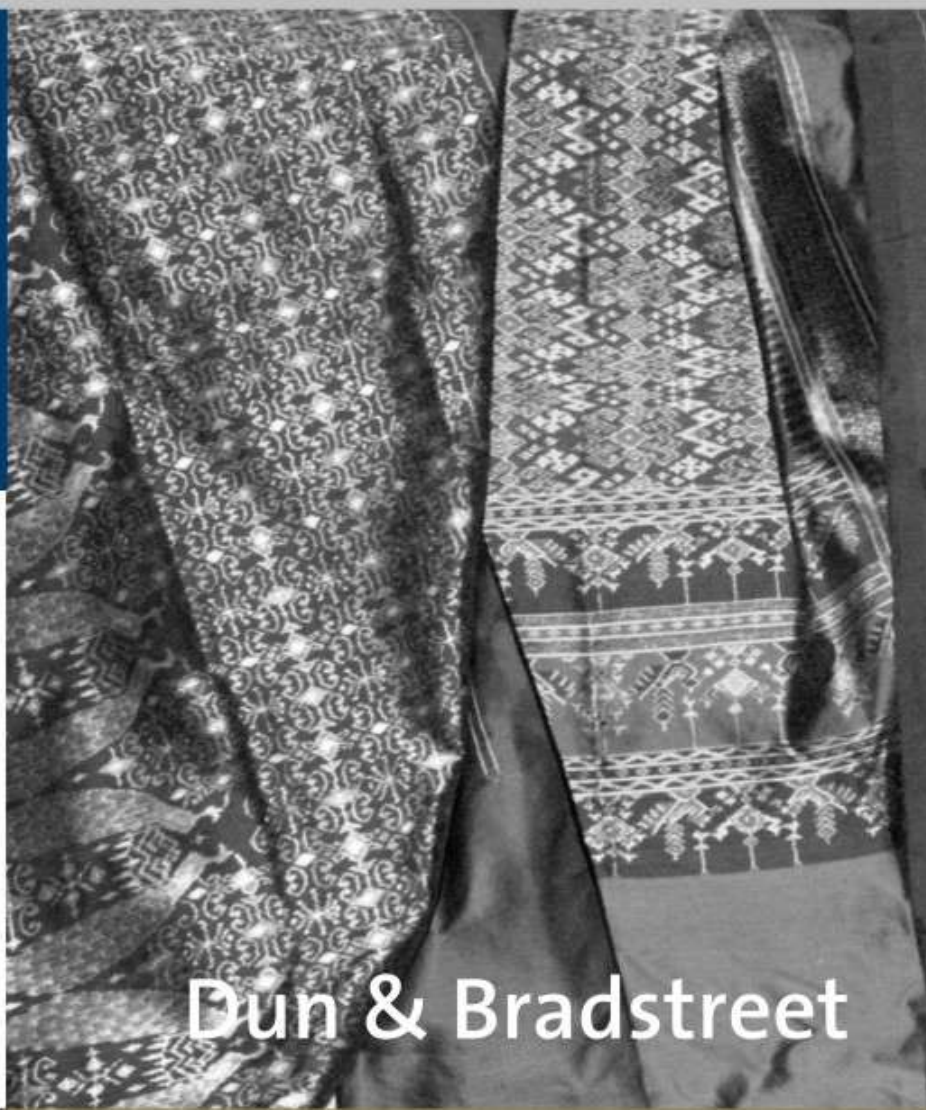
Decide with Confidence

# Final Report - National Fibre Policy
## Sub-Group on Silk



Dun & Bradstreet

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# SUMMARY – SILK

I. India is the second largest producer of raw silk in the world after China, with a share of 15.50% in 2009. India produces both varieties of silk – Mulberry and non-Mulberry, with mulberry silk accounting for 83% of total raw silk produced.

II. In 2009-10 production of mulberry raw silk increased by about 4.6% after a decline in production in 2008-09. Production of non-mulberry raw silk, on the other hand, has been on a growth trajectory, recording double-digit growth between 2005-06 and 2009-10. The production of raw silk per hectare has gone up from 75.17 kg/hectare in 2002-03 to 88.82 kg/hectare during 2009-10, and renditta has improved marginally from 8.77 to 8.0 during 2002-03 to 2008-09.

III. Industry Outlook Based on the growth in production of raw silk between 2001-02 and 2009-10 domestic production of raw silk is projected to record a growth of 4.5% per annum during FY10-FY15 and 5.0% per annum during FY15-FY20, as the area under cultivation is expected to increase on the prospect of a better price scenario in the global and domestic market and productivity is also expected to improve with the support of R&D effort and new technologies. The domestic production of raw silk is projected to reach over 30,000 MT in the year 2020. Domestic consumption of raw silk is estimated to increase at 3.5% per annum during the period between FY10 to FY15 and 4.0% per annum during FY16 to FY20. This would be achieved on the back of 9-9.5% growth in consumption of man-made fibres, 6-7% increase in private final consumption expenditure on clothing, and 4% growth in world GDP.

IV. Due to growing demands India would still remain dependant on imports and in the short and medium terms the imports are likely to remain around 8,000 – 10,000 MT per year till FY20. On the export front, assuming the world GDP to grow by 4%, total value of exports (in INR) is estimated to record a CAGR of 14.3-16.1% during the period between FY10 and FY15. For the period between FY15 and FY20, exports are likely to increase by 14.3-16.1%. Among the various product categories, exports of 'natural silk yarn, fabrics and made-ups' to post the highest growth during both these periods. Issues and Concerns

V. **Farmers** Lack of supply of seed cocoon of the desired quality is one of the major problems faced by farmers. The uncertainty in production and inadequate quality is due to the fragmented structure of the industry and lack of adequate penetration of research and development work to the field levels to provide desired quality and quantity of seed cocoon that are disease-resistant and weather-resistant. Although various technology packages have been developed, in practice, there exists resistance to accepting these

packages. This may be attributed to the attitude of the farming community, insufficient field & extension work to be carried out, and ability of both centre and state organisations to work in a coherent manner to convince the cocoon growers about the benefits of existing schemes, measures and technology.

