 11 subjects were selected for production of the ad materials. It is proposed to organize the print and electronic media advertising campaign during the month of July-August 2014.

Indian Silk

The Central Silk Board continued the publication of *Indian Silk* - the monthly bilingual industrial journal devoted to the sericulture and silk

industry of India. Presently, the journal is in its 52nd year of publication. During the period, regular attempts were made to enrich its contents for the benefit of its readers.

During the year, **Indian Silk** also:

- a. Published special Issues on highlights of achievements during XI Five Year Plan and highlights of approach and initiatives under XII Five Year Plan and also covered National Workshops on CDP Implementation for different Zones.
- b. During the period, Indian Silk besides the regular articles/information covered important national and international events like, unveiling of the ISC office at Bangalore and organization of Sericulture Conference at New Delhi.
- c. Published time relevant articles on issues of concern like incidence of May-June Beetles; development of software tool for sericulture; new technologies in chawki rearing, besides, a series on silk-friendly eco-dyes and the processes; development of blended fabrics etc.
- d. Published success stories on sericulturists, reelers, weavers and designers from different sectors and different parts of the country including NGO in the North-East, highlighting their achievements and govt. schemes. Published special article on impact of CPP in popularizing bivoltine sericulture in Tamil Nadu by the Commissioner, DOS, Tamil Nadu.
- e. Published features on the status of sericulture in select states.
- f. Visit of dignitaries like Union Minister of Textiles, Chief Minister of West

Bengal; Ministers and MP/MLAs of different states; Principal Secretary (Industries), Bihar; Addl. Secretary & Financial Advisor, MOT and senior bureaucrats to different programmes of sericulture in different areas were also covered under CSB News and Silk Briefs.

- g. Efforts to make the magazine more informative and illustrative continued. New columns like 'This Issue That Year' and 'Do You Know' introduced while other popular columns like 'Research Briefs', 'Research News' Trade Enquiries & Fair Calendar, National and International Trade events, CSB News and SMOI News etc., continued.
 - h. The cover pages of the magazine and the contents have been made more topical and their presentation, more creative.
 - i. Indian Silk is being supplied to most of the extension personnel of CSB and state DOSs under CDP which has proved useful in dissemination of information on various technologies and schemes on a regular basis. The feed back is quite encouraging.
- Participated in conceptualization, editing, designing and layout of the two manuals on CDP for the XII FYP, that received large applause. Innovative flash system based CDs were also prepared for easy access of information and uploading it on CSB website.
 - Coordinated the printing of the report of working group on technology trials in post-cocoon sector.
 - Designing of cover pages for booklet on CDP MGNREGA Convergence, project reports for Maharashtra, Andhra Pradesh and supported publication of the Convergence Booklet.

- Contributed to the preparation of material for CSB advt. campaign in print and electronic media.
- Participated in the meeting on centenary celebrations of Directorate of Sericulture, Govt. of Karnataka and provided useful suggestions. Also, extended experts opinion on the draft Coffee Table Book for KSIC, "Yards of Heritage".
- Indian Silk continued to be indexed in select national and international abstract services which ensure wide publicity to the journal, both inland and abroad.
- Further, ISU was actively involved in regular updating of CSB website about the magazine, its contents, subscription and advertisement, for the benefit of visitors.
- The ISU aiming at 100% compliance of the OLIC norms, carried out all related correspondence in Hindi/bilingual besides by and large the noting, by translating and typing within the Section itself independently. Received citation on 20.9.2013 for the best performance in Office Language Implementation among sections of the Central Office, for the year 2011-12.

1. Preshipment Inspection

- (a) Compulsory preshipment inspection of Natural silk goods for export by CSB has been dispensed with, with effect from 01-04-2000 as per the direction of Ministry of Textiles. However CSB continues to be the inspection authority for Natural Silk Goods. CSB is undertaking voluntary quality inspection against payment of service charges prescribed by the Board. Various Tariff Certificates including GSP are certified by CSB on inspection of silk goods and on self declaration by the exporters.
- (b) Silk Waste Inspection and Certification meant for export also forms a part of the services offered by the Board.

- (c) 100% Silk Pile Carpet inspection has been suspended w.e.f. 07-10-1999 as per the direction received from Ministry of Textiles, Govt. of India, New Delhi vide letter No F.N. 120111093-Silk dated 07-10-1999. However, Central Silk Board is undertaking Carpets Inspection under this scheme on voluntary basis as an Export Promotion measure, wherever the exporter or Importer makes a request to Central Silk Board. '100% Natural Silk Pile Carpet' labels are affixed on the 100% Natural Silk Pile Carpets. The brand is well established with consumers abroad.
- (d) During the year 2013-14 natural silk/mixed silk goods certified for exports by the Certification Centers of CSB under Voluntary Quality Inspection scheme amounted to 43.072 lakh sq. mts. valued at Rs. 389.305 crore. Various tariff certificates such as GSP, Handloom Certificate, Handicrafts Certificate and Certificate of Origin etc have been issued by the EPS section. Revenue of Rs. 23,49,290 has been generated under the voluntary quality inspection scheme towards the inspection charges, sale of blank forms and the issue of certificates such as GSP, Certificate of Origin, Handloom Certificate, Handicrafts Certificate etc.

2. Issual of various tariff certificates

- (a) To enable foreign importers to avail duty free or concessional duty for the import of natural silk/mixed silk products in their country under the EXIM Policy and Bilateral agreements, various tariff certificates viz., Handlooms Certificate to E.E.C., Handicraft Certificate to E.E.C., Handicraft Certificate to Australia, Austria, Switzerland tariff certificate, certificate of Origin and other Special Certificate of origin to U.A.E., Sri Lanka, Yugoslavia etc., are issued to goods inspected and certified for export and on the self declaration by the exporters against

payment of requisite fees prescribed by the Board.

- (b) Handloom fabrics also enjoy a special privilege for duty concession at import destination offered by EEC Countries.

3. Testing facilities

Extending testing services for checking silk quality, physical/chemical properties and other parameters of testing through laboratories attached to Certification Centers of the Board and analysis of sample swatches of Silk, Identification of constituent fibres, percentages etc.

Extend technical assistance in identifying constituent yarns and percentage of silk content in products as and when approached by different organizations like Customs Department, Directorate General of Foreign Trade, DoS, other Textiles Institutes and Institutions, as well as private firms and individuals.

Centre-wise silk/mixed silk goods certified under voluntary quality inspection scheme during 2013-14 is indicated in **Table 1**.

Revenue generated by the way of extending service to the various institutions and exporting community for the year 2013-14 is indicated in **Table 2**.

Table 1: Centrewise natural silk goods certified under voluntary quality inspection scheme during 2013-14

Certification Centre	2013-14	
	Quantity in lakh sq. mt.	Value in Rs. in Crores
Mumbai	5.213	53.677
Bangalore	29.055	147.781
New Delhi	3.542	108.690
Kolkata	4.269	33.664
Chennai	0.599	9.141
Varanasi	0.206	6.311
Srinagar	0.188	27.763
Hyderabad	0	2.278
Bhagalpur	0	0
Grand Total	43.072	389.305

During the year the Silk Yarn exports from India is 7164 kg valued at Rs. 32834034 and the silk waste exports is 131031 kg valued at Rs. 88096485.

Table 2 : Revenue generated by way of extending service to the various institutions and exporting community for the year 2013-14

Certification Centre	Revenue in Rupees
Mumbai	252600
Bangalore	1340240
New Delhi	363100
Kolkata	262350
Chennai	58550
Varanasi	17600
Srinagar	51350
Hyderabad	3500
Bhagalpur	0
Grand Total	Rs.23,49,290

Regional Offices of CSB

Regional Offices (RO) of Central Silk Board liaison with states and their Departments of Sericulture and nested units. They coordinate with DoSs/NGOs/implementing agencies for various sericulture development programmes in respective states. They are functioning at different locations, viz., New Delhi, Mumbai, Kolkata, Hyderabad, Chennai, Bhubaneshwar, Guwahati, Lucknow, Jammu and Patna. Other activities carried out by Regional Offices are:

- Member Convener for State Level Sericulture Co-ordination Committees (SLSCC) to discuss various developmental issues.
- Organizing demonstrations, farmers' meets and entrepreneurship development programme.
- Collection of data pertaining to sericulture and silk industry, analyzing and forwarding the data to Central Office, Bangalore for

maintaining the Management Information System data-base.

- Conducting base-line surveys in selected areas to work out productivity economics of sericulturists.
- Identifying gaps in lab-to-land programmes in the states and propose schemes/suggestions to Central Office.
- Coordinating with the Directors of the research institutes in their jurisdiction in respect of field trials, transfer of technology, surveys and evaluation studies.
- Critically evaluating the sericulture programmes run by the NGOs and other voluntary agencies in different states.
- Organizing the implementation of development programmes in states.
- Coordinating the trainings/workshops and other publicity programmes on the directions of Central Office.
- Undertaking voluntary quality inspections of silk goods meant for exports.
- Assisting the states in formulation, implementation and evaluation of centrally sponsored Catalytic Development Programme.
- Acting as Central Public Information Offices/ Assistant Public Information Offices to provide information to the public as per the provisions of the RTI Act, 2005.
- Coordinating implementation/execution of 'Silk Mark' Chapters by Silk Mark Organization of India (SMOI).

The Regional Offices at New Delhi, Guwahati, Lucknow and Kolkata have been designated as Zonal Offices for implementation of CDP during XII Five Year Plan.

Special assignments consequent on CDP implementation

Assisting state departments and research extension centres in undertaking periodical

visits for impact study of the Cluster Promotion Programme besides monitoring of regular Catalytic Development Programme beneficiary assessment and its reporting to CSB/SLSCC.

Participating in Research Advisory Committee (RAC)/Regional Research Advisory Committee (RRAC)/Zonal Post-cocoon Committee (ZPCC) meetings as a permanent invitee.

Associating with DoS/CSB in finalization of XII Five Year Plan proposals and participate in related meetings of CDP like project monitoring committee and field level beneficiary meetings for resolving sericulture development related issues.

Evaluating the schemes under cluster development programme implemented by concerned states to assess and report the impact of CDP.

In order to familiarize the implementing agencies and stakeholders with CDP components and its constituents to have first hand information and thorough knowledge on the implementation modalities, CSB had organized National/Zonal/workshops in all five Seri-zones of the Country from October, 2013 to December, 2013 followed by State level workshops.

The workshops deliberated upon the importance to systematically implement the programme, by dovetailing funds from other State and Central Schemes for Sericulture to achieve the target envisaged during XII Plan. CDP Manual and Unit Cost books have been printed and provided to States and agencies/stakeholders to facilitate easy understanding and implementation.

• **Market Development**

Raw Material Banks (RMB) for tasar and Muga

Central Silk Board has set up Raw Material Banks (RMB) for cocoons and by-products under price stabilization scheme of Govt. of India on “no

profit no loss basis” to support the primary growers and supply cocoons at steady price and also to protect the interest of rearers from exploitation by middlemen. They ensure sufficient incentive for production, relieve the beneficiaries from wide fluctuations in market prices of cocoon and raw silk and provide off-the-shelf supply of essential raw materials to actual users & manufacturing exporters of silk goods at steady prices.

RMB for Tasar at Chaibasa (Jharkhand) with four Sub-depots and for Muga at Sibsagar (Assam) with three Sub-depots ensures economic and fair price to the primary tasar and muga cocoon growers. The details of procurement and sale of tasar & muga cocoons made by RMBs during the year 2013-14 is given in the table:

(Unit: Qty. in lakh nos. & Value in lakh Rs.)

Sector	Year	Procurement		Sale	
		Qty.	Value	Qty.	Value
Tasar	2013-14	248.65	267.30	240.78	232.50
Muga	2013-14	6.47	10.11	6.47	10.49

• **Association with ISC & other countries / organizations**

Central Silk Board continues to engage with the International Sericultural Commission (ISC), Bangalore, India, for the development of sericulture and silk industry in the country. The shifting and locating the office of ISC from Lyon (France) to Bangalore, India has significantly benefited the CSB to engage with many other international organizations, Governments and reputed institutions for the development of sericulture and silk industry. As an outcome of this, action has been initiated to forge bilateral collaborative programmes with institutions in countries like Bulgaria, Brazil, Uzbekistan, Bangladesh, Italy, Australia, Myanmar and Romania. Special initiatives have also been taken to source assistance from international agencies like SAARC, ITC, UNIDO, ESCAP, FAO, etc.

Visit of CSB delegation/officials to other countries

- a) A CSB delegation comprising of Dr. Subas V Naik, Scientist-D, CSTRI; Dr. K. Sathyanarayana, Scientist-D, CSB and Dr. K. Manthira Moorthy, Scientist-D, CSR & TI, Mysore attended the 6th BACSA International Conference, with the theme of "Building Value Chains in Sericulture" at Padua, Italy from 7 to 12 April, 2013. The scientists have also presented research papers during the Conference.
- b) Dr. B. Saratchandra, Director, CSB, Bangalore was deputed to Rwanda for 12 days during June/July 2013 to provide consultancy services for a sericulture project funded by the International Fund for Agricultural Development (IFAD).
- c) Dr. B.B. Bindroo, Director, CSR&TI, Mysore was deputed to visit Bucharest, Romania from 19th to 22nd June, 2013 to attend the Joint Working Group Meeting on Textiles between India and Romania.
- d) Dr. B.S. Angadi, Director, NSSO, Bangalore was deputed to Brazil from 18th to 21st November, 2013 to initiate collaborative programme with Universidade Estadual de Maringa, Brazil for developing silkworm breeds with Indian support for the benefit of both countries.
- e) A two-member CSB delegation comprising of Dr. Priyaranjan, Scientist-C and Shri Diwakar Y. Bhat, Asst. Director (Inspn.), CSB, Bangalore was deputed to Myanmar from 12th to 14th February, 2014 to discuss and finalize the specific areas of cooperation between Myanmar and India in the field of silk sector.

Shri Ranjeet Bhattacharjee, Joint Secretary (Tech), Regional Office, Kolkata was deputed to Dhaka, Bangladesh on 27.02.2014 as a member

of the Ministry of Textiles - delegation that visited Bangladesh for attending the Joint Working Group on Textiles and Jute Sector between India and Bangladesh.

• Quality Certification Systems

The main objective 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 Testing Units & Raw Silk Testing Centers and Promotion of Silk Mark are being implemented:

a. Establishment of Cocoon and Raw Silk Testing Centers

Quality of cocoons influences the performance during reeling and quality of raw silk produced. Cocoon Testing Centres which have been established in different Cocoon Markets with the support under CDP facilitate cocoon testing. It is proposed to establish 35 Cocoon Testing units during XII Plan. 12 Cocoon Testing Centers have been established under the scheme during 2013-14.

Quality of raw silk produced influences the quality of the fabrics and finished products including the garments and made-ups etc. It is proposed to establish 15 Raw Silk Testing Centers during XII Plan. In order to keep a tab on the quality of the raw silk produced in the market and create quality awareness among the stakeholders, four Raw Silk Testing Centers have been established during 2013-14.

b. Silk Mark Organization of India (SMOI)

The Ministry of Textiles, Govt. of India came up with an initiative for the protection of the interests of the consumers and other stakeholders of the silk value-chain by bringing out "Silk Mark" Scheme in June 2004. Silk Mark is a Quality Assurance Label signifying that a product to which it is affixed is made of pure silk. The scheme is

being implemented by the Silk Mark Organization of India (SMOI), a registered Society promoted by the Central Silk Board under Ministry of Textiles, Govt. of India. Silk Mark labels can be affixed to primary, intermediate and finished products of silk including yarn, fabric, sarees, made-ups, garments, carpets, etc.

The Silk Mark Scheme is aimed at protecting the interests of the users and connoisseurs of silk and for the generic Promotion of silk and also for building brand-equity of Indian Silk.

During the last 10 years of its operation Silk Mark could reach Bangalore, Chennai, Palakkad, Hyderabad, Kolkata, Guwahati, New Delhi, Varanasi, Lucknow, Mumbai, Srinagar, Chandigarh, Coimbatore and many other silk weaving and manufacturing clusters and retail hubs across the country.

Since the launch of Silk Mark in June 2004, 2509 manufacturers and traders i.e., weavers, weavers co-operative societies, retailers, wholesalers, exporters etc., have joined the fold of Silk Mark Organization of India as authorized users. More than 1.95 crore Silk Mark labelled products has reached the market for the benefit of consumers. Apart from becoming familiar with the consumers, Silk Mark is gaining confidence of the silk industry as well. During 2013-14, 301 new authorized users joined the SMOI under Silk Mark scheme and over 27.30 lakh silk mark labeled products have reached the market.

To promote the concept of Silk Mark among the consumers, in order to encourage the consumption of pure silk products SMOI has taken up a number of Promotional programmes like Road Shows, Workshops and Interactive awareness programmes at women's associations, educational institutions etc. A total of 560 such programmes have been organized during the year 2013-14.

The summary of the achievements of SMOI during 2013-14 is given below :

Sl. No.	Particulars	Achievement
1.	Authorized user enrolled (Nos.)	301
2.	Labels Sold (lakh)	27.32
3.	Awareness Programmes/ Road Shows etc., organized (Nos.)	560
4.	Silk Mark Expos organized (Nos.)	16

In order to make pure silk products available to the consumer and to provide a platform for the manufacturers and traders to showcase their products directly to the consumer, SMOI organizes Silk Mark Expos in towns and cities across the country. These expos provide an opportunity for the transaction of pure silk products from diverse clusters of India under one roof. During 2013-14, a total of 16 Silk Mark Expos have been organized at Siliguri, Kochi, Kolkata, Guwahati, Agartala, Raipur, Madurai, Hyderabad, Dehradun, Indore, Coimbatore, Chennai, Vishakapatnam, New Delhi, Chandigarh and Bangalore. During these expos *Vanya Silks* were also promoted through VSMPC of CSB. Promotional programmes like designers meet, buyer-seller meet, fashion shows, cultural programmes etc., are organized on the sidelines of these.

c. New Scheme

Export Promotion/Brand Promotion and Technology Upgradation

During XII Plan, this new component has been approved under Quality Certification Systems. The Indian Silk Brand Promotion for the XII Plan will be strategically put in place through interaction with all the stakeholders, exporters, importers and fashion designers. This can provide tremendous impetus to Indian silk export promotion in international market. This can be in the form of advertisement and market

promotion, participation in international shows as “Indian Silk Brand”, road shows etc.

During the year 2013-14, the progress made under the programme is as follows:

- Sourcing show-cum-buyer seller meet at Darjeeling has been completed.

- Programmes viz., Branding Exhibition in India for silk cocoon/yarn/fabric/accessories at Gangtok have been completed.

The process of setting up the Design Bank-cum-Design Centre has been initiated by ISEPC and the same is under progress.

- **Catalytic Development Programme (CDP)**

The Catalytic Development Programme (CDP) initiated during IX Five Year Plan is a unique and effective tool for transfer of technologies evolved by the Research Institutes to the field. It was continued during X, XI and XII Plans with certain modifications for encouraging investments among the stakeholders to enhance production, productivity and quality of silk. CDP objectives focused mainly on value addition to the sericulture industry, to meet shortfall in infrastructure and skilled manpower requirement (capacity building) in various stages of the production through Private Entrepreneurship or State or NGO/SHG participation in the areas of plantation development and maintenance, seed production, silkworm rearing, cocoon marketing, cocoon reeling, yarn processing, product diversification, training and quality support etc.

