CHAPTER VIII

SERICULTURE

India continues to be the second largest producer of silk in the world and has the distinction of producing all the four varieties of silk. In 2003-04, production was 15,700 M.T., of this mulberry accounted for 13,930 M.T., (88.73%) and non-mulberry silks 1,770 M.T. comprising eri 8.6%, tasar 2% and muga 0.67% of the total production of raw silks. Sericulture provide gainful occupation to more than five million persons in the rural and semi-urban areas in India. Of these, a sizeable number of workers belong to the economically weaker sections of society. There is substantial involvement of women in this industry.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>2002-03 Achievement</th>
<th>2003-04 (Prov.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Standing Area under mulberry (Lakh ha.)</td>
<td>1.94</td>
<td>1.87</td>
</tr>
<tr>
<td>II.</td>
<td>Production of raw silk (tons)</td>
<td>16319</td>
<td>15700</td>
</tr>
<tr>
<td>III.</td>
<td>Employment (lakh persons)</td>
<td>56.00</td>
<td>57.50</td>
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### Budget

For the year 2003-04, a provision of Rs. 89.68 crore under Plan and Rs. 56.36 crore under non-plan had been made for CSB.

### Silk Exports

Total silk export earnings during the years 2001-02, 2002-03 & 2003-04 (April’ 03-Feb.’ 04) were as follows:

<table>
<thead>
<tr>
<th>Items of Export</th>
<th>2001-02</th>
<th>2002-03</th>
<th>2003-04* (April’ 03-Feb.’ 04)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Natural Silk Yarn, fabrics &amp; Made-ups</td>
<td>1562.63</td>
<td>1451.07</td>
<td>1557.62</td>
</tr>
<tr>
<td>2. Readymade Garments</td>
<td>588.08</td>
<td>609.18</td>
<td>660.00</td>
</tr>
<tr>
<td>3. Silk Carpets</td>
<td>172.27</td>
<td>87.60</td>
<td>116.61</td>
</tr>
<tr>
<td>4. Silk waste</td>
<td>36.58</td>
<td>14.85</td>
<td>4.83</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2359.56</strong></td>
<td><strong>2162.70</strong></td>
<td><strong>2339.06</strong></td>
</tr>
</tbody>
</table>

* Provisional figures & subject to change.

Source: Directorate General of Commercial Intelligence & Statistics, Kolkata
The Central Silk Board (CSB) was set up in 1949 when Central Government assumed responsibility for the development of the silk industry by Parliament passing the Central Silk Board Act, 1948. Headquartered at Bangalore, and headed by a Chairman and 35 members, the Board’s work is in the three broad areas of Research & Technology Development, Seed Maintenance, and Development of Sericulture & Silk Industry, to support, supplement & facilitate the efforts of the State Governments. It also extends support to States in the form of joint projects and developmental assistance under plan schemes. The Board also undertakes voluntary inspection of exportable silk goods for quality.

Research and Development

The main Research & Training Institutes of the CSB function to provide R&D and Training support for the development of sericulture. The Institutes at Mysore (Karnataka), Berhampore (West Bengal) and Pampore (J&K) deal with mulberry sericulture and the one at Ranchi (Bihar) deals with Tasar. The Institute established at Ladoigarh, Jorhat (Assam) deals with Muga and Eri. Regional Sericultural Research Stations (RSRS/RTRS) for mulberry and non mulberry have been functioning for the dissemination of research findings and tackling the regional field issues of the industry. Besides, a network of Research Extension Centres (REC) for mulberry and non mulberry are also functioning to provide extension support to sericulturists. In order to provide R&D support in post cocoon processing the Board has established a Central Silk Technological Research Institute (CSTRI) at Bangalore. In addition, the CSB has also set up a Silkworm Seed Technology Laboratory (SSTL) in Bangalore (Karnataka), a Central Sericultural Germplasm Resources Centre (CSGRC) at Hosur (Tamil Nadu) and a Seri Biotech Research Laboratory (SBRL) at Bangalore.

Research work on the onfarm side is directed mainly at evolving stress tolerant mulberry varieties, which give high leaf yield; breeding superior silkworm hybrids; and evolving improved techniques of silkworm rearing with integrated control of pests and diseases of both mulberry and silkworms. During 2003-04 (upto Sept. 03), 8 new silkworm hybrids (which
includes one double hybrid, two artificial diet hybrids and one sex limited hybrid) and 5 newly evolved mulberry varieties (C1730, C2016, C2017, V and Anantha) evolved by CSB research institutes are under authorization trial at all the zones. Research work on tasar, muga and eri silk is being directed towards improvement of productivity potential of non-mulberry silk in India. In order to increase the productivity on non-mulberry silk, need based research was conducted on tasar, muga and eri silk.