VI. **Reelers** The reeling sector remains highly unorganised and fragmented and mostly uses traditional reeling techniques. Low yield of silk due to improper quality of cocoons, price fluctuation due to Chinese exports and dumping, and shift in preference among the weaving community from the traditional Indian reelers to imported silk are major concerns of the reelers. Another problem faced by the reelers is their inability to procure loans from banks for their working capital requirements, mainly because of their poor financial condition and the already existing loan defaults.

VII. **Twisters** Imports of twisted silk yarn from China that too at a price lower than the domestic twisted silk has adversely affected the domestic twisting sector. As a consequence, several of them have unutilised machinery, or have closed down their business.

VIII. **Weavers** Since domestic production of silk is insufficient to meet the domestic demand and export orders, and the supply is also uncertain in nature, there is increased dependence of the weavers on imports. Moreover, the domestically produced silk is available in small quantities and also lacks uniformity in quality, which makes it difficult in being used in powerlooms as it affects the weaving process.

IX. **Exporters** Though Indian silk finds a niche market in handloom sector, because of the perceived lower quality of Indian silk products, domestic manufacturers, mainly the small weavers, find marketing their products as a major challenge. Also, many a times, because of inconsistent quality of the raw silk, which does not meet requirements of international customers, quality of the final product is not up to the mark. This, in turn, hampers the prospects of the exporters in establishing a name of repute for them in the international market.

## POLICY RECOMMENDATIONS

X. The sub-group has analysed the current scenario of the domestic and international silk market and has made certain policy recommendations for the Indian Silk Industry that are

aimed at strengthening the R&D effort and extension work for increasing the output and productivity of the sector, right from mulberry plantation, cocoon production till weaving and value added product, in order to bridge the gap between demand and supply, in terms of both quality and quantity of silk. These are discussed below:

**Fiscal measures**

XI. **Duty exemption on Silk machinery till 2015:** Silk machinery should be exempted from duty for at least 5 years, i.e. till 2015, as it would aid in modernisation of post-cocoon stage and make the sector more competitive.

XII. **Export incentives:** Silk products should be covered under **Focus Product Scheme** so that the duty scrip or similar other benefits can be provided to the exporters. Sericulture should also be included under **Vishesh Krishi and Gram Udyog Yojana (VKGUY).**

XIII. **Introduction of Price Support Scheme:** "Price Support Scheme" (PSS) to support farmers against fall of cocoon prices due to adverse weather conditions in traditional silk producing states is recommended. Two Committees one at Central (Central Committee) & State (Designated committee-DC) levels, to monitor the market prices & for implementing the scheme, is proposed to be formed. The scheme is pertinent only for commercial mulberry cocoons transacted in the cocoon markets and purchasing centres in the respective states.

XIV. **Rationalisation of the duty structure:** The sub-group recommends rationalisation of basic customs duty on raw silk by bring it down to 25%, keeping in view the overall duty structure of silk goods in India and other countries, and demand supply gap in the country, while protecting the interests of the sericulture and reeling sector.

**Non-fiscal measures**

XV. **Increased thrust on R&D for scientific ways of increasing silk productivity and quality:** The policy initiatives suggested on the R&D front are to be implemented in two distinct stages-pre-cocoon and post-cocoon stages. Under pre-cocoon stage, R&D initiatives such as, development of silkworm breeds and their food plants (Mulberry and Vanya Silk host plants), development of clonal propagation techniques, improving soil health and fertility and cultivation practices will be introduced. Development of disease forecast and forewarning system, economic farming models and practices and mechanization in sericulture farming and silkworm rearing will also be undertaken. The existing and potential areas for developing sericulture in the country should be mapped through ISRO remote sensing satellite images and schemes will be implemented in a concerted manner in non-traditional new areas as well. There should be development of technologies and commercialization thereof in collaboration with National Research Development Corporation (NRDC). Under post cocoon stage, basic research should be

conducted to widen knowledge base useful in developing new methodologies, practices, devices, products, etc useful in silk industry or allied industries. Emphasis should be given on development of improved reeling, weaving and processing devices for silk at low cost to produce quality silk.

XVI. **Strengthening of extension activities:** Strengthening of extension activities should be done by the states by organising refresher courses/training programmes at regular level through, Krishi Vigyan Kendras and Agricultural Universities. Additional staff may be placed at the district or Assistant Director level to supervise reeling units and other post cocoon activities, in addition to the extension activities of CSB. They should be given special training in the post cocoon sector with the assistance of CSTRI, Bangalore. Single window facility for stakeholders in the silk industry, i.e. from farmers to the weavers should be available.

XVII. **Quality based pricing and incentive system:** Advanced systems of quality-based pricing mechanism for cocoons should be introduced for appropriate and better price realization by the cocoon growers. Reelers are likely to benefit in terms of reelability of cocoons and renditta performance; thereby reducing wastage. It is suggested that Incentive of Rs.100 per kg of Bivoltine silk reeled on Multiend / Automatic reeling units in the States of Karnataka, Tamil Nadu and Andhra Pradesh and Multiend / Automatic / Cottage basin reeling units in all the other States should be provided.

XVIII. **Extension of benefits of Agriculture and Allied activities to Sericulture sector:** It is proposed to treat sericulture at par with agriculture and allied activities and the post cocoon activities at par with the small and village /cottage industries to bring parity in extending all benefits of various schemes like Rashtriya Krishi Vikas Yojana (RKVY), Vishesh Krishi and Gram Udyog Yojana (VKGUY) and National Calamity Fund.

XIX. **Dovetailing sericulture with other programmes/ funding agencies to tap resources:** Sericulture should also be included as priority sector in other flagship programmes of the Government such as MGNREGS, SGSY for providing necessary labour input, infrastructure and skill development. Sericulture should also be listed as priority sector for external funding through agencies like World Bank, Swiss Agency for Development and Cooperation, JICA, UNDP, UNIDO, FAO etc.