CDP in XII Plan attached importance for production of superior quality Bivoltine silk to reduce the import dependency, increase thrust on *Vanya* silk and create more employment in rural areas, through sericulture. The zone-wise, state-wise Budget Estimate approved and fund released

during the years 2012-13, 2013-14 and outlay approved for the year 2014-15 are given at **Annexure-III**.

Outlay and expenditure

The Govt. of India, while approving the revised cost estimates of CDP for XI Five Year Plan as per the Expenditure Finance Committee (EFC) meeting held at New Delhi on June 4, 2013 had indicated that the schemes of XI Five Year Plan with the revised unit costs can be implemented during the interim period after the end of XI Five Year Plan. Hence, while implementation of the XI Five Year Plan, CDP components were continued during the year. However, targets for 2013-14 have been proposed taking into consideration the components proposed under XII Five Year Plan and in anticipation of approval for XII Five Year Plan schemes by Govt. of India.

During the year, an expenditure of Rs.295.75 crore has been incurred under CDP which is inclusive of the mandatory requirement of Rs.99.12 crore for North-eastern states, Rs.32.21 crore for SC/ST and Rs.9.00 crore for Tribal Sub-Plan (TSP). The scheme-wise details of physical targets and financial outlay and achievements made during 2013-14 is furnished at **Annexure-IV (a, b c & d)**.

Beneficiaries directly supported during 2013-14

During the year, 35,335 beneficiaries were covered under different components under CDP (Annexure-V). The total beneficiary coverage in NE states comprises around 70% belonging to ST and 60% women.

Major achievements under CDP during 2013-14

a. Seed Sector

In order to improve the quality and productivity of silkworm seed, both mulberry and *vanya*, the following components have been assisted under CDP:

Sl. No.	Components	Achievement
Mulberry Seed		
1	Franchise Disinfection Programme of NSSO (Nos.)	35
2	Support to construct rearing houses for Adopted Seed Rearers of NSSO (Nos.)	111
3	Revolving Capital Fund support for state grainages and RSPs (Nos.)	8
4	Assistance for purchasing seed testing equipments for state grainages and private RSPs (Nos.)	10
5	Support to upgrade State and Private commercial seed production units (Nos.)	51
6	Support to strengthen basic seed farms of states (Nos.)	24
Vanya Seed		
I	<i>Tasar</i>	
1	Assistance to Private Tasar Graineurs, assistance to existing tasar graineurs for upgradation of seed production capacity (Nos.)	891
2	Assistance for strengthening of tasar seed multiplication infrastructure (Nos.)	37
	Establishment of Basic Seed Production units by SHGs, Cooperatives/NGOs (Nos.)	4
3	Assistance for strengthening of tasar seed multiplication infrastructure (oak tasar) (Nos.)	1
4	Assistance for tropical tasar seed rearers	
a	Assistance for oak tasar seed rearers (Nos.)	5772
b	Assistance for mobile testing facility for disease monitoring and seed cocoon testing (Nos.)	1
II	<i>Eri</i>	
5	Assistance to State Deptts. for strengthening of Eri farm-cum-grainages (Nos.)	20
a	Assistance to Eri Private Graineurs	
b	Assistance to Eri Adopted Seed Rearers (Nos.)	764
III	<i>Muga</i>	
6	Assistance to Muga Private Graineurs	
a	Assistance to existing Muga Private Graineurs for upgradation of seed production capacity (Nos.)	125
7	Assistance to State Depts. for strengthening of muga seed multiplication infrastructure	
a	Assistance for establishment of muga P3 basic seed production unit (Nos.)	14
b	Assistance to Muga Adopted Seed Rearers (Nos.)	226

b. Cocoon Sector

In order to improve the quality and productivity of cocoons, both mulberry and *vanya*, the following components have been assisted under CDP:

Sl. No.	Components	Achievement
Mulberry Cocoon		
1	Support for mulberry plantation development (acres)	17,123
2	Assistance for irrigation and other water conservation techniques (acres)	13,542
3	Supply of rearing appliance/farming equipments to farmers (nos.)	15,806
4	Supply of quality disinfecting materials and other crop protection measures (Nos.)	19,917
5	Assistance for construction of rearing houses (Nos.)	13,564
6	Assistance for construction of chawki rearing building & equipments (Nos.)	143
7	Production units for biological inputs/door-to-door service agents for disinfection and input supply and assistance for sericulture polyclinics (Nos.)	231
8	Support for kissan nurseries (acres)	254
9	Assistance towards expansion of rearing houses to construct mounting halls in NE States (Nos)	1,627
10	Support for increasing the yield of existing rainfed mulberry gardens through water conservation techniques (acres)	2,060
Vanya Cocoon		
I	<i>Tasar</i>	
1	Support to rearers for augmentation of tasar host plantation (ha)	2759
a	Assistance to beneficiaries for raising tasar food plant seedlings (kisan nursery)	124
b	Assistance to tasar commercial rearers for development of chawki garden (Nos.)	3,000
c	Assistance to tasar rearers for maintenance of existing tasar plantation (ha)	1,000
d	Conservation and utilization of sal based tasar eco races (No.of camps)	26
2	Assistance for raising and maintenance of systematic oak tasar plantation (ha)	295
3	Assistance for construction of cocoon storage houses in tasar sector (Nos.)	111
a	Assistance for construction of cocoon storage and stifling facilities for tasar rearers (Nos.)	10
II	<i>Eri</i>	
4	Support for Castor/Tapioca cultivators with start-up tools (acre)	1,955
5	Augmentation of perennial eri food plants with supply of start-up tools Assistance for raising kesseru food plants nursery	1,855
6	Assistance for construction of rearing houses (Nos.)	4,376
III	<i>Muga</i>	
7	Augmentation and maintenance of muga food plants with start-up tools Assistance for raising muga food plants (acre)	2,110

c. Post-cocoon Technology (PCT)

In order to improve the quality and productivity of the silk yarn and fabrics, CSB is implementing various Post-cocoon Technology components under CDP covering reeling, spinning, weaving and marketing sectors. The details of the PCT components implemented under CDP and their achievement during 2013-14 are given in the table below:

Sl. No.	Components	Achievement
I	Reeling & Spinning sector	
1	Support for construction of reeling shed	
a	6-basin multi-end reeling unit	10
b	10-basin multi-end reeling unit	25
2	Support for motorized charkha to dissuade child labour (Twin Charka)	50
3	Support for establishment of improved cottage basin reeling units (36-ends unit)	11
4	Support for establishment of multi-end reeling unit	
a	10-basin unit (10-ends per basin)	41
b	Support for existing multi-end units for procurement of additional equipments/re-conditioning	50
5	Support for establishment of Automatic Reeling unit (400-ends unit)	3
6	Assistance for Twisting unit (480-ends)	15
7	Incentive for production of Bivoltine silk	
a	Gradable bivoltine silk reeled on multi-end reeling (Rs.100 per kg)	43.082
b	2 A grade & above bivoltine silk reeled on Automatic Reeling units (Rs.150 per kg.)	7.480
8	Support for Vanya reeling/spinning sector	
a	Reeling-cum-twisting machine	224
b	Motorized/Pedal-operated spinning machine	394
9	Providing services of Master reeler/Technician	
a	Master reeler	57 persons
b	Master Technician	1 person
II	Post-yarn sector	
1	Loom upgradation through jacquard and other equipment developed by CSTRI	637 units
2	Support for setting up of Common Facility Centre for Yarn Dyeing & Fabric Processing (Special Technology Package developed by CSTRI)	
a	Computer Aided Textile Designing (CATD)	25 units
b	Tub Dyeing - 25 kg capacity unit	1 unit
c	Tub Dyeing - 50 kg capacity unit	1 unit
III	Marketing support sector	
1	Support to states for creating/upgrading marketing infrastructure for cocoon and raw silk	3 States
2	Support for setting up of Hot Air Dryer	
a	50 kg capacity unit (Electrical)	39 units
b	100 kg capacity unit (Electrical)	10 units
c	50 kg capacity unit (Multi-fuel)	1 unit
d	100 kg capacity unit (Multi-fuel)	5 unit

d. Support Services

Sl. No.	Components	Achievement
1	Crop insurance support (for all sectors)	15,10,000
2	Health insurance programme for sericulture farmers & workers	1,06,000
3	Beneficiary Empowerment Programme	14,703
4	Sericulture Resource Centers	2
5	Skill Training and Enterprise Development Programme	5
6	Developing Community-based Organizations in line with <i>Resham Doot concept</i>	14

Vanya Cluster Programme

XII Plan has envisaged production of 9,000 MT of *Vanya* silk and emphasized need for proper intervention in critical areas for attaining better results. To achieve the target, Central Silk Board in association with State Sericulture Departments has planned to organize 50 *Vanya* Clusters to produce about 400 MT of *Vanya* silk during XII Plan besides concentrating in Non-Captive areas to produce remaining 8600 MT. These clusters will be organized as centres of technology demonstration and dissemination. The Directors of CTR&TI, Ranchi, CMER&TI, Lahdoigarh, BTSSO, Bilaspur and MSSO, Guwahati would be entrusted with monitoring of the implementation of those clusters in close coordination with respective state DoSs.

Based on response received from the *Vanya* silk producing states, 50 clusters (45 clusters in

pre-cocoon and 5 clusters in post-cocoon sectors) have been identified, benchmark survey and diagnostic studies have been initiated. CSB and the state DoSs have identified and posted Cluster Development Facilitators (CDFs) to work in harmony, ensure completion of benchmark survey, diagnostic studies in the clusters and preparation of cluster projects with need-based interventions. The full-fledged implementation of the clusters shall be started from the year 2014-15 by augmenting the technology level of all the CDFs through organizing workshops and training and establishing necessary backward and forward linkages in the cluster areas.

Implementation of Crop Insurance Scheme

Crop Insurance scheme covering all the four sectors, mulberry, tasar, muga and eri is being implemented in different sericulture states under CDP. The details of the scheme are as follows:

Sl. No.	Sector	Sum assured for 100 dfls (in Rs.)	Premium (% of Sum assured)
1.	Mulberry: Multivoltine Pure	6000	7%
	Mulberry: Multivoltine Hybrid	6000	7%
	Mulberry: Bivoltine (P/Hy)	7000	8%
2.	Tasar/Oak Tasar : 1st Crop	2900	10%
	Tasar/Oak Tasar : 2 nd Crop	3200	10%
	Tasar/Oak Tasar : 3 rd Crop	3500	10%
3.	Muga	3050	5%
4.	Eri	2770	5%
	Rearing House	Assessed Value	0.5%
	Rearing/Reeling/Weaving equipment	Assessed Value	0.5%
	For the beneficiary and his family (Three persons)	50000 each	Rs.50.00

The states of Tamil Nadu, Jharkhand, West Bengal, Uttarakhand and Karnataka have implemented the scheme for all sectors and components. Assistance amounting to Rs.76.23 lakh was disbursed under CDP during 2013-14 under Crop Insurance Support with the total release of CSB share of premium for Rs.562.23 lakh (all components put together since inception).

Implementation of Scheduled Castes Sub-plan (SCSP) and Tribal Sub-plan (TSP)

Planning Commission, Govt. of India has formulated revised guidelines for Schedule Caste Sub-Plan (SCSP) and Tribal Sub-Plan (TSP) to ensure canalizing proportionate flow of Plan Outlay from general sectors (other than the allocation for North-eastern states) for implementation of schemes which directly benefit the individuals of families belonging to Scheduled Castes and Scheduled Tribes commencing from 2011-12. The objectives of the programme include substantial reduction of poverty and unemployment, creating productive assets, human resource development and arrest exploitation through physical and financial security among the Scheduled Castes and Scheduled Tribes. Keeping in view of these objectives and the revised guidelines communicated by the Ministry of Textiles, a non-divertible provision of Rs.41.21 crore (excluding NE states) for sericulture sector has been earmarked from out of Rs.295.75 crores approved by Ministry under CDP, to implement Scheduled Castes Sub-Plan (RS.32.21 crore) and Tribal Sub-Plan (Rs.9 crore) during 2013-14. Accordingly, the state-wise break-up of funds earmarked exclusively for SCSP and TSP from CDP was worked out and funds released to the Departments of Sericulture in states for implementation of approved CDP components on line with the revised guidelines for the development of SCs and STs. The funds allocated have been fully utilized by the states

during 2013-14 towards implementation of SCSP and TSP.

Vanya Silk Market Promotion Cell (VSMPC)

Vanya Silk Market Promotion Cell was established under CDP with an objective of providing input support to Vanya silks in the areas of market promotion, product development and diversification.

The activities of VSMPC were continued during 2013-14 with an immense focus on Generic, Brand and Market Promotion of Vanya Silks, which are summarized below:

Organizing Vanya Silk Expos: VSMPC in association with Silk Mark Organization of India organized "Silk Mark - Vanya Silk Expos" at Cochin, Raipur, Hyderabad, Coimbatore, New Delhi and Bangalore with a special focus on brand and market promotion of Vanya silks.

Participation in Exhibitions: VSMPC participated in nine Silk Mark Expos held at Cochin, Raipur, Madurai, Hyderabad, Chennai, Coimbatore, Dehradun, New Delhi and Bangalore and organized exclusive Vanya Silk theme pavilion displaying Vanya products. The theme pavilions of these expos remained instrumental in building up consumer awareness about Vanya silks.

Participation in Fashion Shows: VSMPC participated in and coordinated the fashion shows in SMOI Expos held at New Delhi and Bangalore during January and February, 2014.

Workshops and Interaction Meets: One day workshop was organized in association with NIFT-TEA KFI, Tirupur on "Vanya Silk Product Development and Commercialization" at Tirupur. The interaction meets with designers, manufacturers and exporters were also organized in association with SMOI in New Delhi and Bangalore for commercialization of diversified Vanya silk products.

Product Development and Commercialization:

VSMPC has developed eri silk denim / knitwear products in collaboration with NIFT-TEA KFI, Tirupur and knitwear manufacturers. The eri silk knitwear products were commercialized through M/s. Jharcraft, Bangalore, M/s. Ragam Exports, Tirupur, M/s. Shakti Knitting Ltd, Tirupur, while M/s. Raymond Ltd., Mumbai commercialized the eri silk denim products.

E-listing and marketing: An initiation has been made in association with GoCoop, Bangalore for e-listing / e-marketing of diversified products developed by VSMPC & P3D and *Vanya* silk products of primary producers / Weavers / Co-operative Societies.

Promoting Organic Silk: The *Vanya* silks are being promoted as organic silks and VSMPC has been facilitating the manufacturers with relevant information to get accreditation of Organic/ Eco-silk.

Vanya Silk Shoppees: Two *Vanya* silk shoppes, one at New Delhi and another at Bangalore were allotted to new beneficiaries for the period 2014 - 17 with revised ToR enhancing the period of allotment from 24 to 36 months. The maintenance fee was revised from the present Rs. 8,000 to Rs. 15,000 in case of New Delhi shoppee and Rs. 10,000 for Bangalore shoppee.

Wide publicity was given to these shoppes through print media and web-site etc., for Promotion of sales. Support was also extended in preparing suitable advertisement, providing linkages with designers, boutiques and bulk consumers etc.

Collaborative Projects with external agencies

Four collaborative projects with external agencies have been undertaken and the details are as follows:

- Design and Development of Thermal Jackets and Thermal Under-garments

using Eri silk by Army Institute of Fashion and Design, Bangalore, involving a budget of Rs.8 lakh has been concluded. The thermal under-garments and jackets developed under the project were displayed in the Designers Interaction Meets / Fashion Shows held at New Delhi and Bangalore and the *Vanya* Silk Expos.

- Development of Knitted and Woven diversified products from tasar, eri and muga spun yarns by CSTRI, Bangalore undertaken with a budget provision of Rs.3.95 lakh is being continued. Under the Project, eri silk knitted T-shirts and ladies tops have been developed, while development of muga and tasar knitwear products are under progress.
- Development of Eri silk / Coir union blended products has been undertaken jointly by Central Coir Research Institute (CCRI), Coir Board, Kalavoor and CSTRI, Bangalore involving a budget of Rs.3 lakh. CCRI has initiated action and produced some fabrics in combination of cotton yarn in warp with (i) Eri silk twisted with coir yarn in weft and (ii) Coir and eri silk in the weft.
- Development of Eri Silk Denim and Knitwear products for commercialization and market Promotion by NIFT-TEA Knitwear Fashion Institute, Tirupur involving a budget of Rs.0.90 lakh was completed. Under the Project, eri silk denim products (Men's shirts, Blazer, Waist Coat, Ladies Top and Skirt) and yarn dyed eri knitted products (knitted T-shirts and Knitted tops) were developed and displayed in the Interaction Meets / Fashion Shows / *Vanya* Silk Expo at New Delhi and Bangalore.

Production of Audio Visual Presentation and Brochure on Vanya Silk Products: VSMPC in association with SMOI has produced an audio-visual presentation on new *Vanya* silk products developed by CSB under VSMPC and P3D. VSMPC has also published a product brochure on these new products. The audio-visual and brochure are being used for product promotion activities during exhibitions/expos etc.

Generic and Brand Promotion: The *Vanya* silks has a registered Logo which is being used in all the publicity material, hoardings, handbills and website etc. Wide publicity is given during the exhibitions to this Logo through paper advertisement, hoardings and carry bags. Advertisements on generic and brand promotion of *Vanya* silks are released during Silk Mark Expos in association with SMOI. VSMPC has also released advertisements in “Indian Silk” and “Silk Mark Vogue” magazines. The advertisements in respect of generic promotion of *Vanya* silk are also released by the Publicity Section of CSB in popular magazines.

Authorized User of Vanya Silk Logo: VSMPC has introduced the concept of Authorized User to authorize private manufacturers, retailers, exporters to use *Vanya* silk logo for generic and brand promotion. During the period, VSMPC has registered 10 *Vanya* manufacturers and renewed seven firms as Authorized User of *Vanya* silk logo. A total number of 45 Authorized Users have been registered so far.

Interaction with manufacturers, traders, exporters, designers and consumers: The VSMPC has been continuously interacting with manufacturers, traders, exporters, designers and consumers during expose, events etc., and bring in awareness about the *Vanya* silk products, their comfort characteristics, availability, production process and obtaining feedback. VSMPC also continued to provide backward and forward

linkages to the entrepreneurs, manufacturers, traders and exporters.

Product Design, Development and Diversification (P3D)

Product Development

The light weight eri fabric was developed using the 2/210's Nm in warp and 2/140's Nm in weft with 72 EPI and 60 PPI (72 gsm) for apparels. It was found that the feel and drape of the fabric suits the apparels. This fabric is dyed in six different pastel colours and converted into ladies tops of different designs. An attempt has also been made to use natural dyes for dyeing the silk fabrics. For dyeing, organic tasar fabrics and mulberry silk fabrics like Georgette / Crepe fabrics are purchased from the market and dyed with natural dyes like Lac, Jack Fruit Dust, Manzesta + Jack Fruit and Eclipta Green. An entrepreneur from Erode has started using natural dyeing at yarn stage and developed samples and sarees for commercialization. The tasar yarn is procured to develop the natural dyed fabric at yarn stage and the work is under progress. In association with M/s. Calizini Fashions, Noida, eri socks is developed using 2/100's eri yarn and being commercialized through M/s. Jharcraft, Bangalore. Mulberry X muga spun furnishing fabrics is also developed.

Designing and Garment Development

- P3D has also developed the following:
 - Dresses using eri, tasar, muga & mulberry fabrics with embroidery and lace works.
 - Silk tops with natural dyes.
 - Eri denim shirts, coat and ladies dress.
 - Garments with light weight eri fabric.
 - Men's coat, jacket etc., by using organic tasar fabric.