On the post cocoon sector, two Dupion silk reeling machines designed and fabricated during 2002 is being demonstrated and popularized for the production of superior grade dupion silk filament. Also dupion reeling technology package is being popularized in different reeling clusters.

**Seed Maintenance**

Under the National Silkworm Seed Project (NSSP), a network of Basic Seed Farms (BSF) produce and supply the basic seed for production of commercial silkworm seed in the seed production centers functioning under CSB and State Department. Similarly, 22 Silkworm Seed Production Centres (SSPCs) are functioning under NSSP in different States to support the industry. These commercial SSPCs have produced 183.66 lakh dfls during 2002-03 and 208.69 lakh during the year 2003-04. Also in the year 2003-2004 20.06 lakh tasar basic seed has been produced. 0.50 lakh oak tasar basic seed and 1.39 lakh muga basic seed have also been produced and supplied to State Departments by CSB, for further multiplication. The muga and eri SSPCs have produced a quantity of 0.72 lakh & 0.09 lakh commercial seeds respectively during the year 2003-04.

**Training**

The CSB organizes a number of training programmes at its Research and Training Institutes. The total number of persons trained during 2002-03 and 2003-04 is detailed below:

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<tr>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>No. of courses</td>
<td>No. of</td>
<td>No. of</td>
</tr>
<tr>
<td></td>
<td>conducted</td>
<td>Trained</td>
<td>courses</td>
</tr>
<tr>
<td>1</td>
<td>Structured</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>2</td>
<td>Capsule Courses</td>
<td>22</td>
<td>667</td>
</tr>
<tr>
<td>3</td>
<td>Adhoc Courses</td>
<td>-</td>
<td>920</td>
</tr>
<tr>
<td>4</td>
<td>Summer School Training Programme</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>1660</td>
<td></td>
</tr>
</tbody>
</table>

Table 8.3
**Development Schemes and Programmes**

Development Schemes & Programmes supported by the CSB include those which are funded through the CSB’s budget; by the Center or the Centre and the State; those which are externally assisted, and those in which funding have been organized by convergence with rural & other development programmes. The development thrust was concentrated during the year on expansion of non-mulberry silks & growth of bivoltine mulberry sericulture, with a focus on increasing productivities & upgrading the quality of the produce. A thrust was given to development of the North East Region. Several new projects were started to spread eri-culture, using existing castor plantations. Eri was started in states such as Andhra Pradesh, Punjab, Bihar, Uttranchal, Chattisgarh. Progress during the year. The main schemes are briefly given below:

**Centrally Sponsored Schemes**

**Catalytic Development Scheme:** Central Silk Board had formulated a number of schemes under the Catalytic Development Programme (CDP) and implemented them during IX Plan to motivate States to increase productivity and quality besides providing market support. During the X Plan (2002-07), in order to achieve the targeted production of 26450 M.T of both mulberry and non-mulberry silks and generate a cumulative employment of 60.03 lakh persons, CSB modified the CDP to give greater thrust to bivoltine sericulture and a market orientation to non-mulberry sector. The schemes under CDP are aimed at development and expansion of host plantations, development of farm infrastructure, upgradation of reeling & processing technologies in silk, enterprise development programme and data base development. Of Rs.450.00 crores approved by Govt. of India for implementation of Central Sector Programmes during X Five Year Plan, an outlay of Rs.180.98 crores is earmarked for implementation of CDP. Under this scheme cost is shared by the Centre and the states in the ratio of 50:50 with the states except the states of the NE, J&K, Himachal Pradesh, Uttranchal, Jharkhand & Chattisgarh, where the sharing pattern is in the ratio of 90:10.

**Special Sericulture Package for J&K**

The then Prime Minister of India announced a package for the State of Jammu & Kashmir which includes a special assistance for development of Sericulture and Silk Industry in J&K during X Five Year Plan (2002-07). The total cost of the above package during X Five Year Plan works out to Rs.13.11 crore. Since J&K State has been considered as a special status State, it is entitled for 90% central assistance from sericulture schemes of Central Silk Board. Accordingly, the CSB has proposed to provide assistance to the extent of Rs.11.36 crore as Central Assistance and the balance amount of Rs.1.75 crore has to be provided by the State Government. A total
amount of Rs.404.74 lakh has been released by CSB during 2002-03 and 2003-04.

**Externally Aided Projects**

i) **Japan International Cooperative Agency (JICA) Assisted Bivoltine Project:**

The first phase of JICA assisted Bivoltine Sericulture Technology Development Project (BSTD) was implemented from 1991 to 1997. With the implementation of this project, a comprehensive practical Bivoltine Sericulture Technology suitable to Indian conditions was developed.