XX. **Augmentation of supply of raw silk to weavers at attractive price:** The government should allow import of stipulated quantity of raw silk (not more than 25% of the demand supply gap) at zero duty through designated public sector agencies such as NHDC for distribution to the handloom and powerloom weavers through weavers cooperatives/federations through a formulated pricing mechanism to be put in place. The

details and modalities should be examined and worked out in detail by appropriate authority.

XXI. **Silk Bank scheme:** Silk Bank Scheme is implemented by the Department of Sericulture, Cooperatives, NGOs etc to strengthen the Silk exchange with necessary infrastructure like equipments, expansion of the existing market yard, testing facilities etc.

XXII. **Catalytic Development Programme to be continued with some modifications:** The Catalytic Development Programme (CDP) should also be continued during XII plan with some modifications like support to increase the area under food plants with higher inputs, special incentives to farmers to encourage them to take up sericulture in new areas, support for strengthening the extension system, promotion of moisture conservation and water saving techniques to promote rain-fed sericulture, support to adopted seed rearers and improvement in seed multiplication infrastructure to produce silkworm seed as per quality standards, creation of infrastructure at stake holders level to improve the quality and productivity, establishment of reeling and dupion reeling infrastructure to produce import substitute quality silk, improvement in weaving infrastructure, processing, dyeing, printing etc. to produce quality silk products based on market demands, and skill development in all stages of silk production chain etc.

XXIII. **Cluster approach for integrated development of sericulture:** Some of the selected clusters should be developed as Medium-sized Clusters mainly in the post cocoon areas with hinterland approaches through pre-cocoon clusters to ensure consistent supply of quality cocoons. Common facilities would also be developed in these clusters for processing, degumming, dyeing, etc. The sub-group has suggested development of medium-sized cluster catchments in Sibsagar (Assam), Kanchpuram (TN), Benaras (UP), Hindupur/Dharmavarm (AP), Bagayya (Jharkhand), Bhagalpur (Bihar), Chanderi (MP) and Champa (Chhattisgarh). The concept and the modalities for same would have to be discussed in detail with states, stakeholders etc. Development Commissioner (Handlooms) should also focus on developing few silk related clusters in the traditional areas.

XXIV. **Measures for product development and diversification:** Specific efforts are required to promote development of basic designs, structures and materials that can be used in production of commercial silk products. Initiatives are required in creating awareness and promoting uses of silk, their byproducts, etc in the new areas such as bio-medical applications in medicinal industry, surgical applications, genetic engineering areas, cosmetics, handicrafts, ceramic industry, sports industry for the production of mulberry tipped hockey sticks, cricket bats, oil and soap industry, poultry foods, aviation industry etc.

XXV. **Generic promotion of 'Indian Silk':** The ethnic values of Indian silk and varieties of designs handloom weavers in India can produce needs to be highlighted to create a brand image for '**Indian Silk**' as an international brand. Tips for "Indian Silk care", should also be a part of the brand boosting exercise with other publicity and promotion programmes in the form of exhibition, road shows, mass media campaigns covering print and electronic media, by participation in the domestic and international exhibitions, trade fairs, promotional schemes, seminars, workshops etc. It is also necessary to create an increased awareness among the consumers about different varieties of silks produced exclusively in India, different aspects of natural & eco friendly silks primarily produced by the small farmers and tribals inhabiting the forest areas.

XXVI. **Promotion of Vanya Silk:** Vanya silks should be promoted as Eco Silks by providing subsidy/incentive to support eco friendly production and processing of Vanya silks. Accreditation of the entire production process (through approved accredited agencies to get eco silk certification) and R&D support for promoting technology packages should be provided. Additionally, free trade of Vanya silk commodities such as dfls, cocoons, yarn etc, should be allowed across the states to ensure remunerative price to primary producer. Technology Mission and Vanya silkworm seed zones should also be introduced in the country. Further, more collaborative projects should be taken up with various design institutes like NIFT, Bangalore, NIFT – TEA – Knitwear Fashion Institute, Tirupur, etc for the market promotion of value-added products of Vanya Silk. **Recognising the fact that virtually the entire supply chain of vanya silk is in the unorganised sector, there is a need to draw in reputed NGOs to handhold and strengthen the unorganised players.**

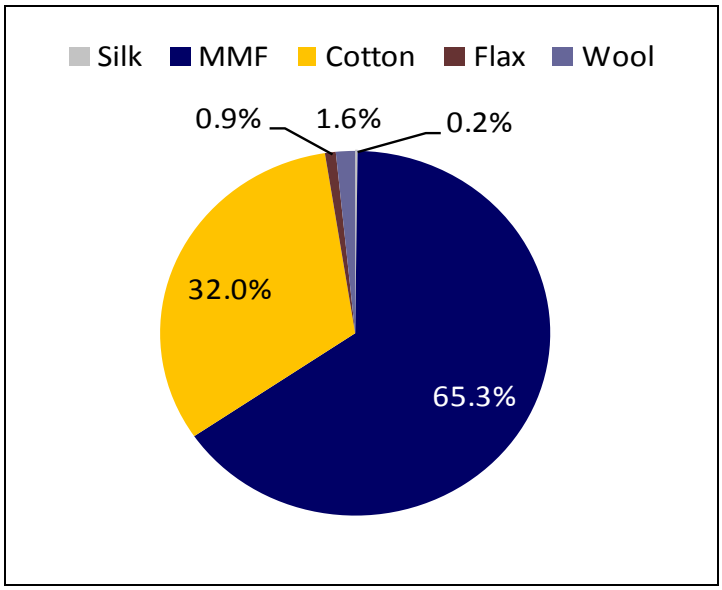
XXVII. **Use of vanya silk fibres as blends with cotton, wool and mulberry silk should be encouraged to ensure higher value addition for all fibres and lead to production of premium or exclusive fabrics.**

# 4.1. SILK INDUSTRY - INTERNATIONAL SCENARIO

## INTRODUCTION

4.1.1. Globally, silk is produced in more than 20 countries across the world. While the major producers are in Asia, sericulture industries have also been established in Brazil, Bulgaria, Egypt and Madagascar. It is a highly employment intensive industry. In China alone, about one million workers are employed in the silk sector. China, India, Brazil, Thailand and Uzbekistan are the leading producers of silk in the world. Global production of raw silk has been on a decline; from 128870 MT in 2005, world raw silk production has fallen to 126995 MT in 2009, as detailed in para 4.1.2 below. Since 2005, the world trade of silk and silk products has also witnessed sluggish growth.