Collaborative projects

- Documentation of GI products by CSTRI is under progress.
- Documentation of CSTRI developed products by CSTRI is under progress.

Participation in Exhibitions

P3D actively participated in the *Vanya* Silk Mark Exhibitions held at different places like Cochin, Raipur, Dehradun, Madurai, Coimbatore, Hyderabad, Chennai, New Delhi and Bangalore. During the exhibitions P3D has arranged the theme pavilion and explained products to dignitaries, manufacturers and visitors for commercialization of newly developed products. During Chennai Expo live demonstrations of natural printing like Bagh and Bagru was organized.

Designers Meet / Interaction meet

P3D participated in the interaction meet held at NIFT – TEA, Tirupur during the workshop on “Vanya Silk Product Development & Commercialization” held on 25th September, 2013. P3D also arranged and participated in Designer / Interaction meets held at New Delhi on 15th January 2014 during the *Vanya* Silk Mark Expo and an Interaction meet was held in association with SMOI chapter, Bangalore on 17th February 2014 with exporters, manufacturers and designers to discuss the commercialization of the newly developed products of CSB. P3D also coordinated with SMOI in arranging the fashion shows at Hyderabad, New Delhi and Bangalore. During the Bangalore Fashion Show all newly developed garments were displayed.

Other activities

A photo shoot and audio-visual of the P3D products was arranged in association with SMOI and same AV has been presented during designer/ interaction meet held at New Delhi and Bangalore subsequently. Commercialization for the products developed by CSB is initiated for niche market. Discussions were held with GO-COOP regarding the concept of E-marketing and linking with the

manufacturers. The modalities for implementation of the same are under process. Discussion with weaver at Annakkapur was held to develop fabrics with the Mulberry X other natural fibers like Jute, Banana leaf, ramie etc and pre-survey work has been carried out at Belgaum and Sandur to take up the project submitted by the Miss Isabelle Arciero-Mahier from France.

Skill Training and Enterprise Development Programmes (STEP)

Under the component Skill Training and Enterprise Development Programmes (STEP) during the year 2013-14, a total of 23 training programmes were organized by Corporate and Entrepreneur Development Cell (C&ED)/Training Division covering 852 persons as against a target of training 615 beneficiaries. The break-up of the programmes conducted are as follows:

#	Name of the prog.	Place	No. of prog	Partici-pants
1	Resource Development Programme	Guwahati	1	17
		Bilaspur	1	23
		Lucknow	2	40
		Agartala	1	24
		Bhubaneswar	1	18
		Bhandara	1	25
		Warangal	1	27
		Sub total	8	174
2	Management Development Programme	Guwahati	1	20
		Dehradun	1	46
		Srinagar	1	39
		Guwahati	1	23
		Berhampore	1	18
		Bangalore	4	130
		Berhampore	1	24
		Shillong	1	20
		Guwahati	1	20
		Sub total	12	320
3	Technology Up-gradation Programme	Kathikund	1	70
		Kharswan	1	67
		Jajori	1	221
		Sub total	3	358
TOTAL		Grand Total	23	852

**PROJECTS WITH FUNDING FROM
OTHER ORGANIZATIONS**

Projects with funding from other Ministries

- MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act)**

The Ministry of Rural Development, Govt. of India vide its Gazette Notification No.1158 dated 24-7-2009 has made an amendment to the MGNREG Act, 2005 stating that, the MGNREGA works will now include provision for irrigation facilities, horticulture, plantation and land development facilities on the lands owned by the small and marginal farmers also, to avail central assistance under the MGNREGA programme, which was not available earlier.

As per the guidelines available under MGNREGA, it is proposed to provide employment to the rural poor, through MGNREGA Registered work-force to take up sericultural activities like land/ plantation development/tree plantation, silkworm rearing and cocoon harvesting which benefits the rural poor belonging to BPL, as well as people who are APL.

Scope for availing MGNREGA assistance for basic employment guarantee in rural areas to take up sericulture are :

- Developing and improving plantations in State Basic Seed Farms, seed production farms, farms attached with training schools etc.
- Plantation development in individual lands
- Nursery development for mulberry and vanya food plants
- Systematic *Vanya* food plantations in forest land and its maintenance
- Setting up of vermi-compost facilities
- Creation of water sources (funds for setting up of irrigation facility can be sourced from CDP)

- Development of rainfed gardens through water conservation techniques, moisture maintenance, etc.
- Pest management and disease control to plantation
- Reclamation of waste lands for *Vanya* food plants in village lands, adapahi lands etc.
- Development of infrastructures for connectivity to the sericulture clusters.
- Trenching around mulberry plantation in North-eastern and hilly regions for preventing grazing.
- Conservation jobs for undertaking *in-situ* rearing in Sal forest regions.

Present status

[Rs. in lakh]

Sl. No.	State	MGNREGA	
		No. of projects	Amt. sanctioned
I	Southern Zone		
1	Karnataka	3	80.44
2	Andhra Pradesh	1	223.70
	Total	4	304.14
II	North-western Zone		
1	Uttarakhand	1	38.10
III	Central-western Zone		
1	Uttar Pradesh	3	203.41
2	Chhattisgarh	1	1142.04
	Total	4	1345.45
IV	Eastern Zone		
1	West Bengal	1	0.59
2	Bihar	1	42.00
3	Odisha	2	966.05
	Total	4	1008.64
V	North-eastern Zone		
1	Assam	1	8.10
2	Tripura	1	30.00
	Total	2	38.10
	Grand Total	14	2734.43

• **NERTPS**

North Eastern Region - Textiles Promotion Scheme for XII Plan

In order to boost the textile sector in the NE region, the Ministry of Textiles has approved a project-based strategy for the North-East Region under an umbrella scheme by name “North-East Region Textile Promotion Scheme”. This umbrella scheme will be implemented in the North-East Region in addition to the regular schemes of the Ministry. The expenditure under this scheme will be met from the 10 per cent budget outlay being earmarked for the North-eastern states.

The broad objective of the North-East Textile Promotion Scheme is to develop and modernise the textile sector in the North-East Region by providing the required government support in terms of raw material, seed banks, machinery, common facility centres, skill development, design and marketing support etc. The specific objectives of the scheme include increase in the value of textile production, technology upgradation, improvement in design capability, diversification of product lines and value addition, better access to domestic and export markets, clusterisation and improvement in labour productivity, market access and Promotion.

The components of NERTPS for Sericulture is aimed at development and up-gradation of infrastructure at state level and components under CDP are meant for plantation, rearing and post-cocoon infrastructure development at stake holder’s level. Implementation of the projects is expected to give a major fillip to the financial constraints faced by NE State sericulture departments in upgrading and effective utilization of the infrastructure for enhancing production and productivity of silk coupled with employment generation in the rural areas along with product development and diversification. Since, the allocation under CDP for NE States for XII Plan is limited and convergence with NERTPS will ensure maximization of benefits with focused approach.

Production of raw silk envisaged under these projects are in addition to the normal targets for these states fixed for XII Plan. Out of the overall silk production target of 32,000 MT for the country during XII Plan, the target for NE States was 5300 MT (as per RFD), which is 16% of the country’s production. With implementation of NERTPS with convergence of CDP, the total silk production from NE is expected to reach 6000 MT which is 19% share of country’s total silk production. For additional silk production, CSB will be gearing up for enhanced production of quality basic silk worm seeds and supply of improved varieties of silkworm host plants to support the states, besides organizing trainers’ training and beneficiary empowerment programme, supporting the states in project implementation, monitoring and conducting evaluation.

Project Approval and Monitoring Committee (PAMC) constituted under Chairpersonship of Secretary (Textiles) had approved the projects under NERTPS in respect of mulberry part of the project of Manipur (Rs.149.76 cr) and Arunachal Pradesh (Rs.18.42 cr), *inter alia*, in a meeting held at New Delhi on 17-12-2013. In so far as the CDP part of the projects are concerned, approval is being accorded under the project approval mechanism of CDP by Apex Monitoring Committee and funds released as per AMC’s recommendations, on a year-to-year basis.

The recast Integrated Sericulture Development Projects in respect of other NE states *viz.*, Assam, BTC, Mizoram, Nagaland, Sikkim, Tripura and Meghalaya were placed before the 2nd PAMC meeting held at New Delhi on 16.09.2014. As suggested by the PAMC, the respective states in NE Region have been advised to revise the projects including components for supporting farmers for production of dfls/ cocoons and convergence options, keeping in view the approved guidelines. The revised projects are proposed to be placed before the 3rd PAMC meeting, for consideration.

a) Integrated Sericulture Development Projects under NERTPS in respect of Arunachal Pradesh

The Integrated Sericulture Development Project for Arunachal Pradesh has been approved at a project outlay of Rs.18.42 crore to be borne by MoT (100%). The project interventions are focused at seed infrastructure up-gradation, post-cocoon sector strengthening with Common Facility Centres and Capacity Building. The cost also includes the general administration cost, taxes, duties, consultancy, project monitoring and evaluation etc. As per the guidelines of NER-TPS, a specified percentage (5%) of the total cost of project has been earmarked under the head Information Education and Communication (IEC), Administration and Monitoring and 1% of the total cost of project towards diagnostic studies and preparation of Project Report.

With the implementation of the Project, the state is expected to increase the quantity of silk production annually by 78.94 MT during the project period with a value of Rs. 2062.62 lakh besides, contributing to the employment opportunities in a significant way in textile sector.

b) Manipur Sericulture Project under NERTPS

The Govt. of Manipur has implemented the Manipur Sericulture Project (MSP), Phase-I with a total project cost of Rs.154.99 crore over a period of 10 years from 1998 to 2008 with a financial assistance from Japan International Co-operation Agency (JICA), Govt. of Japan. The Project facilitated development of mulberry plantation in 1,700 hectares through 1,000 Field Operating Units (FOUs) and creation of infrastructure of 60 community CRCs, 4,573 Individual Adult Rearing Houses (IARH), two industrial mulberry grainages, one each of P3 and P2 Silkworm Seed Production Centers, 15 Technical Service Centres, one Sericulture Training School, six District Cocoon Storage and Drying facilities, infrastructure for

multi-end silk reeling and silk conditioning and testing unit, one silk twisting unit and one Post-cocoon Technical Training-cum-Production Centre. As a result of implementation of Phase-I of this project, the brushing capacity of a farmer has increased from 10-25 dfls/crop to 80-100 dfls/crop with an average productivity of around 42 kg cocoons per 100 dfls.

Though sufficient infrastructure to practice sericulture industry in Manipur was put in place through MSP, the utilization did not reach the optimum level due to various factors like lack of equipment support for the infrastructure created, gaps in plantations, transfer of improved technology to the silkworm rearers and non-utility of adult rearing houses due to some lacunae in its designs which necessitated implementation of Phase-II of MSP to capitalize on the investment already made.

Since JICA expressed its inability to fund the project due to security reasons, the Ministry of Textiles, Govt. of India has approved the Phase-II of MSP under the newly proposed NER "Textile Promotion Scheme" (NERTPS). The Project has been approved for implementation over a period of four years from 2013-14 to 2016-17 at a total cost of Rs.149.76 crore of which MoT share is Rs.126.60 crore. The Project is expected to yield 638 MT of mulberry raw silk with a value of Rs.159.38 crore. After attaining full potential, the Project shall facilitate production of 203 MT mulberry raw silk/year with a value of Rs.50.62 crore at current prices.

Present status of approved NERTPS projects (Manipur & Arunachal Pradesh)

Since Ministry could not release the funds for implementation of the Manipur and Arunachal Pradesh projects during 2013-14 due to technical reasons, revised Action Plan was drawn as desired by the Ministry to implement the project over a period of three years from 2014-15 to 2016-17 in consultation with these states and sent to

the Ministry. While there is no change in the total project cost already approved, re-phasing of the targets was done for implementation in three years instead of four years. As per the revised Action Plan, the year-wise fund requirement for implementation of the approved projects are indicated in the table below :

[Rs. in crore]

Years	Total Cost	Sharing of expenditure			Funds released by Gol
		Gol	State	Benef.	
Arunachal Pradesh					
2014-15	10.36	10.36	—	—	3.36
2015-16	4.84	4.84	—	—	
2016-17	3.22	3.22	—	—	
Total	18.42	18.42	—	—	
Manipur					
2014-15	35.64	30.08	3.10	2.46	30.08
2015-16	58.18	48.96	5.10	4.12	
2016-17	55.94	47.56	4.75	3.63	
Total	149.76	126.60	12.95	10.21	

• MKSP

Mahila Kisan Sashaktikaran Pariyojana Projects for tasar development

The initiatives of special SGSY and NABARD in Bihar and Jharkhand amply demonstrated the livelihood potential of tasar sericulture especially for tribal communities. The demand for accessing tasar based livelihoods is now clearly perceptible in the rural areas. Building on this current context, the Central Silk Board, PRADAN and BAIF have come up with an idea of undertaking multi-state ventures to reach out to a large number of rural households and create impact on a significant scale both in terms of livelihood creation at the family level and unleashing sectoral growth in tasar sericulture. After a series of discussions, the MoRD has agreed for the proposal of the CSB to formulate projects for considering financial support under the Mahila Kisan Sashatikaran Pariyojana (MKSP) as a logical extension of the early phases of intervention.

Accordingly, CSB formulated seven projects for tasar development for the states of Jharkhand,

Odisha, West Bengal, Chhattisgarh and Bihar in coordination with PRADAN, BAIF, Pune in Maharashtra and with SERP in Andhra Pradesh.

The Project proposes to create over 14,000 sustainable livelihoods for the marginalized households, especially Scheduled Tribe communities and women in selected 33 districts of seven states. The present project would exploit the benefits of recent advancements in the sector to extend the livelihood opportunities to newer clusters, covering families with no prior experience to facilitate adoption of improved technologies of tasar culture and enabling them to access main stream markets for sustaining economic gains. Besides enhancing the stakeholder and involvement of the women in the income activities like tasar culture, the project would work for strengthening their position at household. The details of the projects are given below:

- A multi-state project for promotion of large scale tasar based livelihood in Jharkhand, Odisha, West Bengal, Chhattisgarh and Maharashtra at an outlay of Rs. 60.80 crore with a project grant of Rs. 52.211 crore (MoRD: Rs. 39.13 crore and CSB: Rs.13.09 crore), covering 27,540 beneficiaries was initiated during 2013-14.
- MKSP sponsored project for promotion of tasar sericulture in Andhra Pradesh was formulated by CSB and implemented by SERP and was initiated by Kovel Foundation. The project is implemented in five districts covering 5,972 beneficiaries with project grant of 10.64 crore (MoRD: Rs. 7.84 crore and CSB: Rs. 2.79 crore).
- MKSP Project formulated by CSB for tasar Promotion in Bihar covering four blocks in Banka district of Bihar covering 3170 beneficiaries with a project grant of Rs. 8.93 crore (MoRD: Rs. 6.69 crore and CSB: Rs. 2.23 crore) is being processed by Bihar Rural Livelihood Promotion Society- Jeevika

(BRLPS), Patna and to be implemented by PRADAN.

The Central Silk Board would be responsible for providing technological inputs and training of field staff of the NGO partners through its field units in various sectors viz., seed, pre-cocoon and post-cocoon. Being the Executive Agency, CSB would receive funds from the Ministry of Rural Development, Gol and transfer to the FIAs as per the requisition received from the FIA and Action Plan.

Progress of the project : The Project was approved during August, 2012 and MoRD has released 1st tranche of 1st installment share (10%) of Rs. 3.912 crore to CSB in August, 2013 and project activities were initiated during October, 2013. After that, an MoU was signed between PIA and CSB on 22nd October, 2013. CSB has released MoRD share of a total Rs.3.862 crore to PIAs of five states as per their indent and physical target to be achieved during the first year. Subsequently, CSB has released its first installment of CDP share of Rs. 3.95 crore to PIAs as per their indent, AMC approved rate and priority-wise allocation to different components. An amount of Rs.62.498 crore was also released to SERP, Hyderabad as a CDP share. The details of amount released under the project are given below:

[Rs. in lakh]

State/Category	Amount received from MoRD (10% of total)	Amount of MoRD share released to PIAs	Amount of CSB share released to PIAs
Chhattisgarh	59.870	56.104	64.146
Maharashtra	75.980	75.462	69.229
West Bengal	40.040	40.040	29.918
Odisha	35.860	35.171	42.017
Jharkhand	179.540	179.517	189.987
Andhra Pradesh	-	-	62.498
Total	391.290	386.295	457.797

PIAs submitted initial inception report and Detailed Project Report (DPR) to MoRD through CSB as per the guidelines and format from Ministry.

Inception workshop was organized in project areas of three states (Andhra Pradesh, West Bengal and Maharashtra). Joint consultation amongst CSB, PIAs, SRLMs and Department of Sericulture was completed during January, 2014. Base line survey format is finalized and the survey will be completed in May, 2014. Core Team project areas of six states were trained in Resource Development Programme at Bhandara organized by CSB under ISDS and Trainers Training Programme organized by CTR&TI, Ranchi. Arrangements for taking up plantations, infrastructure for the community and supply of basic seed and various capacity building programmes are under progress.

- **ITDP**

Integrated Tribal Development Programme for Chakai Block of Jamui district of Bihar

The Project is being implemented in tribal dominated Dulampur, Nauwadih, Faritazadihi and Gajhi panchayats of Chakai Block of Jamui by creating tasarculture based forward and backward linkages for sustainable livelihood development. Total outlay of the project is Rs.1274.91 lakh of which NABARD, Patna is funding Rs.837.72 lakh (65.71%), CSB Rs.170.91 lakh (13.41%) and Beneficiary share was Rs.217.29 lakh (17.04%) and Loan from NABARD amounts to Rs.49 lakh (3.84%), for a period of five years starting from 2009-10. CDP funding was proposed only for the XI Plan period i.e., 2009-10, 2010-11 and 2011-12 at Rs.20.675 lakh, Rs.86.517 lakh and Rs.63.717 lakh, respectively.

While NABARD has released Rs.241.34 lakh, CSB has released Rs.158.975 lakh to PRADAN being the CDP share for the years 2009-2012 of which Rs.62.79 lakh has been utilized.

Under tasar sector, 2544 acres of tasar host plants with cattle proof trenches, 197 water harvesting structures have been raised and soil conservation works carried out in 2069 acres. 49

pump sets, 72 sprayers and 183 weeders were provided to take care of intercultural operation in sericulture and horticulture activities. 89 SHGs were formed, 15 membership training, one Transfer of Technology for SHG training, seven Auditor training, 29 group accountant trainings and nine cluster member's training were organized till the end of the year. 735 rearers, two staff of PIA, 16 batches of farmers in nursery raising, 20 batches in vegetable cultivation and 45 batches in Systemic Rice Intensification (SRI)/improved paddy cultivation were trained during the year. 1830 beneficiaries were covered under exposure visit. Other interventions viz., SRI, vegetable cultivation, soil moisture conservation and horticulture was also taken up as per the target.

- **SGSY**

Special SGSY projects for development of tasar and eri cultures in Bihar

A special SGSY Project for development of tasar and eri cultures is being implemented in Banka district of Bihar, with the financial assistance from Ministry of Rural Development, Govt. of India from 2003-04. The Central Silk Board is the Executing Agency which closely monitors the implementation and extends the necessary technological support through the units of CTR&TI, Ranchi on pre-cocoon aspects, BTSSO, Bilaspur for seed requirement and CSTRI, Bangalore on post-cocoon activities. CSB also meets the entire requirement of nucleus seed and part of the basic seed through the BSM&TCs of BTSSO. The Project is being implemented in the state by Professional Assistance for Development Action (PRADAN), an NGO. The project progress as on 31st March, 2014 is as follows:

- A total amount of Rs. 854.613 lakh was released under the project to PRADAN and CSB units in the project area, which includes Rs. 610.198 lakh from MoRD and Rs. 244.425 lakh from CSB, excluding project administrative expenses spent by CSB for

its personnel involved in project execution. The project has mobilised credit to the tune of Rs. 338.215 lakh. Of this, entire share of CSB and Rs. 497.192 lakh of MORD share has been utilized.