The second phase of JICA assistance implemented the Project for Promotion of Popularizing the Practical Bivoltine Sericulture Technology (PPPBST) with active participation of Karnataka, Andhra Pradesh and Tamil Nadu from 1997 till 2002. The PPPBST Project activities entailed verification and demonstration of Bivoltine technologies developed in the first phase for the project with selected farmers, training of Indian sericulture technologists, technicians, field staff and farmers. The performance of these Bivoltine races matched international standards, with average yield over 60-80Kg/100Dfls, a renditta of 5.5 to 6 Kg and a consistently high quality 2A-4A grade raw silk.

Encouraged by the results, the third phase of the Project on “Strengthening of Extension System for Bivoltine Sericulture” was commenced from August 2002 for a period of five years with a target to establish suitable extension and seed supply systems for promotion of bivoltine in the se-
lected TSCs in Karnataka, Tamil Nadu and Andhra Pradesh and in CSB. The project proceeded on schedule during the year.

ii) SERI – 2000: The agreement entered into with Swiss Agency for Development and Cooperation (SDC), for a project entitled SERI-2000 (1997-2004) at an outlay of 12.5 million Swiss Francs was terminated prematurely by the Govt. of India due to irreconcilable differences. As on March, 2003, 43 project proposals under private sector at an outlay of Rs.1290.50 lakh had been approved. Under public sector, 30 projects at an outlay of Rs. 1312.33 lakh had been approved. These projects were continued till 31.7.2003. As on March, 2003, an amount of Rs. 19.09 crores has been incurred on both the Public and Private sector projects.

iii) Chhatisgarh Sericulture Project: The Govt. of Chhatisgarh is implementing Chhatisgarh Sericulture Project with financial assistance from Japanese Bank for International Cooperation (JBIC). The project is proposed to be implemented in two phases – the first phase of the project for development of tasar culture over a period of 7 years and the second phase for development of mulberry sericulture over a period of further 5 years proposed to commence from the 6th year of the first phase of the project. Thus, the project would be implemented over a period of 10 years at a total cost of Rs. 748.55 crore. The state has so far incurred an expenditure of Rs. 48.53 crore against the provision of Rs. 117.16 crore for first phase.

iv) Manipur Sericulture Project: The Govt. of Manipur obtained formal approvals for implementing the first phase of the “Manipur Sericulture Project” with financial assistance from JBIC, Japan. The project is envisaged to be implemented in two phases – the first phase for development of mulberry sericulture over a period of 7 years and the second phase for development of eri culture over a period of 5 years proposed to commence after the 5th year of first phase of the project. Thus, the project would be implemented over a period of 10 years at a total cost of Rs. 490.59 crore.

Convergence Projects

The CSB has adopted a convergence strategy to leverage funds and organizational capabilities for development in sericulture. By far the most successful has been the convergence with the programmes of the Ministry of Rural Development for creating sustainable infrastructure & livelihoods for persons below poverty line under the Special SGSY projects. The CSB lends its technical support & assistance to the States to draw up viable projects & to implement them, and in certain projects also pitches in with financial support.

Projects are being implemented with SGSY funds for development of all types of silks mainly non-mulberry silks i.e. muga, eri and tasar in the states of Assam, Arunachal Pradesh, Nagaland, Mizoram, Bihar and Jharkhand. The projects adopt a soil-to-market approach, and aim to increase host plant development, quality egg production and supply, training & skill
Upgradation, technological support in pre-cocoon & post cocoon process as well as market promotion with product design, development, diversification & product planning etc.

The Projects in hand in 2003-04 are:

(i) Special SGSY project for development of Muga silk in Assam
(ii) Special SGSY project for development of Eri silk in Assam
(iii) Special SGSY project in Goalpara, Kamrup and Sonitpur districts of Assam
(iv) Special SGSY project for development of Muga silk in Arunachal Pradesh
(v) Special SGSY project for development of Eri silk in Arunachal Pradesh
(vi) Special SGSY project for development of Eri silk in Nagaland
(vii) Special SGSY projects for development of Mulberry sericulture in the state of Mizoram
(viii) Special SGSY projects for development of Tasar and Eri culture in Bihar and Jharkhand

With this, a sum of Rs. 124.32 crore including Central funding of Rs. 51.36 crore has been attracted to the sericulture sector over & above the X plan outlays. This is expected to generate 971 M.T. of silk and employment for 7,15,303 people in sustainable activities in sericulture & silk industry.