**Exhibit 4.1.1: World fibre production: 2008 (% share)**




*Source: FAO of the United Nations, Poimena/Delta*

## WORLD RAW SILK PRODUCTION

4.1.2. The world raw silk production stood at 126,995 MT in 2009; of this, the proportion of mulberry raw silk production stood at 75% (90,992 MT) in 2008. World raw silk production has experienced a decline of 21% from 153,942 MT in 2006 to 126,995 MT in 2009.

**Exhibit 4.1.2: World Mulberry Raw Silk Production (MT)**

| Country | 2005 | | 2006 | | 2007 | | 2008 | |
|---|---|---|---|---|---|---|---|---|
| | Volume | % Share | Volume | % Share | Volume | % Share | Volume | % Share |
| China | 87800 | 80.2% | 93100 | 80.9% | 78000 | 79.0% | 70980 | 78.0% |
| India | 15445 | 14.1% | 16525 | 14.4% | 16245 | 16.5% | 15610 | 17.2% |
| Japan | 150 | 0.1% | 150 | 0.1% | 105 | 0.1% | 95 | 0.1% |
| Brazil | 1285 | 1.2% | 1387 | 1.2% | 1220 | 1.2% | 1177 | 1.3% |
| Korea Republic | 150 | 0.1% | 150 | 0.1% | 150 | 0.2% | 135 | 0.1% |
| Uzbekistan | 950 | 0.9% | 950 | 0.8% | 950 | 1.0% | 865 | 1.0% |
| Thailand | 1420 | 1.3% | 1080 | 0.9% | 760 | 0.8% | 1100 | 1.2% |
| Vietnam | 750 | 0.7% | 750 | 0.7% | 750 | 0.8% | 680 | 0.7% |
| Others | 1500 | 1.4% | 1000 | 0.9% | 500 | 0.5% | 350 | 0.4% |
| **Total** | **109450** | **100.0%** | **115092** | **100.0%** | **98680** | **100.0%** | **90992** | **100.0%** |

***Note: Figures of India is for financial year from April to March;***

***Source : International Sericulture Commission, D&B India***

*Note: Figures of India is for financial year from April to March;*

*Source: International Sericulture Commission, D&B India*

4.1.3. China is the largest producer of raw silk in the world. It accounted for 81.95% (104000MT) of the world raw silk production in 2009. India is the second largest producer of raw silk in the world with 15.50% of world production at 19690 MT in 2009-10.

| Exhibit: 4.1.3 World Raw Silk Production (MT) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Country | 2006 | | 2007 | | 2008 | | 2009 (P) | |
| | Volume | % Share | Volume | % Share | Volume | % Share | Volume | % share |
| China | 130000 | 84.4% | 108420 | 82.7% | 98620 | 81.2% | 104000 | 81.95% |
| India | 18475 | 12.0% | 18320 | 14.0% | 18370 | 15.1% | 19690 | 15.50% |
| Brazil | 1387 | 0.9% | 1220 | 0.9% | 1177 | 1.0% | 811 | 0.6% |
| Thailand | 1080 | 0.7% | 760 | 0.6% | 1100 | 0.9% | 665 | 0.5% |
| Uzbekistan | 950 | 0.6% | 950 | 0.7% | 865 | 0.7% | 750 | 0.6% |
| Vietnam | 750 | 0.5% | 750 | 0.6% | 680 | 0.6% | 550 | 0.4% |
| Korea Republic | 150 | 0.1% | 150 | 0.1% | 135 | 0.1% | 135 | 0.1% |
| Japan | 150 | 0.1% | 105 | 0.1% | 95 | 0.1% | 90 | 0.1% |
| Others | 1000 | 0.6% | 500 | 0.4% | 350 | 0.3% | 304 | 0.2% |
| **Total** | **153942** | **100.0%** | **131175** | **100.0%** | **121392** | **100.0%** | **126995** | **100.0%** |

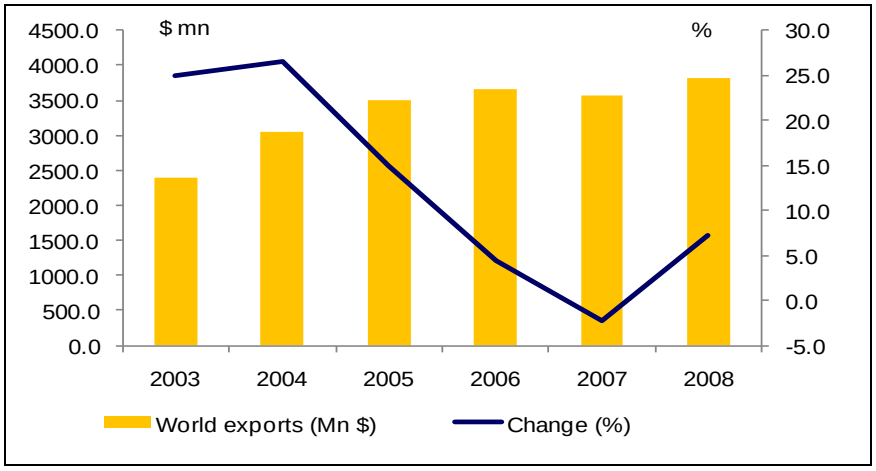
***Note: Figures of India is for financial year from April to March;***

***Source : International Sericulture Commission, D&B India***

## GLOBAL TRADE

4.1.4. During the last one decade, world exports of silk and silk products have increased significantly. Exports grew at a CAGR of 12.2% during the period between 2002 and 2008. In 2008, exports grew by 7.2% to US $ 3,829 million.