- 157 SHGs and 3526 swarogaries have been assisted under the project. 639.76 ha. of block plantation, 2430 chawki garden units of 0.1 ha. and 40.5 ha. of castor plantation have been raised.
- 1409 Adopted Seed Rearers have brushed 2.32839 lakh dfls of nucleus seed and harvested 138.265 lakh nucleus seed cocoons, of which 70.264 lakh cocoons were procured by BSM&TCs for further processing.
- 2502 seed rearers brushed 6.56767 lakh basic seed dfls and produced about 183.883 lakh seed cocoons, of which, 139.879 lakh seed cocoons were procured and 97.192 lakh seed cocoons were processed by 109 private graineurs to produce 33.811 lakh commercial dfls in 805 grainage operations, at cocoon : dfl ratio of 2.87:1 against norms of 4:1. Under this Project, a total of 14250 rearings were conducted by 1710 commercial rearers covering brushing of 31.059 lakh commercial dfls to produce 1205.602 lakh reeling cocoons.
- 21 Rearers, 11 Reelers and Spinners Co-operative Societies have been organized, 15 resource personnel and 4,741 swarogaries have been trained, 24 swarogaries were taken on study tour and two farmers' days were conducted under the project.

SGSY project for development of mulberry sericulture in Uttarakhand

The Ministry of Rural Development, Government of India has sanctioned a project entitled "Special SGSY Project for Development of Mulberry Sericulture in Uttarakhand" at a total cost of Rs.917.48 lakh to be implemented by Directorate of Sericulture, Govt. of Uttarakhand

over a period of five years from 2007-08 to 2011-12. The Project is extended upto March, 2013. The funds are shared by MoRD (Rs.417.009 lakh) and CSB/State share at Rs. 379.636 lakh, (CSB – Rs. 299.383 lakh and State - Rs. 80.253 lakh), Bank credit is Rs. 76.205 lakh and the beneficiary contribution is Rs. 44.991 lakh. Central Silk Board is the Executing and Coordinating Agency. Project is being implemented by DoS, Govt. of Uttarakhand in Nainital district and by Grameen Krishi Vikas Samittee (GKVS)-NGO in Udham Singh Nagar district.

An amount of Rs. 775.55 lakh including MORD share of Rs. 361.65 lakh and CSB share of Rs. 295.79 lakh is released to the project till March 2012. Apart from the above, administrative cost of Rs. 37.89 lakh from CSB share is released to NGO. State has released Rs. 80.253 lakh matching share and credit amounting to Rs. 68.04 lakh and beneficiary share of Rs. 32.75 lakh has been mobilized to implement the project activities. The progress achieved under the project during the year is as follows:

- 50 vermi-compost sheds were constructed and started functioning. These units have produced a total of 341.6 MT of vermi-compost under the project since inception.
- A total of 974 units of half an acre tree type plantation and 26 units of bush plantations using S-146 variety of mulberry have been raised in Nainital and Udham Singh Nagar districts. Plantation targets have been achieved in full.
- Physical verification of plantations was conducted. Survival in the plantation raised during 2008-09, 2009-10 and 2010-11 is achieved to 90% in the field.
- Against the project target, construction of nine CRCs at Bichpuri, Nathunagar, Chankpur, Mankanthpur, Ranikota, Rajpura Kyari, Vijayapura and Pachawala was completed and made functional.

- Credit was extended to 1000 swarojgaries through Bank for construction of rearing house and rearing appliances, of which 933 swarojgaries completed the construction. Also, rearing appliances were supplied to 835 swarojgaries. Banks are being followed up to sanction loan for remaining swarojgaries.
- All the 1000 swarojgaries covered under the project were trained in plantation maintenance and silkworm rearing techniques. Besides, capacity building training programme was organized for SHGs and a total of 85 office bearers were trained in three batches.
- 500 swarojgaries, as targeted, were given exposure on sericulture practices at different places *i.e.*, Dehradun, Himachal Pradesh, J&K and Bangalore / Mysore.
- Rearers' passbooks were supplied to all the swarojgaries who have raised plantation for recording details of input support and activity performed by them under the project. Also 10 Krishi Melas were organised as per the target.
- Silkworm rearing of 85,850 dfls was taken up during two crops and 28.16 MT bivoltine cocoons were produced. Since inception, a total of 2,84,550 dfls were reared and 85.77 MT cocoons were produced in the project areas.

The project is under progress and likely to be extended for one more year.

• ISDS

Integrated Skill Development Scheme

The Central Silk Board, an Apex agency to oversee the development of silk industry in India, has been implementing a comprehensive project with a focus on 'skill seeding' and 'skill up-gradation/skill enhancement' funded under Ministry of Textiles' flagship initiative - 'Integrated Skill Development Scheme (ISDS)'. The total project outlay is Rs.39.77 crore and a physical target

assigned is to cover 34,553 beneficiaries in five years (XII Plan period). Out of the total outlay, the Govt. of India share is Rs. 34.18 crore (85.95%) whereas, the balance of Rs. 5.58 crore (14.05%) comes from CSB. The CSB is implementing the ISDS project through its nine R&D institutes. Further since 2013-14, CSB has also joined hands with an NGO partner - PRADAN for assistance in implementing the project, especially in tasar sector.

Under the ISDS project, a total of 66 different courses covering all the silk sectors (*viz.*, mulberry, eri, tasar and muga) and activities falling on the silk value-chain (from nursery raising, plantation development, silkworm seed production to quality cocoon production and silk reeling, spinning, weaving to dyeing, printing, designing, finishing etc.). These courses depending on the nature and inputs vary in duration from one week to three months and are conducted covering all the prominent seri-clusters/pockets of India.

During the year 2013-14 all the nine R&D institutes along with the NGO partner (PRADAN) implementing the scheme have together covered a total of 8235 beneficiaries against the set target of 8694 persons. Out of the beneficiaries covered, around 4000 could be linked to employment during the year.

The positive impact of skill training under ISDS can be felt in all the sub-sectors and activities on the silk value-chain, be it quality and quantity of cocoon or raw silk production. This project has also effected better economic returns to the farmers, reelers and other stakeholders of the industry through skill seeding and skill refinement/development.

The Integrated Skill Development Scheme has been taken up by PRADAN in co-ordination with BTSSO, Bilaspur and CTR&TI, Ranchi. The achievement made during the year is furnished below :

Centre	Physical Progress				Financial Progress		
	Target	Achievement	%	CAPEX	OPEX	Total	Expenditure incurred
BTSSO, Bilaspur	695	519	74.68	3.40	22.79	26.19	28.50
CTR&TI, Ranchi	2375	1675	70.53	1.60	85.99	87.59	69.61



FINANCE AND ACCOUNTS

• **Receipts (Grants-in-Aid) for the year 2013 - 14**

Grants-in-Aid for the year 2013 - 14

In accordance with Section 9(1) of Central Silk Board Act, 1948, the Central Government released the Grants-in-Aid to the Central Silk Board during the year 2013 - 14 for enabling it to exercise the powers and discharge its functions under the Act. The details of the Grants-in-Aid released by the Government of India, Ministry of Textiles, New Delhi for the financial year 2013 - 14 are as under:

I. Non-Plan

[Rupees in lakh]

1.	Grants towards Admin., Expenses:	26,447.00
	Total : Non-Plan	26,447.00

II. Plan

[Rupees in lakh]

<i>Export Promotion / Brand Promotion / Technical upgradation by ISEPC & SMOI</i>		
03.00.31	Grants-in-Aid – General	49.00
03.00.35	Grants towards Creation of Capital Assets <i>R & D, Trg., TOT & IT Initiatives</i>	17.00
04.00.31	Grants-in-Aid – General	1890.00
04.00.35	Grants towards Creation of Capital Assets <i>Seed Organizations</i>	897.00
05.00.31	Grants-in-Aid – General	1834.00
05.00.35	Grants towards Creation of Capital Assets <i>Co-Ordination & Mktg. Devpt. (HRD)</i>	426.00
06.00.31	Grants-in-Aid – General	500.00
06.00.35	Grants towards Creation of Capital Assets <i>Quality Certification System</i>	163.00
07.00.31	Grants-in-Aid – General	400.00
07.00.35	Grants towards Creation of Capital Assets <i>Catalytic Devp. Programmes – (CDP)</i>	100.00
08.00.31	Grants-in-Aid – General	4433.50
08.00.35	Grants towards Creation of Capital Assets <i>Catalytic Devp. Programmes – SC</i>	11109.00
24.00.31	Grants-in-Aid – General	1089.00
24.00.35	Grants towards Creation of Capital Assets <i>Catalytic Devp. Programmes – ST</i>	2132.00
25.00.31	Grants-in-Aid – General	300.00
25.00.35	Grants towards Creation of Capital Assets	600.00
	TOTAL - PLAN	25,939.50

III. Project/Scheme Under NE Region & Sikkim

[Rupees in lakh]

	<i>R & D, Trg., TOT & IT Initiatives</i>	
04.01.31	Grants-in-Aid – General	600.00
04.01.35	Grants towards Creation of Capital Assets	410.00
	<i>Seed Organizations</i>	
04.02.31	Grants-in-Aid – General	213.00
04.02.35	Grants towards Creation of Capital Assets	191.00
	<i>Co-Ordination & Mktg. Devpt. (HRD)</i>	
04.03.31	Grants-in-Aid – General	40.00
04.03.35	Grants towards Creation of Capital Assets	15.00
	<i>Quality Certification System</i>	
04.04.31	Grants-in-Aid – General	150.00
04.04.35	Grants towards Creation of Capital Assets	50.00
	<i>Catalytic Devp. Programmes – ST</i>	
04.05.31	Grants-in-Aid – General	1,827.00
04.05.35	Grants towards Creation of Capital Assets	8085.00
	TOTAL - PLAN [NE]	11,581.00

Grand Total (Non-Plan + Plan + NE)

[Rupees in lakh]

	<i>Grants towards Admin. Expenses</i>	
	Aid Salaries	26,447.00
	<i>Export Promotion / Brand Promotion / Technical upgradation by ISEPC & SMOI</i>	
	Grants-in-Aid – General	49.00
	Grants towards Creation of Capital Assets	17.00
	<i>R & D, Trg., TOT & IT Initiatives</i>	
	Grants-in-Aid – General	2,490.00
	Grants towards Creation of Capital Assets	1,307.00
	<i>Seed Organizations</i>	
	Grants-in-Aid – General	2,047.00
	Grants towards Creation of Capital Assets	617.00
	<i>Co-Ordination & Mktg. Devpt. (HRD)</i>	
	Grants-in-Aid – General	540.00
	Grants towards Creation of Capital Assets	178.00
	<i>Quality Certification System</i>	
	Grants-in-Aid – General	550.00
	Grants towards Creation of Capital Assets	150.00
	<i>Catalytic Devp. Programmes – (CDP)</i>	
	Grants-in-Aid – General	6,260.50
	Grants towards Creation of Capital Assets	19,194.00
	<i>Catalytic Devp. Programmes – SC</i>	
	Grants-in-Aid – General	1,089.00
	Grants towards Creation of Capital Assets	2,132.00
	<i>Catalytic Devp. Programmes – ST</i>	
	Grants-in-Aid – General	300.00
	Grants towards Creation of Capital Assets	600.00
	GRAND TOTAL	63,967.50

• **Expenditure for the year 2013 - 14**

Expenditure incurred / booked by the Board and its attached units during the financial year 2013 – 14 are as follows.

I. Non-Plan

[Rupees in lakh]

1.	Grants towards Admin., Expenses: 01.01.36 - Aid Salaries	26,447.00
	Total - Non Plan :	26,447.00

II. Plan

[Rupees in lakh]

	<i>Export Promotion / Brand Promotion / Technical upgradation by ISEPC & SMOI</i>	
03.00.31	Grants-in-Aid – General	24.50
03.00.35	Grants towards Creation of Capital Assets	5.50
	<i>R & D, Trg., TOT & IT Initiatives</i>	
04.00.31	Grants-in-Aid – General	1890.00
04.00.35	Grants towards Creation of Capital Assets	897.00
	<i>Seed Organizations</i>	
05.00.31	Grants-in-Aid – General	1834.00
05.00.35	Grants towards Creation of Capital Assets	426.00
	<i>Co-Ordination & Mktg. Devpt. (HRD)</i>	
06.00.31	Grants-in-Aid – General	500.00
06.00.35	Grants towards Creation of Capital Assets	163.00
	<i>Quality Certification System</i>	
07.00.31	Grants-in-Aid – General	400.00
07.00.35	Grants towards Creation of Capital Assets	100.00
	<i>Catalytic Devp. Programmes – (CDP)</i>	
08.00.31	Grants-in-Aid – General	4433.50
08.00.35	Grants towards Creation of Capital Assets	11109.00
	<i>Catalytic Devp. Programmes – SC</i>	
24.00.31	Grants-in-Aid – General	1089.00
24.00.35	Grants towards Creation of Capital Assets	2132.00
	<i>Catalytic Devp. Programmes – ST</i>	
25.00.31	Grants-in-Aid – General	300.00
25.00.35	Grants towards Creation of Capital Assets	600.00
	TOTAL - PLAN	25,903.50

III. Project/Scheme Under NE Region

[Rupees in lakh]

	<i>R & D, Trg., TOT & IT Initiatives</i>	
04.01.31	Grants-in-Aid – General	600.00
04.01.35	Grants towards Creation of Capital Assets	410.00
	<i>Seed Organizations</i>	
04.02.31	Grants-in-Aid – General	213.00
04.02.35	Grants towards Creation of Capital Assets	191.00
	<i>Co-odination & Mktg. Devpt. (HRD)</i>	
04.03.31	Grants-in-Aid – General	40.00
04.03.35	Grants towards Creation of Capital Assets	15.00
	<i>Quality Certification System</i>	
04.04.31	Grants-in-Aid – General	150.00
04.04.35	Grants towards Creation of Capital Assets	50.00
	<i>Catalytic Devp. Programmes – ST</i>	
04.05.31	Grants-in-Aid – General	1,827.00
04.05.35	Grants towards Creation of Capital Assets	8085.00
	TOTAL - PLAN [NE]	11,580.99

Grand Total (Non-Plan + Plan + NE)

[Rupees in lakh]

	Grants towards Admin. Expenses	
	Aid Salaries	26,447.00
	<i>Export Promotion / Brand Promotion / Technical upgradation by ISEPC & SMOI</i>	
	Grants-in-Aid – General	24.50
	Grants towards Creation of Capital Assets	5.50
	<i>R & D, Trg., TOT & IT Initiatives</i>	
	Grants-in-Aid – General	2,490.00
	Grants towards Creation of Capital Assets	1,307.00
	<i>Seed Organizations</i>	
	Grants-in-Aid – General	2,047.00
	Grants towards Creation of Capital Assets	617.00
	<i>Co-Ordination & Mktg. Devpt. (HRD)</i>	
	Grants-in-Aid – General	540.00
	Grants towards Creation of Capital Assets	178.00
	<i>Quality Certification System</i>	
	Grants-in-Aid – General	550.00
	Grants towards Creation of Capital Assets	150.00
	<i>Catalytic Devp. Programmes – (CDP)</i>	
	Grants-in-Aid – General	6,260.50
	Grants towards Creation of Capital Assets	19,194.00
	<i>Catalytic Devp. Programmes – SC</i>	
	Grants-in-Aid – General	1,089.00
	Grants towards Creation of Capital Assets	2,132.00
	<i>Catalytic Devp. Programmes – ST</i>	
	Grants-in-Aid – General	300.00
	Grants towards Creation of Capital Assets	600.00
	GRAND TOTAL	63,931.50

• **Loan for the Year 2013 - 14**

No Loan amount was released by the Ministry of Textiles to Central Silk Board towards House Building Advance during 2013 - 14.

Provisions approved by MoT in the BE for the year 2014 -15 is as follows:

I. Non-Plan

[Rupees in lakh]

1.	Grants towards Admin., Expenses: 01.01.36 - Aid Salaries	27,447.00
	Total - Non-Plan :	27,447.00

II. Plan

[Rupees in lakh]

	<i>Export Promotion / Brand Promotion / Technical upgradation by ISEPC & SMOI</i>	
03.00.31	Grants-in-Aid – General	75.00
03.00.35	Grants towards Creation of Capital Assets	25.00
	<i>R & D, Trg., TOT & IT Initiatives</i>	
04.00.31	Grants-in-Aid – General	2401.00
04.00.35	Grants towards Creation of Capital Assets	819.00
	<i>Seed Organizations</i>	
05.00.31	Grants-in-Aid – General	1847.00
05.00.35	Grants towards Creation of Capital Assets	609.00
	<i>Co-Ordination & Mktg. Devpt. (HRD)</i>	
06.00.31	Grants-in-Aid – General	660.00
06.00.35	Grants towards Creation of Capital Assets	182.00
	<i>Quality Certification System</i>	
07.00.31	Grants-in-Aid – General	19.00
07.00.35	Grants towards Creation of Capital Assets	3.00
	<i>Catalytic Devp. Programmes – (CDP)</i>	
08.00.31	Grants-in-Aid – General	3090.00
08.00.35	Grants towards Creation of Capital Assets	9051.00
	<i>Catalytic Devp. Programmes – SC</i>	
24.00.31	Grants-in-Aid – General	275.00
24.00.35	Grants towards Creation of Capital Assets	2225.00
	<i>Catalytic Devp. Programmes – ST</i>	
25.00.31	Grants-in-Aid – General	85.00
25.00.35	Grants towards Creation of Capital Assets	574.00
	TOTAL - PLAN	21,940.00

III. Project/Scheme Under NE Region

[Rupees in lakh]

	<i>R & D, Trg., TOT & IT Initiatives</i>	
04.01.31	Grants-in-Aid – General	916.00
04.01.35	Grants towards Creation of Capital Assets	314.00
	<i>Seed Organizations</i>	
04.02.31	Grants-in-Aid – General	453.00
04.02.35	Grants towards Creation of Capital Assets	147.00
	<i>Co-Ordination & Mktg. Devpt. (HRD)</i>	
04.03.31	Grants-in-Aid – General	47.00
04.03.35	Grants towards Creation of Capital Assets	13.00
	<i>Quality Certification System</i>	
04.04.31	Grants-in-Aid – General	17.00
04.04.35	Grants towards Creation of Capital Assets	3.00
	<i>Catalytic Devp. Programmes – (CDP)</i>	
04.05.31	Grants-in-Aid – General	1355.00
04.05.35	Grants towards Creation of Capital Assets	4645.00
	TOTAL - PLAN [NE]	7,910.00

Grand Total (Non-Plan + Plan + NE)

[Rupees in lakh]

	Grants towards Admin. Expenses	
	Aid Salaries	26,917.00
	<i>Export Promotion / Brand Promotion / Technical upgradation by ISEPC & SMOI</i>	
	Grants-in-Aid – General	75.00
	Grants towards Creation of Capital Assets	25.00
	<i>R & D, Trg., TOT & IT Initiatives</i>	
	Grants-in-Aid – General	3,317.00
	Grants towards Creation of Capital Assets	1,133.00
	<i>Seed Organizations</i>	
	Grants-in-Aid – General	2,300.00
	Grants towards Creation of Capital Assets	756.00
	<i>Co-ordination & Mktg. Devpt. (HRD)</i>	
	Grants-in-Aid – General	
	Grants towards Creation of Capital Assets	195.00
	<i>Quality Certification System</i>	
	Grants-in-Aid – General	
	Grants towards Creation of Capital Assets	6.00
	<i>Catalytic Devp. Programmes – (CDP)</i>	
	Grants-in-Aid – General	4,445.00
	Grants towards Creation of Capital Assets	13,696.00
	<i>Catalytic Devp. Programmes – SC</i>	
	Grants-in-Aid – General	275.00
	Grants towards Creation of Capital Assets	2,225.00
	<i>Catalytic Devp. Programmes – ST</i>	
	Grants-in-Aid – General	85.00
	Grants towards Creation of Capital Assets	574.00
	GRAND TOTAL	57,767.00

• **INTERNAL AUDIT**

The Internal Audit wing of the Central Silk Board has been formed at Board's Secretariat and Five Zonal Audit Teams (A to E) at CTR&TI-Ranchi (ZAT-A), CSR&TI-Berhampore (ZAT-B), CSR&TI-

Mysore (ZAT-C), RSRS-Jammu (ZAT-D) and MSSO-Guwahati (ZAT-E) have conducted Internal Audit of CSB units for the financial year 2012-13 as per the approved tour programme during 2013-14 and the details are as follows:

Sl. No.	Name of the IA team	Actual units covered		Total
		delegated	Non-delegated	
1	CO – IA team	39	21	60
2	ZAT – A, CTRTI-Ranchi	21	08	29
3	ZAT – B, CSRTI-Berhampore	13	10	23
4	ZAT – C, CSRTI-Mysore	21	19	40
5	ZAT – D, RSRS-Jammu	13	20	33
6	ZAT – E, MSSO-Guwahati	03	18	21
	TOTAL	110	96	206

The PDC, MAB, Hyderabad and other States of PDCs have conducted audit of 13 units of CSB located at various places during 2013-14 and submitted Inspection reports and suitable

replies have also been furnished to PDCs from time-to-time. Audit opinion has also been offered in 42 number of referred files received from different sections during 2013-14.