Expansion of Sericulture in Non-Traditional Areas

For exploiting the vast potential available for development of sericulture in the non-traditional areas, CSB launched projects through the State Governments with financial & technical assistance under Catalytic Development Programme as below:

(i) Project for development of ericulture in Andhra Pradesh
(ii) Project for development of Oak Tasar in Uttranchal
(iii) Sonali Dhara Project in Assam for assisting commercial cocoon production.
(iv) Introduction of Eriulture in Punjab
(v) Introduction of Tropical Tasar, Muga & Eri culture in Uttranchal
(vi) Introduction of Eriulture in Chhatisgarh
(vii) R&D project on Eri culture in Tamil Nadu, Pondicherry and Kerala
(viii) Introduction of Eri culture in Uttar Pradesh

Total cost of all the projects is Rs. 6.10 crore which includes Central share of Rs. 2.86 crore. The output is envisaged at 50 M.T.

Projects for Post Cocoon Technology Induction

CSB continued its emphasis on increase of productivity and quality of silk in the post cocoon sector through upgradation of technology & development and commercialization of low cost user friendly devices for reeling & spinning, cocoon drying etc.
which have helped to reduce drudgery and increase efficiency, productivity and quality of produce. CSB also stepped up its financial and technical support for adoption and popularization of these technologies. The main projects included:-

(i) Establishment of Tasar Production-cum-Training Centre: Two centers to provide training to poor weavers in advanced technologies to enable them to produce quality tasar products were set up in Dhalbhumgarh block of east Singhbhum District.

(ii) Vanya silk Production-cum-Training Centres (PCTCs): Two centers, one each in Jharkhand & Assam, were established as field level units of the Product development Cell of the Central Silk Technological Research Institute (CSTRI), Central Silk Board, Bangalore to introduce new designs, products and technologies in the non-mulberry post cocoon sector in a cost effective manner.

(iii) Vanya Silk Mart: To strengthen the demand pull for Vanya silk products, Central Silk Board has hired 273.30 sq.ft shop area in the Handloom Haveli, Bikaji Cama Place, New Delhi from the National Handloom Development Corporation (NHDC). The NGOs who were part of the UNDP assisted project would be given priority to showcase and sell the products.

(iv) Vanya Web Sites: Central Silk Board has registered web sites titled ‘Vanyasilkmart.com’ and ‘Vanyasilkgifts.com’ aimed at cataloguing the product range of the small unorganized producers of Vanya silks in the Country. The web sites being developed would in future serve as a window to the wonderful world of Vanya silks and would also provide e-shopping facilities.

Development Projects in NER

The thrust on development of North East Region was continued. Central Silk Board implemented Central and centrally sponsored schemes in the North-Eastern region for development of Sericulture and silk industry in the state with cost sharing by the centre and state in the ratio of 90:10 respectively. Under the Centrally sponsored Catalytic Development Programme of the X plan, there is thrust inter-alia on development of non-mulberry sector. In 2002-03, 17.54% of the Sericulture budget was earmarked & spent on the NER. In 2003-04, the earmarking was 24.27%, amounting to Rs. 22.50 crore. Besides under the SGSY project of the Ministry of Rural Development also financial assistance was provided for various sericulture projects being implemented in the states of Assam, Arunachal Pradesh, Mizoram & Nagaland with CSB’s technical assistance. With this convergence strategy, as described above, a substantially higher availability of funds was offered for the sector.

Tribal Sub-Plan

The emphasis on creation of sustainable livelihood in the tribal area adopted to the tribal way of life, was carried forward with the thrust on non-mulberry silks. Projects in Chattisgarh, Jharkhand & the NER encourage sericulture on trees in forests &
intercropped with agriculture produce and as a basket of subsistence & income augmenting activities. Implementation encourages group formation to enhance capacities & draws in NGOs to improve extension systems. The CDP has been modified to bring in greater flexibility to better serve the tribal & non traditional requirements. The major programmes being implanted by CSB are towards Research and Development and basic seed supply. Programme for specific target groups are implemented by the States.

**INDIAN SILK EXPORT PROMOTION COUNCIL**

The Indian Silk Export Promotion Council (ISEPC), Mumbai continued to undertake activities relating to promotion of exports of natural silk goods from India and to act as the registering authority for silk exporters. The Council produces and disseminates information to its members about market developments in the world, changes in the trade policies etc. through its weekly bulletin known as the “Silk Net”. The silk sample catalogues containing sample swatches of the full range of silks available in India brought out by the Council are available to potential buyer, importing textile agents and Indian Missions abroad.

To enable exporters of silk goods access to quality silk at international prices, the Government has allowed silk exporters the facility to import raw material requirements on duty free basis under the Advance Licensing Scheme (ALS). In addition, the import of silk is allowed under Open General License (OGL).