**Exhibit 4.1.2: Exports of silk and silk products**



4.1.5. Global trade in silk and silk products is characterised by three types of trading countries:-

- **Producers:** Producers who are major exporters of raw silk and silk waste

  China is the largest exporter of raw silk (not thrown) having a share of 92.8% (13,431.1 MT) in total world exports. Romania, Italy and India are the other major exporters with shares of 1.7% (239.5 MT), 1.1% (216.6 MT), and 1.1% (216.6 MT), respectively.

  China is the largest exporter of silk waste as well, with a share of 59.7% (2,227.1 MT) in total exports. Germany, United Kingdom, Italy are the other major exporters with shares of 10.8% (403.4 MT), 3.1% (114.1 MT), and 3.0% (112.6 MT), respectively.

- **Processors:** Processors who may not majorly produce raw silk but due to their technological and other expertise, majorly produce and export silk products

  China is the largest exporter of woven fabric of silk with a share of 23.3% (5,177.9 MT) in total exports.

  Hong Kong SAR, Italy and India are the other major exporters of woven fabric of silk having a share of 15.1% (3,348.5 MT), 12.4% (2,749.7 MT) and 10.5% (2,336.2 MT) respectively. Italy has been traditionally the largest importer, processor and exporter of silk products in Europe.

  Italy is the largest exporter of shawls, scarves etc. of silk with a share of 50.2% (2,343.1 MT) in total exports. China, India and France are the other major exporters of shawls, scarves etc. of silk, having share of 7.4% (343.9 MT), 7.2% (337.7 MT) and 7.1% (329.4 MT) respectively.

- **Consumers:** Consumers who are major importers of silk products and/or are major importers of silk yarn and not major exporters of silk products.

4.1.6. China, Hong Kong SAR is the largest importer of woven fabric of silk or of silk waste with a share of 11.6% (3,874 MT) in total imports. Italy, USA and India are the other major importers of woven fabric of silk or of silk waste having a share of 10.3% (3,459.8 MT), 7.9% (2,649.5 MT) and 4.6% (1,555.6 MT) respectively.

# 4.2. SILK INDUSTRY: INDIAN SCENARIO

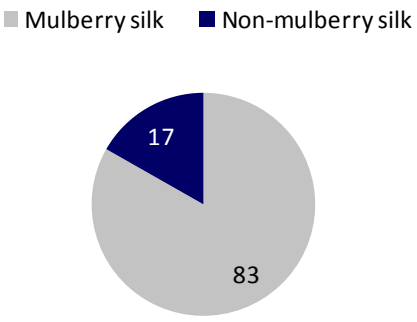
4.2.1. In 2009, India produced 19690 tonnes of raw silk, accounting for 15.50% of the world raw silk production. India produces all varieties of silk – both Mulberry and non-Mulberry.

4.2.2. Sericulture is a labour-intensive industry in all its phases of the production chain. Cultivation of silkworm food plants, silkworm rearing, silk reeling, and other post-cocoon processes (twisting, dyeing, weaving, printing and finishing) requires lot of human labour. Sericulture is practiced as a cottage industry and extends to almost all major states covering over 50,918 villages, providing sizeable employment to around 6.8 million people. Sericulture also provides sustainable income (in an eco-friendly manner) to rural youth and helps to check their migration to urban areas.

4.2.3. All the 4 commercially known varieties of silk, namely, Mulberry, Tasar, Eri and Muga are cultivated in India. Various schemes / projects have been implemented particularly in the past 3 decades to facilitate the silk production in India. Consequently, India emerged as the second largest producer of silk in the world, but far below China.

4.2.4. Sericulture is being practiced in various states like Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal and Jammu & Kashmir; North Eastern Region; in the tribal areas of Jharkhand, Chhattisgarh, Uttaranchal, and Orissa. Jharkhand and Chhattisgarh are among the leading states in the production of tasar silk. In the case of Eri, Assam and Manipur are the leading producers. Assam is also the leading producer of Muga silk.

**Exhibit 4.2.1: Silk production in India (2009-10)***




**Provisional*

*Source: Central Silk Board, D&B India*

**Industry Trends**

4.2.5. Indian silk production has shown 2.9% growth (13,909 MT in FY96 to 19,690 MT in FY10) over last 15 years, while the import growth is around 4.76% (7,530 MT in FY96 to 12,552 MT in FY10) resulting in the overall 3.57% (21,439 MT in FY96 to 32,152 MT in FY10) demand growth. However, export earnings grew by 9.82% for the same pre-mentioned period.

The table below indicates the past industry trends during the last 15 years.

**Exhibit 4.2.5 Silk Production, demand, import and export trends**

| Year | Total Raw silk Production (MT) | Imports of Raw silk (MT) | Demand of Raw silk (MT) | Exports Earnings (US$ million) |
|---|---|---|---|---|
| FY 96 | 13,909 | 7,530 | 21,439 | 274.88 |
| FY 97 | 14,126 | 5,278 | 19,404 | 276.83 |
| FY 98 | 15,236 | 6,074 | 21,310 | 285.22 |
| FY 99 | 15,544 | 5,107 | 20,651 | 297.04 |
| FY 00 | 15,214 | 9,060 | 24,274 | 404.97 |
| FY 01 | 15,857 | 8,406 | 24,263 | 530.21 |
| FY 02 | 17,351 | 10,316 | 27,667 | 495.29 |
| FY 03 | 16,319 | 12,354 | 28,673 | 474.08 |
| FY 04 | 15,742 | 13,444 | 29,186 | 604.7 |
| FY 05 | 16,500 | 13,120 | 29,620 | 640.9 |
| FY 06 | 17,305 | 13,965 | 31,270 | 721.53 |
| FY 07 | 18,475 | 10,104 | 28,579 | 737.76 |
| FY 08 | 18,320 | 13,061 | 31,381 | 677.4 |
| FY 09 | 18,370 | 13,038 | 31,408 | 691.06 |
| FY 10 | 19,690 | 12,462 | 32,152 | 652.91 |

*Source: Central Silk Board, D&B India*

4.2.6. The raw silk production which was around 16,319 MT during FY03 has increased to 18,475 MT during the year FY07 (End of Tenth-5-Year Plan), showing an increase of around 13.21% in-spite of various constraints like drought in traditional sericultural areas of southern peninsula during FY03 and FY04. Additionally, the prices of sericultural commodities had

come down during the same period due to large scale dumping of Chinese Silk (yarn and fabrics) into the country.