SERICULTURE STATISTICS

• Raw Silk Production

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 with its golden yellow glitter is unique and

prerogative of India. The total annual production of raw silk in India was 26,480 MT in 2013-14, of which, mulberry raw silk output aggregated to 19,476 MT (73.55%). The remaining 7,004 MT (26.45%) was *Vanya* silks (Table 1).

Table 1: Raw Silk Production in the Country during 2013-14

#	Particulars	Target 2013-14 (MT)	2013-14 (MT)	% achmt of Target	2012-13 (MT)	Incr./Dec over 2012-13
A	Mulberry Plantation (ha)	215660	203023	94.1	186015	9.1
B	Mulberry Raw Silk (MT)					
	Bivoltine	2480	2559	103.2	1984	29.0
	Cross Breed	17205	16917	98.3	16731	1.1
	Sub-Total (B)	19685	19476	98.9	18715	4.1
C	<i>Vanya Silk (MT)</i>					
	Tasar	2310	2619	113.4	1729	51.5
	Eri spun silk	3345	4237	126.7	3116	36.0
	Muga	140	148	105.5	119	24.3
	Sub-Total (C)	5795	7004	120.9	4964	41.1
	Total (B+C)	25480	26480	103.9	23679	11.8

Source: Compiled from the reports received from the State Sericulture Departments

The raw silk production in the country increased from 23,679 MT in 2012-13 to all time high of 26,480 MT in 2013-14. The mulberry raw silk production in the country was 19,476 MT in 2013-14 compared to 18,715 in 2012-13 with an increase of 4.1%. Further, the production of *Vanya* silk during the year 2012-13 was 7,004 MT, compared to 4,964 MT in 2012-13, which shows an increase in production of 41.1%. Bivoltine, tasar, eri and muga silks achieved record production of 2559 MT, 2619 MT, 4237 MT and 148 MT, respectively during 2013-14.

The record performance in the silk production during 2013-14 is attributed to increased adoption of improved technologies, implementation of CDP and State Plans, timely supply of quality seeds, stabilization in cocoon

as well as raw silk prices, reduction in import of raw silk and proper coordination and monitoring with state departments. State-wise and variety-wise raw silk production during 2013-14 compared to 2012-13 is given in the **Annexure -1(A) & 1(B)**

Mulberry area, raw silk production and variety-wise *vanya* silk production for the last three years are depicted in **Fig. 1a, 1b, 1c, and 2a, 2b & 2c.**

Raw Silk Prices

Prices of mulberry raw silk: The average prices of all varieties of raw silk transacted in all silk exchanges of Karnataka during 2013-14 as compared to 2012-13, are given in the

following Table 2. The average price of Filature/Cottage Basin increased by 29.68% from Rs. 2235/kg in 2012-13 to Rs. 2899/kg in 2013-14.

Similarly, charkha silk increased by 23.95% from Rs. 2182/kg in 2012-13 to Rs. 2704/kg in 2013-14.

Table 2: Average prices of raw silk transacted in silk exchanges of Karnataka (Price : Rs./kg)

Month	Filature/Cottage Basin		Charka		Dupion	
	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
April	1910	2529	1759	2380	959	941
May	2020	2539	1949	2482	1039	988
June	2011	2649	2016	2478	868	907
July	2111	2654	2105	2520	1028	979
August	2227	2766	2235	2580	1250	1080
September	2366	3071	2265	2902	1021	1147
October	2313	3030	2205	2806	1223	1482
November	2347	3120	2153	3223	1267	1081
December	2303	3182	2281	2643	969	1381
January	2391	3082	2327	2991	1100	1325
February	2313	3042	2396	2565	1334	1098
March	2439	2879	2270	2471	1011	1490
Average	2235	2899	2182	2704	1096	1096
% Increase over previous year		29.68		23.95		0.01

Source: Department of Sericulture, Karnataka

The prices of Filature/Cottage Basin and Charka silk transacted in silk exchanges of Karnataka state are shown in **Fig. 3a and 3b**, respectively.

Mulberry Cocoon Prices: The average prices of bivoltine hybrid reeling cocoons at Ramanagaram market and improved cross-breed reeling cocoons at Ramanagaram and Siddlaghatta markets of Karnataka during

2013-14 as compared to 2012-13 are given in the Table 3. The average price of bivoltine cocoon in Government Cocoon Market, Ramanagaram increased by 24.18% from Rs. 309/kg in 2012-13 to Rs. 384/kg in 2013-14. Similarly, the crossbreed reeling cocoon recorded an increase of 26.63% in Ramanagaram market and 29.28% in Siddlaghatta market.

Table 3: Average prices of bivoltine hybrid and crossbreed reeling cocoons in different markets of Karnataka

(Price : Rs./kg)

Breed	Bivoltine		Cross breed			
Market	Ramanagaram		Ramanagaram		Siddlaghatta	
Year	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
April	250	353	210	302	235	312
May	269	387	221	322	260	347
June	294	396	241	319	250	362
July	312	354	254	308	259	326
August	321	365	268	315	278	334
September	312	402	258	326	272	367
October	291	348	239	292	251	313
November	303	386	259	334	254	356
December	332	400	278	353	288	370
January	346	423	295	357	296	373
February	342	428	287	360	298	376
March	338	365	284	330	302	357
Average	309	384	258	327	270	349
% Increase over previous year		24.18		26.63		29.28

The prices of bivoltine hybrid reeling cocoons at Ramanagaram market and improved cross-breed reeling cocoons at Ramanagaram and

Siddlaghatta markets are also shown in **Fig. 4a, 4b and 4c**, respectively.

Vanya silks: Prices of cocoon and raw silk of tasar, eri and muga in important markets of Vanya silk producing states for the year 2013-14,

along with comparative figures of 2012-13, are given in Table 4.

Table 4: Prices of Vanya cocoons and raw silk		
(Unit : Price : Rs./kg)		
Variety	2012-13	2013-14
A) Tasar Prices *		
1.Reeling Cocoon (1000 No.)		
a) Raily	2200-2800	2700-3200
b) Daba	1200-2200	2100-2900
2. Reeled Yarn	2000-2750	2415-3200
3. Ghicha Yarn	1200-1600	1400-1700
B) Eri Prices**		
1. Cut Cocoons	360-600	360-640
2. Spun Yarn	1100-1500	1200-1600
C) Muga Prices **		
1. Reeling Cocoon (1000 No.)	1200-1600	1400-2000
2. Raw Silk		
a) Warp Yarn	10000-12000	1000-15000
b) Weft Yarn	8000-9000	8000-12000

Note: * Tasar price pertains to Chaibasa (Jharkhand), Champa & Raigarh (Chhattisgarh) and Bhagalpur (Bihar) markets

** Eri and muga prices pertain to Guwahati (Assam) market.

Source: Raw Material Bank, CSB, Chaibasa and Regional Office, CSB, Guwahati

• **Prices of imported (Chinese) mulberry raw silk**

Landed prices of imported Chinese mulberry raw silk 3A and above grades along with its sale price at Varanasi market during 2013-14

compared to 2012-13 in US \$ are given in Table 5. The landed price of imported silk was in the range of \$54- \$56/kg in 2013-14 compared to \$47- \$56/kg in 2012-13.

Table 5 : Imported raw silk prices

(Price : US\$ / kg)

Month	Landed Prices (Gr. 3A and above) *				Varanasi Market Prices **			
	2012-13		2013-14		2012-13		2013-14	
	Min	Max	Min	Max	Min	Max	Min	Max
April	47.00	50.00	54.00	55.00	48.26	51.83	57.93	61.60
May	47.00	50.00	54.00	55.00	48.65	49.94	58.17	63.62
June	46.00	49.00	55.00	56.00	48.09	50.15	57.36	63.36
July	46.00	49.00	55.00	56.00	48.65	50.46	53.20	63.57
August	47.00	50.00	55.00	56.00	50.40	52.65	60.51	66.45
September	47.00	50.00	55.00	56.00	50.36	51.46	62.75	66.51
October	50.00	51.00	55.00	56.00	50.92	53.38	64.10	66.54
November	51.00	52.00	55.00	56.00	50.20	54.76	63.31	63.87
December	51.00	52.00	55.00	56.00	53.25	54.16	64.04	64.61
January	53.00	55.00	55.00	56.00	57.07	57.44	63.88	64.44
February	55.00	56.00	55.00	56.00	58.02	60.44	63.69	64.26
March	54.00	55.00	55.00	56.00	60.11	60.66	66.07	66.66

Note: * Landed price

** Sale prices prevailed in Varanasi market which includes duty

Source: * Regional Office, CSB, Mumbai collected through M/s. Shah Trading Co., Mumbai

** Certification Centre, CSB, Varanasi

• **Silkgoods Export & Imports**

Export of silk goods

The fabrics, made-ups and readymade garments are the major items of Indian exports, which account for about 95% of the total silk goods exports of the country. The export earnings from silk goods during 2013-14 was Rs. 2480.89 crores (US\$ 410.62 million) compared to Rs. 2303.58 crore (US\$ 423.37 million) in 2012-13,

indicating an increase of 7.7% in Rupee terms and a decrease of 3.01% in US\$ terms (Table 6 and Fig. 5).

During 2013-14, the export earnings of ready made garments and silk waste increased over the previous year. However, export earnings declined in case of natural silk yarn, fabric, made-up and carpet.

Table 6 : Export earnings from silk and silk goods during 2013-14 compared to 2012-13

Sl. No.	Item of Exports	2013-14		2012-13		% increase/Decrease	
		Crore Rs.	Mn. US\$	Crore Rs.	Mn. US\$	Crore Rs.	Mn. US\$
1	Natural Silk Yarn, Fabrics, Madeup	1491.88	246.93	1432.32	263.24	4.16	-6.20
2	Readymade Garments	874.00	144.65	787.15	144.67	11.03	-0.01
3	Silk Carpet	15.71	2.60	21.14	3.89	-25.69	-33.08
4	Silk waste	99.30	16.43	62.97	11.57	57.69	42.01
	TOTAL	2480.89	410.61	2303.58	423.37	7.70	-3.02

Source: Compiled from the statistics received from DGCIS, Kolkata

The traditional major export markets for Indian silk goods are the USA and European countries, the UAE, Saudi Arabia, Hong Kong and Singapore. During 2013-14, the export earnings from the top ten importing countries put together

accounted for 62.68 % total exports, indicating an increase of 4.05% compared to exports to the same destination in 2012-13. Country-wise export earnings from silk goods during 2013-14 compared to 2012-13 is given in Table 7.

Table 7 : Country-wise export earnings from silk goods during 2013-14 compared to 2012-13

Sl. No.	Country+	2013-14		2012-13		% Increase/Decrease
		Crore Rs.	% Share	Crore Rs.	% Share	
1	U.S.A.	372.99	15.03	384.17	16.68	-2.91
2	U.A.E.	400.56	16.15	298.95	12.98	33.99
3	U.K.	191.48	7.72	217.88	9.46	-12.12
4	France	121.79	4.91	121.19	5.26	0.50
5	Italy	120.10	4.84	112.04	4.86	7.19
6	German P. Rep	114.88	4.63	103.53	4.49	10.96
7	Saudi Arabia	25.45	1.03	82.68	3.59	-69.22
8	Spain	55.87	2.25	71.71	3.11	-22.09
9	Afghanistan	76.37	3.08	51.32	2.23	48.81
10	China P Rep	75.66	3.05	51.13	2.22	47.98
	Others	925.76	37.32	808.98	35.12	14.44
	Total	2480.89	100.00	2303.58	100.00	7.70

Note: + Refers to top 10 countries

Source: Compiled from the statistics received from DGCIS, Kolkata

Imports of silk goods

Raw silk, fabrics and made-ups are the major items of imports, which account for about 93% of the total imports. During 2013-14, import value of silk goods was worth Rs.1357.22 crore (224.63 million US\$) compared to Rs. 1726.58 crore (317.33 million US\$) in 2012-13, indicating a decrease of 21.39%

in Rupee terms and 29.21% in US Dollar terms (Table 8). The quantity of raw silk import also reduced by 34.26% from 4959 MT in 2012-13 to 3260 MT in 2013-14. The value of import of silk and silk goods during 2013-14 compared to 2012-13 is given in Table 8. The total quantity of raw silk imported is shown in Fig. 6.

Table 8 : Value of import of silk and silk goods during 2013-14 compared to 2012-13

Sl. No.	Item of Imports	2013-14		2012-13		% Increase/ Decrease	
		Crore Rs.	Mn.US\$	Crore Rs.	Mn.US\$	Crore Rs.	Mn.US\$
1	Natural Silk Yarn	100.07	16.56	80.26	14.75	24.68	12.27
2	Raw Silk	896.44 (3260 MT)	148.37	1238.56 (4959 MT)	227.63	-27.62	-34.82
3	Fabrics, Made-ups	360.71	59.70	407.76	74.94	-11.54	-20.34
	Total	1357.22	224.63	1726.58	317.33	-21.39	-29.21

Note: Figures in parenthesis indicate quantity of raw silk imported

Source: Compiled from the statistics received from DGCIS, Kolkata

ANNEXURE

**CENTRAL SILK BOARD
BANGALORE – 560 068**

COMPOSITION OF BOARD MEMBERS AS ON 31.03.2014

Sl. No. Name & Address of the Member	III UNDER SECTION 4(3)(c)
I UNDER SECTION 4(3)(a)	
<p>1 Shri N.S. Bisse Gowda, Chairman, Central Silk Board, Bangalore, Karnataka (12.12.2012 to 11.12.2015)</p> <p>Residence Address: No.4, 16th Cross, 6th Main, AECS Layout, Sanjay Nagar, Bangalore – 560 094. Karnataka Res: 080 – 2341 5899 (M) : 98453 90139</p>	<p>5 Dr. Pulin Bihari Baske, M.P. (Lok Sabha) 405, V.P. House, Rafi Marg, New Delhi – 110 001. (27.08.2012 to 26.08.2015) (M) 09013180250 Email: pb.baske@sansad.nic.in</p> <p>“Swapnapuri”, Kote Bazar, P.O. Mendinipur Dist., Paschim Mendinipur, West Bengal - 721 101. Phone: 03222-263238 Fax : 03222 – 276919</p>
II UNDER SECTION 4(3)(b)	
<p>2 Smt. Monika S. Garg, IAS Joint Secretary (Silk), & Vice-Chairman, CSB, Ministry of Textiles, Govt.of India, "Udyog Bhavan", New Delhi – 110 011. (07.05.2013 to 06.05.2016)</p> <p>Off : 011 - 2306 1450 Fax: 011 - 2306 2741 Email: ms.garg@nic.in</p>	<p>6 Shri P. C. Mohan, M.P. (Lok Sabha) 1928, 30th Cross, 12th Main, Banashankari 2nd stage, Monotype, G.K. Kalyana Mantapam, Bangalore – 560 050. Karnataka Fax: 080- 2271985 (27.08.2012 to 26.08.2015) (O) 080 – 22865454, 2286565 (R) 080-26760450 (M) 9845003600</p>
<p>3 Smt. Neelam S.Kumar Chief Controller of Accounts, Ministry of Textiles, "Udyog Bhavan", New Delhi – 110 107 (27.07.2012 to 26.07.2015)</p>	<p>No.160, South Avenue, New Delhi – 110 011. Telephone: 011-23016074 (M) 9013180136</p>
<p>4 Smt. Ishita Roy, IAS Member Secretary, Central Silk Board, BTM Layout, Madiwala, Bangalore – 560 068. Karnataka (03.10.2011 to 02.10.2014)</p> <p>Off: 080 - 2668 0190 Fax: 080 - 2668 1511 E mail: ms@csb.gov.in</p>	<p>7 Shri M.K. Raghavan, M.P. (Lok Sabha) No.204, Kerala House, New Delhi – 110 001 (27.08.2012 to 26.08.2015) (M) 9013180178, 9847341577 Fax: 011-23745523</p> <p>‘Ashoka’, Civil View Street, Post Civil Station, Kozhikode – 673 020 - Kerala Phone: 0495 – 2376622, (M) 9446063011 Fax: 0495 - 2376611</p>

8 Shri E.G. Sugavanam,
M.P. (Lok Sabha)
173/128-B, Krishnagiri Main Road,
Barugur – 635 104, Krishnagiri District (TN)
(27.08.2012 to 26.08.2015)
(M) 94432 65405 (O) 04343-265405
(R) 04343-266205
E-mail: egsugu.nic@yahoo.com

Shri E.G.Sugavanam,
M.P. (Lok Sabha),
119, South Avenue, New Delhi – 110 001.
(O) 011-23795257(M) 09868180354

9 Shri Mani Shankar Aiyar,
(M.P) Rajya Sabha,
No.12, Safdarjung Lane, Opposite the
Exit Gate of Delhi Gymkhana Club
New Delhi – 110 011.
(04.05.2012 to 03.05.2015)
011-23795402 (O) 9868217868 (M)
Email: manirsmp@gmail.com

Residence Address:
No.12, Avaiyambalpuram,
Mailadaturai – 709 001, Tamil Nadu.
Phone: 04364 – 221234

10 Shri Basawaraja Patil,
M.P. (Rajya Sabha),
No.C-703, Swarn Jayanti Sadan,
Dr. B.D. Marg, New Delhi – 110 001.
(04.05.2012 to 03.05.2015)
Phone: 011 – 23737833
Email: bpatil.mp@gmail.com
(M) 09448476153

Residence Address:
No. 3/1/28, Vidyanagara Colony,
Sedam, Gulabarga Dist. - 585 222.
(M) 09448476153

IV UNDER SECTION 4(3)(d)

11 Shri M. K. Shankarling Gowda, IAS
Principal Secretary, Govt. of Karnataka,
Horticulture Department, Room No. 404,
4th Floor, 3rd Gate, M.S.Building,
Bangalore – 560 001.

[09.09.2011 to 08.09.2014]
(O) 080-22353939 (R) 080-25449737
Fax: 080-22385687
E-mail: secyhorti-ah@karnataka.gov.in
Mobile : 98440 39168

12 Shri G. Sathish, IFS,
Commissioner for Sericulture Dept. &
Director of Sericulture,
Government of Karnataka,
Dr. Ambedkar Veedi, MS Building,
Bangalore – 560 001.
[09.09.2011 to 08.09.2014]

(O) 080-22253856 Fax:080-22353881
(M) 9845256115 Resi: 080 - 23419096

13 Vacant - Karnataka

14 Vacant - Karnataka

15 Vacant - Karnataka

V UNDER SECTION 4(3)(e)

16 Shri Harmander Singh, IAS,
Principal Secretary to Govt. Handlooms,
Handicrafts, Textiles & Khadi Dept.,
Government of Tamilnadu,
Secretariat, Fort St.George,
Chennai – 600 009.
(23.03.2011 to 22.03.2014)
(O) 044-2561623 Fax : 044-25672261
(M) 944312 24282
E-mail: htksec@tn.gov.in
Web: www.tn.gov.in

VI UNDER SECTION 4(3)(f)

17 Dr. Asvini Kr. Yadav, IAS
Commissioner, Textiles & Sericulture
Government of West Bengal,
6th Floor, Block-A, New Secretariat Buld,
No. 1, K.S. Roy Road, Kolkata – 700 001.
(29.07.2011 to 28.07.2014)
(O) 033-2262 2914 Fax : 033 – 2262 1812
E-mail: cotwestbengal@gmail.com

18 Shri Humayun Kabir,
Vill – Narkel Bari, P.O. Sompara,
P.S. Shaktipur, Distt. Murshidabad
PIN – 742163 West Bengal
(01.08.2013 to 31.07.2016)

VII UNDER SECTION 4(3)(g)

19 Smt. C.S. Rama Lakshmi, IFS,
Commissioner of Sericulture,
Government of Andhra Pradesh,
Road No. 72, Prasasan Nagar,
Adjacent to Water Tank, Jubilee Hills,
Hyderabad – 500 033. Andhra Pradesh
(21.11.2011 to 20.11.2014)

(O) : 040-23541339/23541534/43/47
Fax : 040 – 23541543 (M) 9849903399

20 Shri Ramananda Phukan, ACS
Director of Sericulture,
Government of Assam,
Directorate of Sericulture,
(Near Research Gate)
Gauwahati – 781 022. Assam
(01.06.2011 to 31.05.2014)
Fax : 0361-2361021 Mobile : 094351 68333

21 Shri Narendra Kumar Singh, IAS,
Director,
Handloom & Sericulture,
Department of Industries,
Government of Bihar, Vikas Bhavan,
Patna – 800 015. Bihar
(25.03.2011 to 24.03.2014)
(O) : 0612-2215637 Fax : 0612-2226637
Mobile 94314 85168

22 The Principal Secretary,
Rural Industries Department,
Sericulture Section, Govt. of Chhattisgarh,
Sonakhan Bawan, Ring Road,
Raipur – 492 006. Chhattisgarh
(24.06.013 to 23.06.2016)

23 Shri Arunkumar Solanki, IAS,
Commissioner, Cottage & Rural Industries,
Government of Gujarat,
Block No. 7, Udyog Bhavan,
Gandhi Nagar. Gujarat
(01.06.2011 to 31.05.2015)

Fax : 079 – 2325 9479
(O) 079 – 2325 9479

24 Shri Dharendra Kumar, IFS,
Special Secretary Cum Director,
Handloom, Sericulture & Handicraft,
Department of Industries,
Govt. of Jharkhand, Nepal House,
Doranda, Ranchi – 834 002. Jharkhand.
(07.05.2013 to 06.05.2016)
0651-2591305 Fax : 0651-2491858
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Email: jharkhand_sericulture@rediffmail.com

25 Shri S.D. Pateria, IFS
Director of Sericulture,
Government of Madhya Pradesh
Lower Basement, Satpura Bhawan,
Bhopal – 462 004. Madhya Pradesh
(01.06.2011 to 31.05.2014)
(O) 0755 – 2552118 (R) 0755 – 2480689
(M) 094251 08747
Email: spateriya@gmail.com

26 Shri Vishnu Swaroop Misra, IAS,
Director of Sericulture & Weaving,
Directorate of Sericulture,
Government of Uttar Pradesh,
L D A Commercial Complex, 1st Floor,
Vishwas Khanda – III, Gomti Nagar,
Lucknow – 226 010. Uttar Pradesh
(16.10.2012 to 15.10.2015)
(O) : 0522-2309485, 0522-2309630
Fax : 0522 - 2308566

27 Dr. Sudhir Mohan Sharma, Director,
Directorate of Sericulture,
Government of Uttarakhand,
Premnagar, Dehradun – 248 007.
Uttarakhand.
(07.05.2013 to 06.05.2016)
(O) : 2773227, 2774130
Fax : 2774744 Res. : 2774011
Mobile : 9412056895
E-mail : dosua2002@yahoo.com

VIII UNDER SECTION 4(3)(h)

28 Dr. Malik Farooq, Director
Sericulture Development Department,
Government of Jammu & Kashmir,
Tulsibagh, Silk Factory Road,
Srinagar – 190 009. (J & K).
(21.11.2011 to 20.11.2014)
Kashmir : 2313309/2313247

IX UNDER SECTION 4(3)(i)

29 Dr. C.J. Hiware, Director
(Sericulture), Government of Maharashtra
*Administrative Building No. 2,
6th Floor, B-Wing, Civil Lines,
Commisionarate Office Area,
Civil Lines, Nagpur – 440 001. Maharashtra.
(07.05.2013 to 06.05.2016)
(O) : 0712 – 22569927 / 28
Fax: 0712-2569928

30 Shri Chandan Basera, Director,
Directorate of Sericulture,
Govt. of Nagaland,
Below New Secretariat Complex,
Kohima – 797 001. Nagaland
(07.05.2013 to 06.05.2016)
(O) : 0370 - 2270939 (M) 9158106540,
9423472437, 09612166916

31 Shri Mohan Chauhan, IAS,
Director of Industries,
Government of Himachal Pradesh,
Udyog Bhavan, Bemloi, Shimla – 171 001.
Himachal Pradesh
(25.03.2011 – 24.03.2014)
0177-2813414 (O) 94180 54077 (M)

X UNDER SECTION 4(3)(j)

32 Shri R.K. Rama Krishnappa,
Melur Post, Siddlaghatta Taluk,
Chikkaballapur – 562 102. Karnataka
(05.09.2013 to 04.09.2016)
08158 – 251188 (M) 99023 30380

33 Shri M.P. Lakshmikanth,
No.1554, 16th Main, M.C. Layout, Vijayanagar,
Bangalore – 560 040. Karnataka
(05.09.2013 to 04.09.2016)
080 – 2335 0369(M) 93412 18956

34 Shri Abdul Gani Vakil,
T-17, Tulsi Bagh, Srinagar,
Jammu & Kashmir
(26.09.2013 to 25.09.2016)
(M) 09419008090

35 Shri Azad Kumar Chalasani,
Plot #158, MLA, MP Colony, Road No.10-C,
Jubilee Hills, Hyderabad – 500 034
Andhra Pradesh.
(12.09.2013 to 11.09.2016)
040 – 2355 4457 (M) 0 98490 44755

36 Shri N. Ramesh,
Yeluhalli, Chikkaballapur Taluk,
Chikkaballapur Dist., Karnataka.
(12.09.2013 to 11.09.2016)
(M) 9845221343

37 Shri B.C. Umesh Babu,
R/O # 342, “Methala” Ward No.3,
Near Shiva Temple, Dommasandra,
Sarjapura Hobli, Anekal Taluk,
Bangalore – 562 125. Karnataka
(18.09.2013 to 17.09.2016)
Ph : 080 – 2782 2037
E-mail: ubabu2008@gmail.com

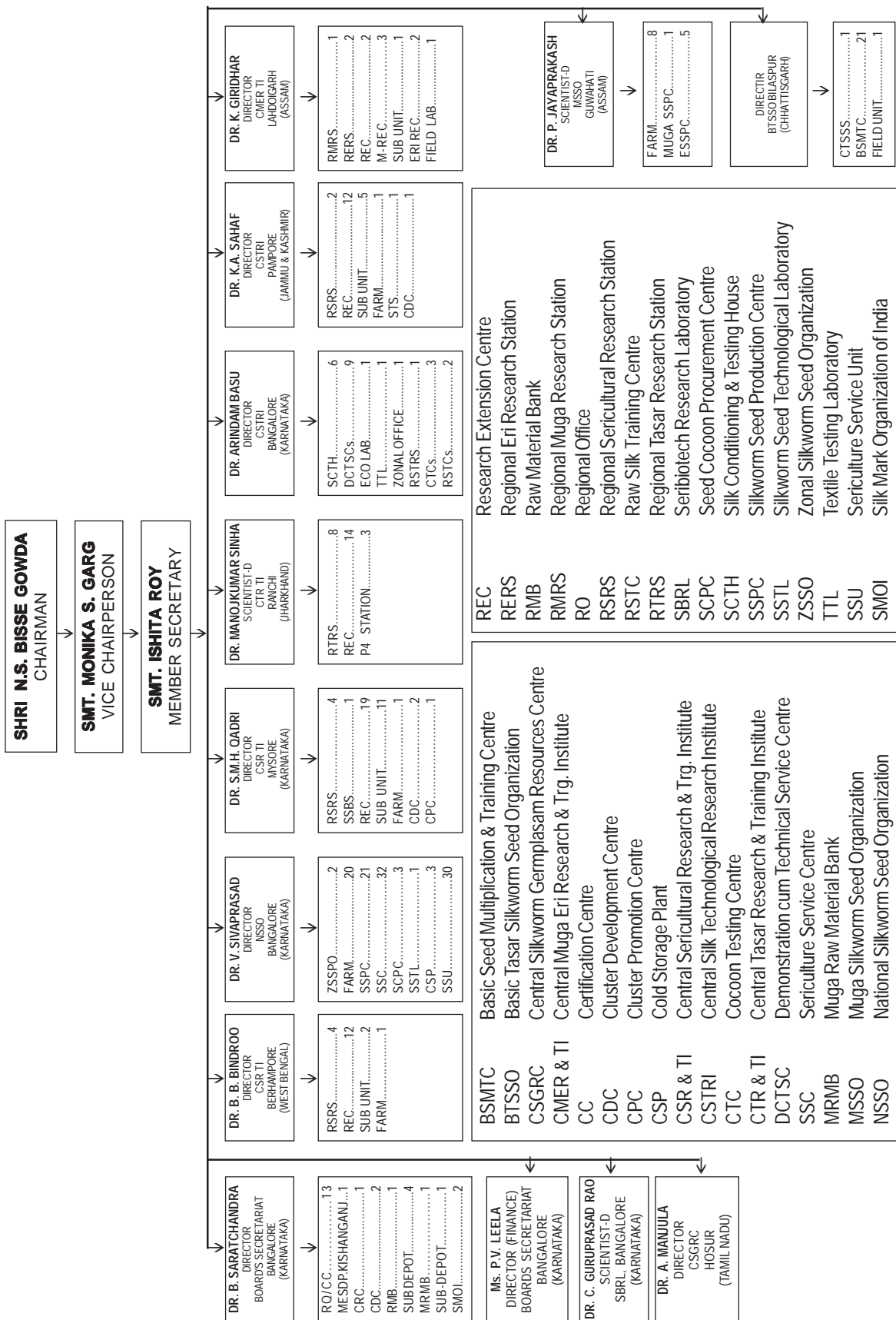
38 Shri R.H. Jairam Reddy,
Ksheerasagaram Village,
Kongatam Post, V.Kota Mandal,
Chittoor District – 517 424.
Andhra Pradesh
(27.09.2013 to 26.09.2016)

- 39 Shri Pitchikala Lakshminarayana,**
Badarala Village, Vemulapalli Post,
Lingapalem Mandel, West Godavari District,
Andhra Pradesh – 534 452.
(17.10.2013 to 16.10.2016)
Ph : 08823 – 24243908823 – 213355
(M) 9440658564
Email: lakshminarayanap1966@ gmail.com

XI PERMANENT INVITEES

- 1 The Textile Commissioner,**
Ministry of Textile, Govt. of India,
New CGO Building, # 48, New Marine Line,
P.B.No. 11500. Mumbai – 400 020.
Maharashtra.
Off: 022 - 2004510 Res: 022 – 2201444
Fax: 022 – 2004693
- 2 The Chairman,**
Indian Silk Export Promotion Council
B-1 Extension, A-39,
Mohan Co-operative Industrial Estate,
Mathura Road, New Delhi – 110 044.
Tel & Fax – 011 – 4057 1366
Email: roisepc@gmail.com

ORGANIZATION CHART OF CENTRAL SILK BOARD



Annexure - II(b)

UNITS OF CENTRAL SILK BOARD, BANGALORE AS ON 31.03.2014

CSR & TI MYSORE (40)	CSR&TI PAMPORE (24)	CTR & TI RANCHI (26)	KARNATAKA	TAMIL NADU	NSSO, BANGALORE (84)	ZSSO, Malda	UTTARANCHAL	ZSSO, Dehradun	CSTRI BANGALORE (24)	MISSO, GUWAHATI (19)	ABSTRACT
RSRS Bangalore RSRS Chamrajnagar RSRS Salem RSRS Anantapur SSBS Coonoor	RSRS Jamnu RSRS Sahasapur (UTR) RSRS Ghumanwin REC Maduan (HP) REC Sainpur (PUNJ) REC Barnoli (J & K) REC Gonda (U.P.) REC Fatehnagar REC. Nowshera (JKK) REC. Chakrapur(UP) REC. Gorakhpur(UP) REC. Chhatrapur(UP) REC. Kalgithra (CHHA) REC. Bagdwar (UTR) REC. Una (HP) REC. Udhamsinghnagar REC. Ghumanwin REC. Kapasia (WB) REC. Venkatagirikola REC. Venkatapur REC. Udmalpet REC. Eluru REC. Hosur REC. G. playam REC. Amravathi REC. Hosangabad REC. Palakkad REC. Kalyandurgam	RTSR Jagdalpur (CHHA) RTSR Dumka (CHHA) RTSR Baripada (ORISSA) RTSR Rangal (A.P) RTSR Bhandara (MAH) RTSR Bhimtal (UTR) RTSR Baiote (JKK) RTSR Impthal (MANIPUR) REC. Masik (MAH) REC. Palampur (HP) REC. Kalgithra (CHHA) REC. Kalgithra (CHHA) REC. Banariposi (ORISSA) REC. Roberisganj (U.P) REC. Bhadrachalam (AP) REC. Kapsia (WB) REC. Gopeshwar (UTR) REC. Umanganu (ASSAM) REC. Kikrma (MAGALAND) REC. Yalokongpur (MANIPUR) REC. Purulia (WB) REC. Jhansi (UP) CPC. Pallahara (Orissa) P4. Station. Kargikola(CHHA) P4. Station. Chakrapur(JHA) P4. Station, Sarayahat (JHA) RTSRSS = 8 STIS = 3 P4. Station = 14 RECS = 3 Total = 23	SOPC Kunglaj SOPC. K.R.Pet P3 Mysore P2 Dhamapara (BV) P2. Gavimata (BV) P2. Nagenahalli(MV) SSPC Bangalore SSPC DB Pur SSPC Kollita SSPC Rajganj SSC Hemabad SSC Bhadrapur SSC Gadbadapur SSC Alnagar SSC Amrity SSC Sujpur SSC Mohabari SSC Panchagram SSC Katakach SSC Katalala SSC. Kallaganj Ging. = 1 CSP = 3 Total = 83	SOPC Denkanikottai P2 Kamsutubana(BV) P2 Bangara (MV) P2 Dhubulia (MV) SSPC Behrampore SSPC D.B Pur SSPC Kollita SSPC Rajganj SSC Bagalur SSC Natrapalli SSC Combatore SSU. Gopichitlayyam CSP. Hosur ANDHRA PRADESH P2. Horeshy Hills P2. Madakastara (BV) P2. Parigi (MV) SSPC Hindupur SSPC Madanapalle SSPC Chittoor SSC Penkonda SSC Kuppam SSC Vijayawada SSC Palamaner SSC. Madakastara KERALA SSPC Palakkad P2. Palakkad	Text. Testing Lab. Varanasi SC&TH Bangalore SC&TH Dhamavaram SC&TH Kanchepuram SC&THECO Lab. Jamnu SC&TH Srinagar SC&TH Malda Zonal Office, Bilaspur CTC. Combatore CTC. Ramanagar CTC. Dhamaram RSTRS. Guwahati RSTC. Siddhaghatla RSTC. Kollegal DCTSC. Rayapur(kar) DCTSC. Hindupur(AP) DCTSC. Dhamapur(TN) DCTSC. Bhandara(Mah) DCTSC. Cuttack(Or) DCTSC. Dehradun(Ukhand) DCTSC. Jamnu(JKK) DCTSC. Bhagapur(Bihar) DCTSC. Suri(WB) RSTRS. Guwahati = 1 TTL = 1 SC&THS = 6 DCTSCs = 6 RSTCS = 9 Zonal Office, Bilaspur = 1 RSTCS = 2 CTCS = 3 Total = 23	P4 Nongmah (MEGH) P4 Tura (MEGH) P3 Rompara (MEGH) P3 Aokgiri (MEGH) P3 Jia (ARUNACHAL) P3. Haim (ASSAM) P3 Mendipathar (MEGH) P3. Naryanapur MUGA,SSPC. Kallabari Eti. SSPC, Azara ERISSPC, Falehpur ERISSPC, Hosur Eti. SSPC, Sujanpur Farms = 8 M-SSPC = 1 E-SSPC = 5 Total = 14 CME&TI LAHDOIGARH(13) RERS. Mendipathar(MEG) RERS. Shadnagar REC. Lakhipur (ASSAM) REC. Mongolai(Assam) MRMB (Muga) = 1 MRMB-SD = 1 SC&TH = 6 Zonal Off. Bilaspur = 1 ERI REC. Falehpur (UP) DCTSCs = 9 CTCS = 3 RSTCS = 2 BTSO, Bilaspur CTSSS Kargi. Kola = 1 BSM&TC (Tasar) = 21 Field Unit, Pallahara = 2 ZSSO (Mulb) = 2 SCPC (Mulb) = 23 BSFs (Mulb) = 8 BSFs (MSDP) = 1 SSPC (Muga) = 1 SSCs (Mulb) = 32 STS/SU/CSP = 5 ERISSPC = 5 Field lab = 1 CDGS/CRC/CPC = 3 P4 Stations = 7 Total = 300 Field Lab, Titbar					
RSRS = 4 SSBS Coonoor = 1 REC = 19 CDC = 2 S-Unit = 11 Farm = 1 CPC = 1 Total = 39	RSRS = 4 REC = 12 Farm = 1 S-Unit = 1 Total = 19	Total = 23	SSC = 1 MIRMB = 1 NSO = 2 P4, P3, P2 = 2 RDO = 1 REC = 1 RMB = 1 RMB-SD = 1 ZSSO = 1 Total = 23	SSC = 1 MIRMB = 1 NSO = 2 P4, P3, P2 = 2 RDO = 1 REC = 1 RMB = 1 RMB-SD = 1 ZSSO = 1 Total = 23	SSC = 1 MIRMB = 1 NSO = 2 P4, P3, P2 = 2 RDO = 1 REC = 1 RMB = 1 RMB-SD = 1 ZSSO = 1 Total = 23	SSC = 1 MIRMB = 1 NSO = 2 P4, P3, P2 = 2 RDO = 1 REC = 1 RMB = 1 RMB-SD = 1 ZSSO = 1 Total = 23	SSC = 1 MIRMB = 1 NSO = 2 P4, P3, P2 = 2 RDO = 1 REC = 1 RMB = 1 RMB-SD = 1 ZSSO = 1 Total = 23	SSC = 1 MIRMB = 1 NSO = 2 P4, P3, P2 = 2 RDO = 1 REC = 1 RMB = 1 RMB-SD = 1 ZSSO = 1 Total = 23	Regional Muga Research Station Regional office Regional Et Research Station Regional Tasar Research Station Silk Conditioning & Testing House Seed Cocoon Procurement Centre Sub unit attached to Research Extension Centre Silkworm Seed Production Centre Cocoon Testing Centre		