4.2.7. To support the prices of sericultural commodities, government levied anti-dumping Duty on the low grade silk yarn and fabrics imported from China. Currently, the stakeholders of the silk industry are poised to take-up sericulture on a large scale on account of better prices, improved technology and labour saving practices. The table below indicates the status of silk industry during FY03 to FY10.

| Indian Silk Scenario | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Particulars** | **Unit** | **FY 03** | **FY 04** | **FY 05** | **FY 06** | **FY 07** | **FY 08** | **FY 09** | **FY 10(P)** |
| Mulberry Plantation | ha | 194,463 | 185,120 | 171,959 | 179,065 | 191,893 | 184,928 | 177,943 | 183,773 |
| Mulberry Raw Silk Production | MT | 14,617 | 13,970 | 14,620 | 15,445 | 16,525 | 16,245 | 15,610 | 16,322 |
| Silk waste | MT | 4,514 | 3,764 | 3,587 | 3,749 | 4,055 | 3,416 | 3,746 | 4,080 |
| Raw silk/Ha | Kg/ha | 75.17 | 75.46 | 85.02 | 86.25 | 86.12 | 87.84 | 87.73 | 88.82 |
| ***Vanya Silk:*** | | | | | | | | | |
| *Tasar Raw Silk* | MT | 284 | 315 | 322 | 308 | 350 | 428 | 603 | 803 |
| *Eri Spun Yarn* | MT | 1316 | 1352 | 1448 | 1442 | 1485 | 1530 | 2038 | 2460 |
| *Muga Rawsilk* | MT | 102 | 105 | 110 | 110 | 115 | 117 | 119 | 105 |
| Vanya Silkwaste | MT | 336 | 373 | 365 | 425 | 511 | 600 | 800 | 980 |
| Total Vanya Silk | MT | 1,702 | 1,772 | 1,880 | 1,860 | 1,950 | 2,075 | 2,760 | 3,368 |
| **Total Raw Silk Production** | **MT** | **16,319** | **15,742** | **16,500** | **17,305** | **18,475** | **18,320** | **18,370** | **19,690** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Spun silk yarn | MT | 550 | 446 | 500 | 350 | 400 | 470 | 500 | 560 |
| Noil Yarn | MT | 275 | 224 | 250 | 150 | 200 | 235 | 250 | 280 |
| Export Earnings | Cr. Rs. | 2,294.05 | 2,779.19 | 2,879.56 | 3,194.2 | 3,338.35 | 2,727.87 | 3,178.19 | 2,611.51+ |
| | Mn. US$ | 474.08 | 604.7 | 640.9 | 721.53 | 737.76 | 677.40 | 691.06 | 548.41+ |
| **Imports** | | | | | | | | | |
| Raw Silk (Qty) | MT | 9,054 | 9,258 | 7,948 | 8,383 | 5,565 | 7,922 | 8,392 | 6,917+ |
| Value | Cr. Rs. | 647.15 | 628.41 | 607.21 | 779.71 | 673.37 | 734.44 | 903.06 | 871.59+ |
| Silk Fabrics (Qty) | MT | 3,285 | 3,208 | 3,763 | 5,052 | 3,956 | 5,064 | 4,789 | 3,003+ |
| Value * | Cr.Rs. | 212.79 | 406.86 | 579.89 | 801.82 | 692.88 | 862.67 | 846.52 | 641.94+ |
| Employment | Million Persons | 5.6 | 5.65 | 5.8 | 5.95 | 6.0 | 6.12 | 6.31 | 6.80++ |

*Value includes fabrics & others P: Provisional + April to February ++ Anticipated*

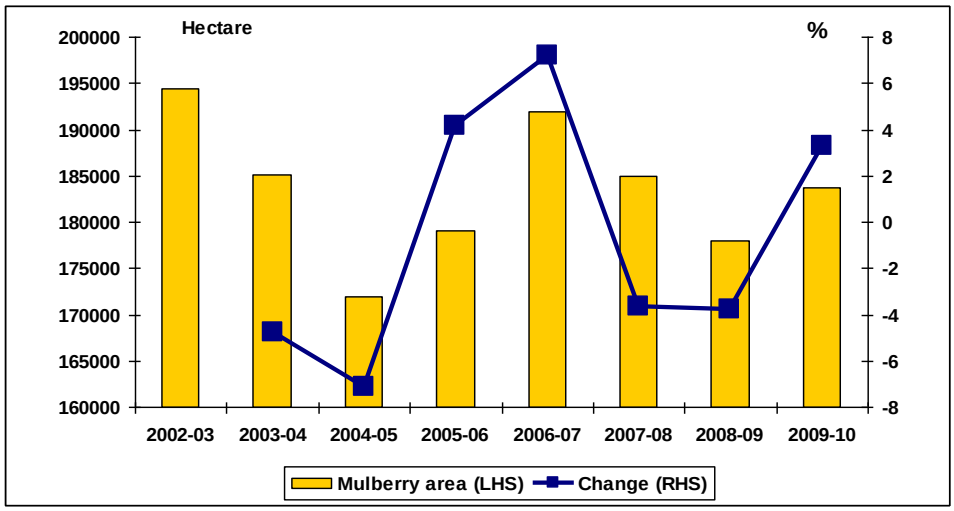
*Source: Central Silk Board, D&B India*

# MULBERRY

## Mulberry raw silk production

4.2.8. In India, mulberry silk accounts for 83% of the raw silk production in the country in 2009-10. In 2008-09, production of mulberry raw silk declined by 3.9% to 15,610 metric tonnes, on top of the 1.7% decline in 2007-08. The decline in production of mulberry raw silk in the recent couple of years can be attributed to a further fall in mulberry acreage during this period. From 191,893 hectares in 2006-07, the area under mulberry cultivation shrank to 177,943 hectares by 2008-09. The decline in area under mulberry cultivation over the past few years is apparently due to the lowering water table in the traditional silk producing areas, which is prompting several farmers to switch over to horticulture crops, requiring lower quantity of water. Also, with rising urbanisation, farmers are selling their lands to real estate developers in the silk-producing regions, which have consequently reduced the area under mulberry acreage.