ZONE-WISE, STATE-WISE BUDGED ESTIMATE APPROVED AND FUNDS RELEASED DURING THE YEARS 2012-13, 2013-14 AND OUTLAY APPROVED FOR THE YEAR 2014-15

(Rs.in crore)

Sl. No.	State	XII Plan Allocation	2012-13		2013-14		2014-15
			BE Approved	Fund Released	BE Approved	Fund Released	BE Approved
I	Southern Zone						
1	Karnataka	167.07	38.31	39.36	45.32	50.09	35.62
2	Andhra Pradesh	74.09	14.52	16.93	27.11	25.63	19.82
3	Tamil Nadu	62.62	13.84	12.97	18.13	11.86	14.35
4	Kerala	4.68	1.29	-	1.81	0.01	0.84
5	Maharashtra	25.21	4.36	6.36	16.46	12.98	10.31
	Total for Zone - I	333.66	72.32	75.62	108.83	100.57	80.94
II	Central & Western Zone						
6	Uttar Pradesh	32.64	7.59	7.36	10.65	10.92	9.23
7	Madhya Pradesh	30.22	7.22	7.72	11.48	12.12	10.72
8	Chhattisgarh	10.00	3.46	1.28	3.59	2.27	3.05
9	Rajasthan	-	-	-	-	-	-
10	Gujarat	0.50	0.25	-	0.15	-	0.10
	Total for Zone - II	73.36	18.52	16.36	25.87	25.32	23.10
III	Eastern Region Zone						
11	West Bengal	27.05	7.12	5.20	7.25	5.77	3.44
12	Bihar	10.06	2.65	2.84	3.17	1.08	1.10
13	Jharkhand	65.46	12.39	15.02	32.63	30.52	17.54
14	Orissa	21.23	5.13	5.09	7.77	5.37	2.74
	Total for Zone - III	123.80	27.29	28.15	50.82	42.74	24.82
IV	North - western Zone						
15	Jammu & Kashmir	51.40	12.96	15.94	15.97	15.65	15.38
16	Himachal Pradesh	13.07	2.88	0.98	3.23	8.12	5.10
17	Uttarakhand	25.90	7.40	4.94	7.62	4.24	2.86
18	Haryana	0.73	0.22	-	0.30	-	0.20
19	Punjab	1.08	0.31	0.32	0.36	-	0.60
	Total for Zone - IV	92.18	23.77	22.18	27.47	28.01	24.14
V	North - eastern Zone						
20	Assam	85.00	18.40	20.22	25.00	30.67	16.75
21	KAAC (Karbi Anglong)	5.00	1.00	1.00	1.00	0.97	0
22	BTC (Bodoland)	32.00	5.20	6.39	9.50	13.20	8.00
23	Arunachal Pradesh	10.00	2.20	2.20	2.50	4.10	1.60
24	Manipur	35.00	6.80	6.89	9.00	10.01	8.00
25	Meghalaya	24.00	6.70	6.70	7.00	10.64	5.67
26	Mizoram	25.00	6.00	6.00	7.00	9.88	5.77
27	Nagaland	25.00	5.20	5.21	9.00	10.80	7.70
28	Sikkim	5.00	1.29	0.46	1.00	0	1.00
29	Tripura	20.00	6.70	7.78	7.00	8.84	5.51
	Total for Zone - V	266.00	59.49	62.85	78.00	99.12	60.00
	Total for all Zones	889.00	201.89	205.16	291.00	295.75	213.00

(INTEGRATED CATALYTIC DEVELOPMENT PROGRAMME)
CENTRALLY SPONSORED SCHEMES FOR SERICULTURE DEVELOPMENT DURING XII PLAN
FINANCIAL TARGETS AND ACHIEVEMENTS UNDER CDP DURING 2013-14

(Rs.in crores)

Sl. No.	Name of the Scheme / Component	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
1	Mulberry Sector			
a)	Mulberry Seed			
1	Franchise disinfection programme of NSSO	0.00	0.38	
2	Support to construct Rearing Houses for Adopted Seed Rearers (ASRs) of NSSO	0.00	1.11	
3	Revolving Capital fund support for State grainages and RSPs	0.00	0.20	
4	Assistance for purchasing Seed Testing equipments for State grainages and private RSPs	0.00	0.13	
5	Support to strengthen basic seed farms of States	0.94	0.74	0.36
6	Support to upgrade State and Private commercial seed production units	0.54	0.93	0.08
	Total for Mulberry Seed	1.48	3.48	0.44
b)	Mulberry Cocoon			
1	Support for Mulberry Plantation Development	16.79	13.92	2.67
2	Assistance for irrigation and other Water Conservation and usage techniques	20.98	18.59	1.36
3	Supply of Rearing Appliances (including improved mountages) / farm equipments to farmers	61.50	54.27	7.98
4	Supply of quality Disinfecting Materials and other crop protection measures for farmers	5.00	5.52	0.80
5	Assistance for construction of Rearing Houses (RH) - Models of	64.29	74.88	32.6393
6	Assistance for maintenance of Chawkie gardens, construction of Chawkie Rearing Centre (CRC) buildings and procurement of Chawkie Rearing equipments	3.31	3.81	1.25
7	Production units for Biological inputs / Door to Door Service Agents for Disinfection and inputs supply & Assistance for Sericulture Poly-Clinics	0.39	1.46	0.24
8	Support for development of Kissan Nurseries	0.92	1.58	0.24
9	Maintenance cost for Mulberry Plantation raised during X & XI Plan for 3 years			
10	Support for construction of Vermi Compost Sheds	0.50	0.17	0.16
11	Assistance towards fencing of mulberry gradens in NE States	1.16	0.11	0.11
12	Assistance towards expansion of Rearing Houses to construct Mounting Halls in NE States	3.60	3.90	3.90
13	Support for increasing the yield of existing rainfed mulberry gardens through water conservation techniques	0.07	1.50	1.25
	Total for Mulberry Cocoon	178.51	179.73	52.59
	Total for Mulberry Sector	179.99	183.21	53.03
	Revenue Head - 31	24.44	22.81	5.22
	Capital Head - 35	155.55	160.41	47.81

#	Name of the Scheme / Component	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
2	Vanya Sector			
a)	Vanya Seed			
i	Tasar			
1	Assistance to Private Tasar Graineurs	9.00	8.36	
a	Assistance to existing tasar graineurs for upgradation of seed production capacity	0.03		
2	Assistance for strengthening of tasar seed multiplication infrastructure (Tropical Tasar)	1.37	1.09	
a	Estt. of Basic Seed Production units (by SHGs, Co-operatives / NGOs)	0.00	0.19	
3	Assistance for strengthening of tasar seed multiplication infrastructure (Oak Tasar)	0.14	0.14	0.14
4	Assistance for Tropical Tasar Rearers	3.59	3.26	
a	Assistance for Oak Tasar Seed Rearers	0.00		
b	Assistance for mobile testing facility for disease monitoring and seed cocoon testing	0.00	0.03	
	Total for Tasar Seed	14.13	13.07	0.14
ii	Eri			
5	Assistance to State Deptts. for strengthening of Eri farm cum grainages	1.96	1.89	1.71
a	Assistance to Eri Private Graineurs	0.00		
b	Assistance to Eri Adopted Seed Rearers	0.80	0.80	0.67
c	Upgradation of State Eri Basic Seed farm cum grainages	0.00		
d	Assistance for estt. of Self Help Eri Grainage units (SHEG)	0.06		
e	Mobile testing and certification units	0.00		
	Total for Eri Seed	2.82	2.69	2.38
iii	Muga			
6	Assistance to Muga Private Graineurs	2.55	2.55	2.55
a	Assistance to existing Muga Private Graineurs for upgradation of seed production capacity	0.39		
7	Assistance to State Deptts. for strengthening of Muga seed multiplication infrastructure (P2)	2.00	3.50	3.50
a	Assistance for estt. of Muga P3 Basic Seed Production unit	0.00		
b	Assistance to Muga Adopted Seed Rearers	1.35	1.35	1.35
	Total for Muga Seed	6.29	7.39	7.39
	Total for Vanya Seed	23.24	23.15	9.91
b)	Vanya Cocoon			
i	Tasar			
1	Support to rearers for Augmentation of Tasar Host Plantation	8.00	7.61	
a	Assistance to beneficiaries for raising Tasar food plant seedlings (Kisan Nurseries)	0.45	0.79	
b	Assistance to Tasar commercial rearers for development of Chawkie garden	0.45	1.51	
c	Assistance to Tasar rearers for maintenance of existing Chawkie plantation	0.06		
d	Assistance to Tasar rearers for maintenance of existing Tasar plantation	0.42	1.36	
e	Conservation and utilization of Sal based Tasar Eco-races	1.03	0.18	
2	Assistance for raising and maintenance of systematic Oak Tasar Plantation	1.16	1.16	1.08
3	Assistance for construction of Cocoon Storage Houses in Tasar sector	1.03	0.52	
a)	Assistance for construction of Cocoon Storage and stifling facilities for Tasar rearers	0.00	0.04	
	Total for Tasar Cocoon	12.60	13.16	1.08

#	Name of the Scheme / Component	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
ii	Eri			
4	Support for Castor / Tapioca cultivators with Start-up tools	0.99	0.97	
5	Augmentation of perennial eri food plants with supply of start-up tools	4.63	4.60	4.60
a	Assistance for raising Kesseru food plants nursery	0.22		
6	Assistance for construction of Rearing Houses	22.00	24.37	21.46
	Total for Eri Cocoon	27.84	29.94	26.06
iii	Muga			
7	Augmentation and maintenance of Muga food plants with start-up tools	4.73	4.69	4.54
a	Assistance for raising Muga food plants nursery	0.17		
b	Assistance for maintenance of existing Muga food plantation			
	Total for Muga Cocoon	4.90	4.69	4.54
	Total for Vanya Cocoon	45.34	47.79	31.67
	Total for Vanya Sector	68.58	70.94	41.58
	Revenue Head - 31	22.31	22.86	10.22
	Capital Head - 35	46.27	48.08	31.36
	Total for Mulberry & Vanya Sector	248.57	254.16	94.61
	Revenue Head - 31	46.75	45.67	15.44
	Capital Head - 35	201.82	208.49	79.17
3	Post-cocoon Sector			
I	Reeling & Spinning Sector			
1	Support for construction of Reeling Sheds			
a	Improved Cottage basin units			
(i)	36-Ends unit (6 Basins of 6-Ends each)	0.00	0.02	
(ii)	48-Ends unit (6 Basins of 8-Ends each)	0.00		
b	Multiend reeling units			
(i)	6 Basins unit (10-Ends per Basin)	0.48	0.21	
(ii)	10 Basins unit (10-Ends per Basin)	0.18	0.45	
2	Support for motorized charkha to dissuade child labour	0.03	0.03	
3	Support for establishment of improved Cottage basin reeling units			
a	36 ends unit (6 Basins of 8-Ends each)	0.32	0.29	0.26
b	48 Ends unit (6 Basins of 6-Ends each)	0.00		
4	Support for establishment of Multiend reeling units			
a	6 Basins unit (10-Ends per basin)	1.67		
b	10 Basins unit (10-Ends per basin)	2.46	2.72	0.35
c	Support for existing Multiend units for procurement of additional equipments / re-conditioning	0.19	0.61	
5	Support for establishment of Automatic reeling units			
a	200-Ends unit	0.36		
b	400-Ends unit	2.70	1.94	
6	Support for establishment of Automatic Dupion reeling units (142-Ends)			
7	Assistance for Twisting units (480-Ends)	0.71	0.88	
8	Support for Vanya reeling / spinning sector			
a	Reeling-cum-twisting machines	1.20	0.48	0.19
b	Wet reeling machine (2 Basins of 6-Ends each)	0.00		
c	Two in one Reeling-cum-Twisting machine	0.00		
d	Tasar cocoon sorting machine for NGOs / Co-operatives / SHGs	0.00		
e	Motorized / Pedal operated spinning machine	0.23	0.22	0.22
f	Solar operated spinning machine	0.00		
9	Interest subsidy on working capital loan sanctioned by Banks to reeling units	0.50		
10	Incentive for production of Bivoltine silk			
a	Gradable bivoltine silk reeled on Cottage basin units	(Rs.50/- per kg.)	3.52	0.28
b	2 A grade & above bivoltine silk reeled on Automatic reeling units (Rs.150/- per kg.)	2.17	0.06	

#	Name of the Scheme / Component	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
11	Support for setting up of Hot air driers			
a	50 kg. capacity units (Electrical)	0.38	0.36	0.18
b	100 kg. capacity units (Electrical)	0.11	0.09	
c	50 kg. capacity units (Multifuel)	0.00		
d	100 kg. capacity units (Multifuel)	0.00		
e	2000 kg. capacity conveyor Hot air dryer (Imported from China PR)	0.00		
12	Providing services of Master reelers/Technicians			
a	Master reelers	1.00	0.55	0.12
b	Master Technicians	0.03		
	Total for Reeling & Spinning	18.24	9.19	1.31
II	Post-yarn Sector			
13	Support for Handloom sector			
a	Loom upgradation through jacquards and other equipments	1.00	0.51	0.08
b	Pneumatic lifting mechanism for Handlooms			
(i)	2 Looms unit	0.00		
(ii)	4 Looms unit	0.00		
14	Support for setting up of Common Facility Centre for Yarn dyeing & Fabric processing			
a	Computer Aided Textile Designing (CATD)	0.62	0.52	0.06
b	Tub Dyeing - 25 kg. capacity units	0.03	0.03	0.03
c	Tub Dyeing - 50 kg. capacity units	0.05	0.05	0.05
d	Arm Dyeing - 50 kg. capacity units			
e	Fabric Processing - 250 kg capacity units			
f	Support for effluent treatment plant for yarn dyeing and fabric processing units (Existing & new units)			
(i)	Zero discharge type (5000 litres / day)			
(ii)	Discharge to ground type (5000 litres / day)			
15	Providing services of Master Weavers / Designers / Technicians			
a	Master Weavers / Designers	0.14	0.27	0.06
b	Master Dyers	0.00		
c	Master Technicians	0.00	0.01	
	Total for Post-yarn	1.84	1.40	0.28
IV	Marketing			
16	Support to States for establishment of quality linked price support system for cocoons and raw silk	4.40	1.35	0.27
17	Vanya Silk Market Promotion (VSMP)	0.26	0.15	0.15
	Total for Marketing	4.66	1.50	0.42
	Total for Post-cocoon Sector	24.74	12.09	2.01
	Revenue Head - 31	7.62	1.33	0.32
	Capital Head - 35	17.12	10.76	1.69
4	Support Services			
1	Crop Insurance Support (For all Sectors)	2.00	0.76	
2	Publicity for Sericulture sector	3.00	1.65	0.38
3	Support for Studies / Consultancies / Surveys organised by CSB & States	1.00	0.23	0.21
4	Product Design, Development & Diversification	0.20	0.05	

#	Name of the Scheme / Component	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
5	Health Insurance Programme for sericulture farmers and workers	2.83	10.43	
6	Capacity building for sericulture sector (Includes all training and exposure visit to CSB, States and other Stakeholders)			
a	Beneficiary Empowerment Programme (BEP)	7.60	4.75	1.85
b	Sericulture Resource Centres (SRC)	0.32	0.03	
c	Skill Training & Enterprise Development Programmes (STEP)	0.17	0.39	0.06
7	Developing Community Based Organizations (CBOs) in line with Resham Doot Concept	0.06	2.42	
8	Support for Convergence Activities for Sericulture Development			
a	Cluster Development Projects	0.26	1.77	
	Total for Support Services	17.44	22.48	2.50
5	Special Initiatives (Flexi Fund)-Token	5.00	7.02	
	<i>Revenue Head - 31</i>	22.12	29.48	2.50
	<i>Capital Head - 35</i>	0.32	0.03	0.00
	Grand Total for CDP (I to IV)	295.75	295.75	99.12
	<i>Revenue Head - 31</i>	76.49	76.48	18.26
	<i>Capital Head - 35</i>	219.26	219.27	80.86

**CENTRALLY SPONSORED SCHEMES FOR SERICULTURE DEVELOPMENT DURING XII PLAN
(INTEGRATED CATALYTIC DEVELOPMENT PROGRAMME)**

PHYSICAL TARGETS AND ACHIEVEMENTS UNDER CDP DURING 2013-14

(Physical Units as indicated)

#	Name of the Scheme / Component	Unit	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
1	Mulberry Sector				
a)	Mulberry Seed				
1	Franchise disinfection programme of NSSO	Nos.	0	35	
2	Support to construct Rearing Houses for Adopted Seed Rearers (ASRs) of NSSO	Nos.	0	111	
3	Revolving Capital fund support for State grainages and RSPs	Nos.	0	8	
4	Assistance for purchasing Seed Testing equipments for state grainages and private RSPs	Nos.	0	10	
5	Support to strengthen basic seed farms of States	Nos.	30	24	9
6	Support to upgrade state and private commercial seed production units	No. of Units	35	51	1
b)	Mulberry Cocoon				
1	Support for Mulberry Plantation Development	Acre	20,080	17123	2380
2	Assistance for irrigation and other Water Conservation and usage techniques	Acre	14,293	13542	680
3	Supply of Rearing Appliances (including improved mountages) / farm equipments to farmers) Farmers - Including landless farmers	Number / Acre	21,907	15806	2388
4	Supply of quality Disinfecting Materials and other crop protection measures for farmers	Seed Farmers	19,479	19917	2492
5	Assistance for construction of Rearing Houses (RH)	Nos.	12,271	13564	2552
6	Assistance for maintenance of Chawkie gardens, construction of Chawkie Rearing Centre (CRC) buildings and procurement of Chawkie Rearing equipments	Nos.	134	143	26
7	Production units for Biological inputs/Door-to-Door Service Agents for Disinfection and inputs supply & Assistance for Sericulture Poly-Clinics	Nos.	29	231	20
8	Support for development of Kissan Nurseries	Acre	150	254	26
9	Maintenance cost for Mulberry Plantation raised during X & XI Plan for 3 years	Acre			
10	Support for construction of Vermi Compost Sheds	Nos.	329	105	100
11	Assistance towards fencing of mulberry gardens in NE States	Acre	1,450	139	139
12	Assistance towards expansion of Rearing Houses to construct Mounting Halls in NE States	Nos.	1,500	1627	1627
13	Support for increasing the yield of existing rainfed mulberry gardens through water conservation techniques	Acre	90	2060	1560