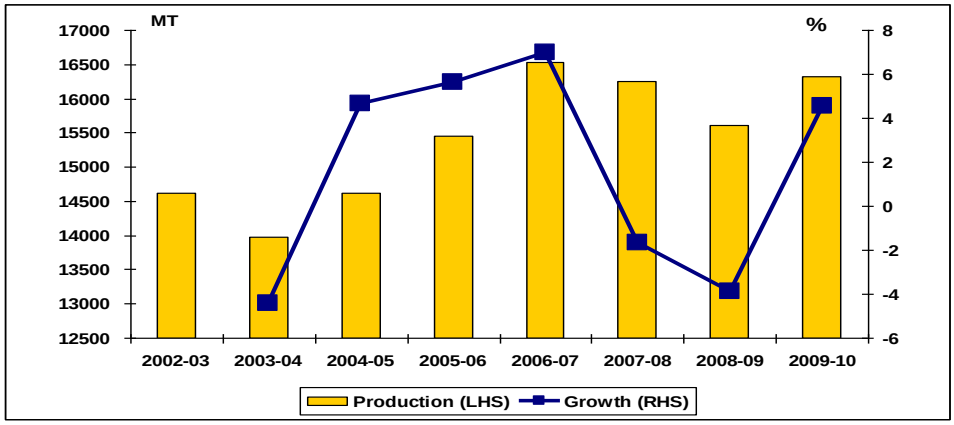
**Exhibit 4.2.2: Mulberry acreage**




*Source: Central Silk Board, D&B India*

4.2.9. However, this trend was reversed in 2009-10 and the mulberry production crossed it pre-2007-08 production level. In the three years preceding 2007-08, mulberry raw silk production had increased at an average annual growth rate of 5.8%. Therefore, on the back of a better price regime the mulberry raw silk production is expected to retain this growth momentum in the medium term.

**Exhibit 4.2.3: Production of mulberry raw silk**




*Source: Central Silk Board, D&B India*

*Though traditional multivoltine varieties are the main varieties produced in India, certain bivoltine varieties and cross breeds have been introduced in India in order to improve productivity and quality of silk.*

**Exhibit 4.2.4: Bivoltine silk production**

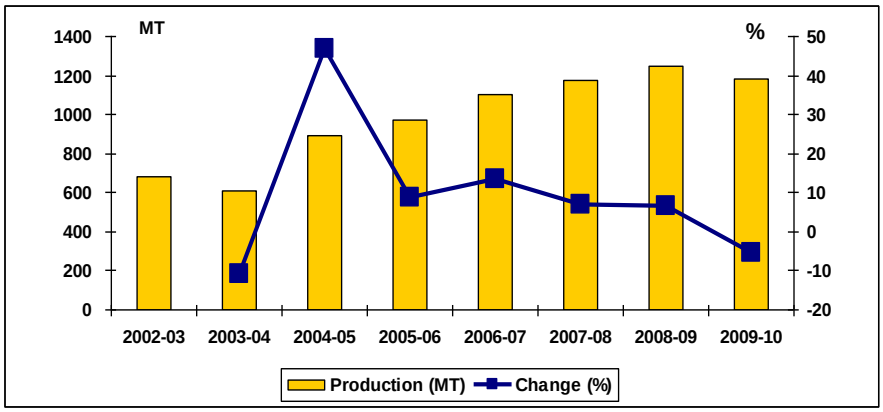
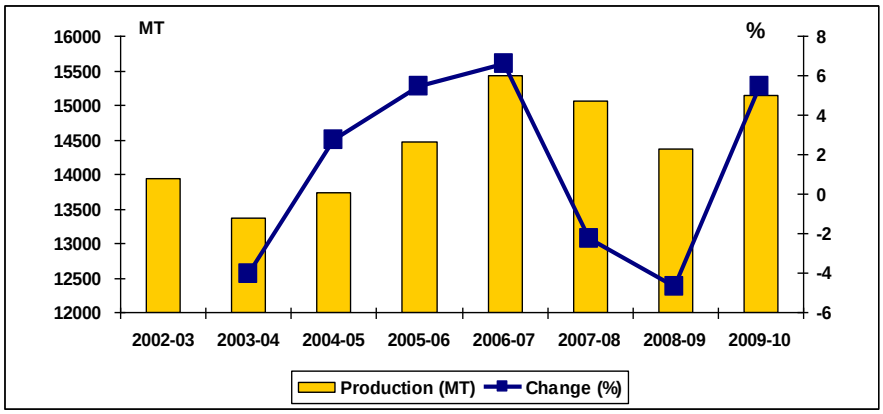