#	Name of the Scheme / Component	Unit	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
2	Vanya Sector				
a)	Vanya Seed				
i	Tasar				
1	Assistance to Private Tasar Graineurs	Graineur	492	891	
a	Assistance to existing tasar graineurs for upgradation of seed production capacity	Graineur	10		
2	Assistance for strengthening of tasar seed multiplication infrastructure (Tropical Tasar)	PPC	40	37	
a	Estt. of Basic Seed Production units (by SHGs, Co-operatives / NGOs)	Seed prod.unit		4	
3	Assistance for strengthening of tasar seed multiplication infrastructure (Oak Tasar)	Grainage	1	1	1
4	Assistance for Tropical Tasar Rearers	Rearer	2360	5772	
a	Assistance for Oak Tasar Seed Rearers	Rearer			
b	Assistance for mobile testing facility for disease monitoring and seed cocoon testing	Nos.		1	
ii	Eri				
5	Assistance to State Deptts. for strengthening of Eri-farm-cum-grainages	Farm-cum Grainage	21	20	17
a	Assistance to Eri Private Graineurs	Graineur			
b	Assistance to Eri Adopted Seed Rearers	Rearer	765	764	630
c	Upgradation of State Eri Basic Seed Farm-cum-grainages	Farm-cum Grainage			
d	Assistance for estt. of Self Help Eri Grainage units (SHEG)	Grainage	90		
e	Mobile testing and certification units	No.			
iii	Muga				
6	Assistance to Muga Private Graineurs	Graineur	125	125	125
a	Assistance to existing Muga Private Graineurs for upgradation of seed production capacity	Graineur	60		
7	Assistance to State Deptts. for strengthening of Muga seed multiplication infrastructure (P2)	Farm-cum Grainage	8	14	14
a	Assistance for estt. of Muga P3 Basic Seed Production unit	Rearer			
b	Assistance to Muga Adopted Seed Rearers	Rearer	226	226	226
b)	Vanya Cocoon				
i	Tasar				
1	Support to rearers for Augmentation of Tasar Host Plantation	Ha.	2,777	2759	
a	Assistance to beneficiaries for raising tasar food plant seedlings (Kisan Nurseries)	Nursery Units	70	124	
b	Assistance to tasar commercial rearers for development of chawkie garden	Rearer	1,000	3000	
c	Assistance to tasar rearers for maintenance of existing chawkie plantation	Rearer	570		

#	Name of the Scheme / Component	Unit	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
d	Assistance to tasar rearers for maintenance of existing tasar plantation	Ha.	340	1000	
e	Conservation and utilization of Sal based tasar Eco-races.	No. of Camps	90	26	
2	Assistance for raising and maintenance of systematic oak tasar plantation	Ha.	295	295	275
3	Assistance for construction of cocoon Storage Houses in tasar sector	No.	165	111	
a)	Assistance for construction of cocoon storage and stifling facilities for Tasar rearers	No. Only 25% will be borne under CSB		10	
ii	Eri				
4	Support for Castor / Tapioca cultivators with Start-up tools	Acre	1,275	1955	
5	Augmentation of perennial eri food plants with supply of start-up tools	Acre	1,865	1855	1855
a	Assistance for raising Kesseru food plants nursery	Nursery units	55		
6	Assistance for construction of Rearing Houses	Nos.	3,964	4376	3489
iii	Muga				
7	Augmentation and maintenance of muga food plants with start-up tools	Acre	1,915	2110	1830
a	Assistance for raising muga food plants nursery	Nursery units	40		
b	Assistance for maintenance of existing muga food plantation	Acre			
3	Post-cocoon Sector				
I	Reeling & Spinning Sector				
1	Support for construction of Reeling Sheds	Nos.			
a	Improved Cottage basin units				
(i)	36-Ends unit (6 Basins of 6-Ends each)			1	
(ii)	48-Ends unit (6 Basins of 8-Ends each)				
b	Multiend reeling units				
(i)	6 basins unit (10-Ends per Basin)		31	11	
(ii)	10 basins unit (10-Ends per Basin)		10	25	
2	Support for motorized charkha to dissuade child labour	Nos.	50	50	
3	Support for establishment of improved Cottage basin reeling units	Nos.			
a	36-Ends unit (6 Basins of 6-Ends each)		11	10	9
b	48-Ends unit (6 Basins of 8-Ends each)				

#	Name of the Scheme / Component	Unit	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
4	Support for establishment of Multiend reeling units	Nos.			
a	6 Basins unit (10-Ends per Basin)		27		
b	10 Basins unit (10-Ends per Basin)		33	40	3
c	Support for existing Multiend units for procurement of additional equipments / re-conditioning		10	50	
5	Support for establishment of Automatic reeling units	Nos.			
a	200-Ends Unit		1		
b	400-Ends Unit		4	3	
6	Support for establishment of Automatic Dupion reeling units (142-Ends)	Nos.			
7	Assistance for Twisting units (480-Ends)	Nos.	12	15	
8	Support for Vanya reeling / spinning sector	Nos.			
a	Reeling cum twisting machines		350	224	50
b	Wet reeling machine (2 Basins of 6-Ends each)				
c	Two in one Reeling cum Twisting machine				
d	Tasar cocoon sorting machine for NGOs / Co-operatives / SHGs				
e	Motorized / Pedal operated spinning machine		404	394	389
f	Solar operated spinning machine				
9	Interest subsidy on working capital loan sanctioned by Banks to reeling units	Nos.	50		
10	Incentive for production of Bivoltine silk	Kg.		3596	
a	Gradable bivoltine silk reeled on Cottage basin units (Rs.50/- per kg.)		997,329		
b	2 A grade & above bivoltine silk reeled on Automatic reeling units (Rs.150/- per kg.)	Kg.	230,000		
11	Support for setting up of Hot air driers	Nos.			
a	50 kg. capacity units (Electrical)		44	45	45
b	100 kg. capacity units (Electrical)		15	10	10
c	50 kg. capacity units (Multifuel)				
d	100 kg. capacity units (Multifuel)				
e	2000 kg. capacity conveyor Hot air dryer (Imported from China PR)				
12	Providing services of Master reelers/Technicians	Nos.			
a	Master reelers		19	39	8
b	Master Technicians		2		
II	Post-yarn Sector				
13	Support for Handloom sector	Nos.			
a	Loom upgradation through jacquards & other equipments		1,316	637	65
b	Pneumatic lifting mechanism for Handlooms				
(i)	2 Looms unit				
(ii)	4 Looms unit				

#	Name of the Scheme / Component	Unit	Approved allocation for 2013-14	Progress	Of which progress w.r.t NER
14	Support for setting up of Common Facility Centre for Yarn dyeing & Fabric processing	Nos.			
a	Computer Aided Textile Designing (CATD)	Nos.	30	25	2
b	Tub Dyeing - 25 kg. capacity units		1	1	1
c	Tub Dyeing - 50 kg. capacity units		1	1	1
d	Arm Dyeing - 50 kg. capacity units				
e	Fabric Processing - 250 kg capacity units				
f	Support for effluent treatment plant for yarn dyeing & fabric processing units (Existing & new units)				
(i)	Zero discharge type (5000 litres / day)				
(ii)	Discharge to ground type (5000 litres / day)				
15	Providing services of Master Weavers / Designers / Technicians	Nos.			
a	Master Weavers / Designers		10	19	
b	Master Dyers				
c	Master Technicians			1	
IV	Marketing				
16	Support to States for establishment of quality linked price support system for cocoons and raw silk	States / Agencies	2	3	1
17	Vanya Silk Market Promotion Cell (VSMPC)	—	DD	1	1
4	Support Services				
1	Crop Insurance Support (For all Sectors)	—	All States	1510000	
2	Publicity for Sericulture sector		All States		
3	Support for Studies / Consultancies / Surveys organized by CSB & States	—	DD		
4	Product Design, Development & Diversification	—	All States		
5	Health Insurance Programme for sericulture farmers and workers	No of Policies	43,742	106000	
6	Capacity building for sericulture sector (Includes all training and exposure visit to CSB, States and other Stakeholders)				
a	Beneficiary Empowerment Programme (BEP)	Nos.	26,473	14703	4105
b	Sericulture Resource Centres (SRC)	Nos.	20	2	
c	Skill Training & Enterprise Development Programmes (STEP)	No, of Batches	20	5	
7	Developing Community Based Organizations (CBOs) in line with Resham Doot Concept	No. of SHGs	3	14	
8	Support for Convergence Activities for Sericulture Development				
a	Cluster Development Projects	Clusters	3		
	Total for Support Services				
5	Special Initiatives (Flexi Fund)-Token	Projects	All States		

Annexure-IV (c)

Annexure-IV (d)

STATEMENT INDICATING THE STATUS OF STATE-WISE FUNDS RELEASED DURING THE YEAR 2013-14 (XII PLAN) UNDER CDP

(Rs. in Crore)

S.No.	State	2013-14
I	Southern Zone	
1	Karnataka	50.09
2	Andhra Pradesh	25.63
3	Tamilnadu	11.86
4	Maharashtra	12.98
5	Kerala	0.01
	Total for Southern Zone	100.56
II	Central & Western Zone	
1	Uttar Pradesh	10.92
2	Madhya Pradesh	12.12
3	Chhattisgarh	2.27
4	Rajasthan	
5	Gujarat	
	Total for Central & Western Zone	25.32
III	Eastern Zone	
1	West Bengal	5.78
2	Bihar	1.08
3	Jharkhand	30.52
4	Odisha	5.37
	Total for Eastern Zone	42.74
IV	North-western Zone	
1	Jammu & Kashmir	15.65
2	Himachal Pradesh	4.24
3	Uttaranchal	8.12
4	Haryana	
5	Punjab	
	Total North-western Zone	28.01
V	North-eastern Zone	
1	Assam	31.64
2	Bodoland Territorial Council	13.20
3	Arunachal Pradesh	4.10
4	Manipur	10.01
5	Meghalaya	10.64
6	Mizoram	9.88
7	Nagaland	10.80
8	Sikkim	
9	Tripura	8.84
	Total North-eastern Zone	99.12
	Total for All Zones	295.75

STATEMENT INDICATING THE STATUS OF STATE-WISE FUNDS RELEASED DURING THE YEARS 2012-13 and 2013-14 (XII PLAN) UNDER CDP

(Rs. in Crore)

S.No.	State	2012-13	2013-14
I	Southern Zone		
1	Karnataka	39.36	50.09
2	Andhra Pradesh	16.93	25.63
3	Tamilnadu	12.96	11.86
4	Maharashtra	6.36	12.98
5	Kerala	0.00	0.01
	Total for Southern Zone	75.62	100.56
II	Central & Western Zone		
1	Uttar Pradesh	7.36	10.92
2	Madhya Pradesh	7.72	12.12
3	Chhattisgarh	1.28	2.27
4	Rajasthan		
5	Gujarat		
	Total for Central & Western Zone	16.36	25.32
III	Eastern Zone		
1	West Bengal	5.19	5.78
2	Bihar	2.85	1.08
3	Jharkhand	15.02	30.52
4	Odisha	5.09	5.37
	Total for Eastern Zone	28.15	42.74
IV	North-western Zone		
1	Jammu & Kashmir	15.94	15.65
2	Himachal Pradesh	0.98	4.24
3	Uttaranchal	4.94	8.12
4	Haryana		
5	Punjab	0.32	
	Total North-western Zone	22.18	28.01
V	North-eastern Zone		
1	Assam	21.22	31.64
2	Bodoland Territorial Council	6.39	13.20
3	Arunachal Pradesh	2.20	4.10
4	Manipur	6.89	10.01
5	Meghalaya	6.70	10.64
6	Mizoram	6.00	9.88
7	Nagaland	5.21	10.80
8	Sikkim	0.46	
9	Tripura	7.78	8.84
	Total North Eastern Zone	62.85	99.12
	Total for All Zone	205.16	295.75

Annexure-V

**BENEFICIARIES DIRECTLY SUPPORTED
UNDER CDP DURING 2013-14**

(Unit No. of beneficiaries)

S.No.	Components	Nos.
1	Mulberry Plantation	17123
2	Seed Testing Facilities	10
3	Tasar Graineurs	657
4	Tasar Seed Rearers	6584
5	Muga Private Graineur	125
6	Augmentation of Tasar Plants	3421
7	Eri food plantation	1955
8	Perennial Eri Plantation	1855
9	Muga food plantation	2110
Sub-Total (Farmers)		33840
10	Multi-end reeling	91
11	Automatic Reeling Machine	3
12	Cottage basin reeling units	11
13	Charka Reeling	50
14	Dupion Reeling	0
15	Master reeler	58
16	Vanya reeling & spinning	618
17	Handloom	637
18	CATD	25
19	Common Facility Centres	2
Sub-Total (Post-cocoon benef.)		1495
Grand Total		35335
Mulberry		17133
Vanya		16707
Post-cocoon		1495

STATE-WISE MULBERRY RAW SILK PRODUCTION						
Unit: MT						
State	2012-13			2013-14		
	Bivoltine	CB	Total	Bivoltine	CB	Total
A. Traditional States						
Karnataka	572	7647	8219	808	7766	8574
Andhra Pradesh	259	6291	6550	380	6531	6911
Tamil Nadu	576	609	1185	711	410	1120
West Bengal	7	2011	2018	14	2016	2029
Jammu & Kashmir	145	-	145	136		136
Sub-total(A)	1559	16558	18117	2048	16723	18771
B. Non-Traditional States						
Assam	25	-	25	27		27
Arunachal Pradesh	3	-	3	1.87		1.87
Bihar	-	12	12		15	15
Chhattisgarh	1	5	6	0.79	5.49	6.28
Haryana	0.13	-	0.13	0.13		0.13
Himachal Pradesh	23	-	23	25.18		25.18
Jharkhand	-	2	2		3	3
Kerala	6	-	6	4.05		4.05
Madhya Pradesh	73	33	106	67	41	108
Maharashtra	63	25	88	107.19	4.33	111.52
Manipur	101	14	115	113.00	15.90	128.90
Mizoram	34	-	34	18	16	34
Meghalaya	11	-	11	14		14
Nagaland	4	-	4	6.57		6.57
Odisha	3	1	3	1.20	2	3.20
Punjab	4		4	4		4
Sikkim	2	-	2	0		0
Tripura	7	8	15	25	15	40
Uttarakhand	17	-	17	18.20		18.20
Uttar Pradesh	55	69	124	77.89	76.69	154.58
Sub-Total(B)	425	173	599	511	194	705
Grand-Total (A+B)	1984	16731	18715	2559	16917	19476
Source : Compiled from the reports received from the State Sericulture Departments.						

STATE-WISE VANYA RAW SILK PRODUCTION			
Unit: MT			
Sl. No.	States	2012-13	2013-14
Tropical Tasar (A)			
1	Andhra Pradesh	0.64	0.46
2	Bihar	7.30	32
3	Chhattisgarh	384.87	384
4	Jharkhand	1088.35	2000
5	Madhya Pradesh	83.00	86
6	Maharashtra	9.75	10
7	Odisha	95.00	45.13
8	Uttar Pradesh	12.30	14
9	West Bengal	43.76	42
	Total	1725	2614
Oak Tasar (B)			
1	Arunachal Pradesh	Neg	-
2	Manipur	2.80	4
3	Mizoram	0.72	0.7
4	Nagaland	0.21	-
5	Jammu & Kashmir	-	-
6	Uttarakhand	-	0.1
	Total	4	5
	Total (A+B)	1729	2619
Eri			
1	Andhra Pradesh	0	-
2	Arunachal Pradesh	17.5	11.30
3	Assam	1934.3	2612.70
4	Bihar	2.4	5.00
5	Chhattisgarh	0.3	0.26
6	Jharkhand	0	-
7	Madhya Pradesh	1.6	0.80
8	Manipur	300	352.75
9	Meghalaya	500	613.79
10	Mizoram	5.4	8.0
11	Nagaland	318	597.42
12	Odisha	6	4.8
Contd.....			

STATE-WISE VANYA RAW SILK PRODUCTION			
Unit: MT			
Sl. No.	States	2012-13	2013-14
	Eri		
13	Punjab	1	-
14	Sikkim	1.5	-
15	Uttar Pradesh	20.5	19.91
16	Uttarakhand	0	2.93
17	West Bengal	7.2	6.8
	Total	3116	4236
	Muga		
1	Arunachal Pradesh	2	1.44
2	Assam	108.52	126.04
3	Manipur	0.64	0.80
4	Meghalaya	6.04	16.0
5	Mizoram	0.32	1.0
6	Nagaland	1.39	1.93
7	Uttarakhand		0.4
8	West Bengal	0.26	0.18
	Total	119	148
	Grand Vanya Total	4964	7004
Source : Compiled from the reports received from the State Sericulture Departments.			

ABBREVIATIONS

AIFD	Army Institute of Fashion Designing	JICA	Japan International Co-operation Agency
AICEM	All India Co-ordinated Experimental Trials for Mulberry	KSSR&DI	Karnataka State Sericulture Research and Development Institute
BSM&TC	Basic Seed Multiplication & Training Centre	MRMB	Muga Raw Material Bank
BTSSO	Basic Tasar Silkworm Seed Organization	MSSO	Muga Silkworm Seed Organization
CBR	Cost Benefit Ratio	MT	Metric Ton
CC	Certification Centre	NCDEX	National Commodities and Derivatives Exchange Ltd.
CDP	Catalytic Development Programme	NGO	Non-Governmental Organization
CISR	Centre for Integrated Sericulture Research	NHDC	National Handloom Development Corporation
CMER&TI	Central Muga Eri Research & Training Institute	NSSO	National Silkworm Seed Organization
CRC	Chawki Rearing Centre	ORP	Operational Research Project
CSGRC	Central Sericultural Germplasm Resource Centre	PTD	Participatory Technology Demonstration
CSR&TI	Central Sericultural Research & Training Institute	R&D	Research and Development
CSTRI	Central Silk Technological Research Institute	REC	Research Extension Centre
CTR&TI	Central Tasar Research & Training Institute	RERS	Regional Eri Research Station
CTSSS	Central Tasar Silkworm Seed Station	RMB	Raw Material Bank
DCTSC	Demonstration-cum-Technical Service Centre	RMRS	Regional Muga Research Station
DFL	Disease Free Laying	RO	Regional Office
DGAD	Director General of Anti-Dumping and Allied Duties	RSRS	Regional Sericultural Research Station
ERR	Effective Rearing Rate	RTRS	Regional Tasar Research Station
ESSPC	Eri Silkworm Seed Production Centre	SBRL	Seri-Biotech Research Laboratory
GEC	Grainage Extension Centre	SCPC	Seed Cocoon Procurement Centre
IIFS	Intensive Integrated Farming Management	SCTH	Silk Conditioning & Testing House
IINM	Intensive Integrated Nutrient Management	SMOI	Silk Mark Organization of India
IVLP	Institute Village Linked Programme	SSPC	Silkworm Seed Production Centre
JBIC	Japan Bank for International Co-operation	SSTL	Silkworm Seed Technological Laboratory
		STS	Sericulture Training School
		TRA	Technology Refinement and Assessment
		WIPO	World Intellectual Property Organization
		ZSSPO	Zonal Silkworm Seed Project Office