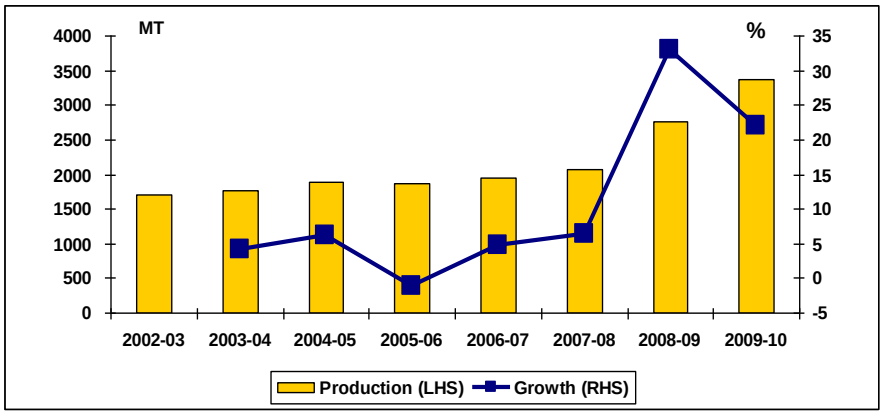

**Exhibit 4.2.4 Multivoltine silk production**




*Source: Central Silk Board, D&B India*

# NON-MULBERRY

**Exhibit 4.2.5: Production of non-mulberry (Vanya) raw silk**




*Source: Central Silk Board, D&B India*

## Production of non-mulberry raw silk on a rise

4.2.10. Unlike mulberry raw silk, which recorded declines in production for few years before recovery in 2009-10, production of non-mulberry raw silk has been on a growth trajectory. During 2009-

10, there was a sharp 22% increase in production of non-mulberry (Vanya) silk to 3368 metric tonnes in 2009-10. The preceding three years (2005-06 to 2007-08) had recorded marginal growth of 5-6%. Production of non-mulberry (Vanya) silk waste has increased in double-digits (16-29%) during 2005-06 to 2008-09.

| Exhibit 4.2.6: Non-mulberry raw silk production (MT) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Period** | **2002-03** | **2003-04** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **2009-10** |
| Tasar | 284 | 315 | 412 | 308 | 350 | 428 | 603 | 803 |
| Eri | 1316 | 1352 | 1448 | 1442 | 1485 | 1530 | 2038 | 2460 |
| Muga | 102 | 105.4 | 110 | 110 | 114 | 117 | 119 | 105 |
| Total | 1702 | 1772.4 | 1970 | 1860 | 1949 | 2,075 | 2,760 | 3,368 |

*Source: Central Silk Board, D&B India*

4.2.11. Jharkhand and Chhattisgarh are among the leading states in the production of tasar silk. In the case of Eri, Assam and Manipur are the leading producers. Assam is also the leading producer of Muga silk.

4.2.12. Silk fabrics production has witnessed fluctuating growth trend. Between 2002-03 and 2008-09, production recorded decline in 2003-04 and 2006-07 and growth in the other years. Silk fabrics production increased by 3.6% to 4,601.0 lakh square metres in 2009-10.

| Silk production statistics | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Product/Year** | **Units** | **2002-03** | **2003-04** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **2009-10*** |
| Silk fabrics | Lakh sq. mtr. | 4,266.7 | 4,225.9 | 4,570.7 | 5,110.8 | 4,200.0 | 4,346.0 | 4,439.0 | 4,600.0 |
| Spun silk yarn | MT | 550 | 446 | 500 | 350 | 400 | 470 | 500 | 560 |
| Noil yarn | MT | 275 | 224 | 250 | 150 | 200 | 235 | 250 | 280 |

**Provisional*

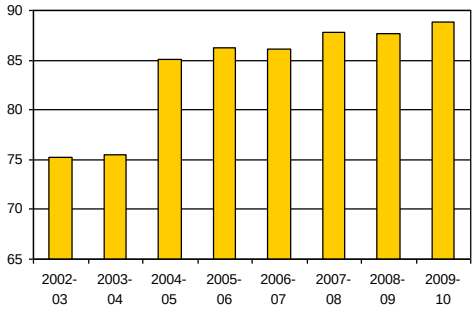
*Source: Central Silk Board, D&B India*

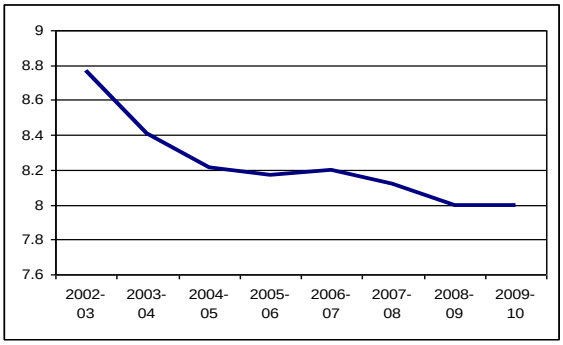
## Improvement in productivity

4.2.13. Although production of silk is stagnating, the industry has managed to achieve marginal improvement in productivity. The increased productivity is on account of introduction of highly productive mulberry and silkworm breeds. The production of raw silk per hectare has gone up

from 75.17 kg/hectare in 2002-03 to 88.82 kg/hectare during 2009-10. The renditta has improved marginally from 8.77 to 8.0 during 2002-03 to 2008-09. This is depicted in the following two charts:

**Exhibit 4.2.7: Raw silk/hectare (Kg/ha)** **Renditta**

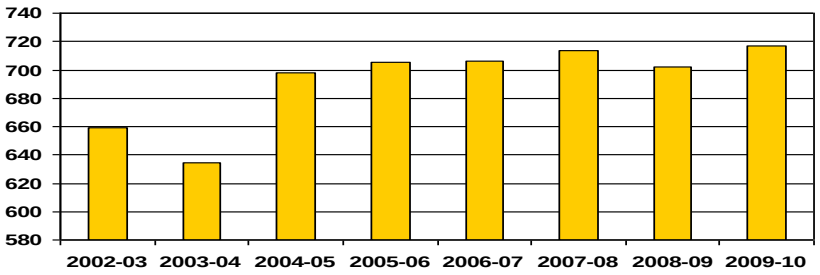



*Source: Central Silk Board, D&B India*

4.2.14. There has been an improvement at the farmers' end as well, as reflected in the reeling cocoon per hectare, which increased from 659.15 kg/hectare in 2002-03 to 702 kg/hectare in 2008-09.

**Exhibit 4.2.8: Reeling cocoon/hectare (Kg/ha)**




*Source: Central Silk Board, D&B India*

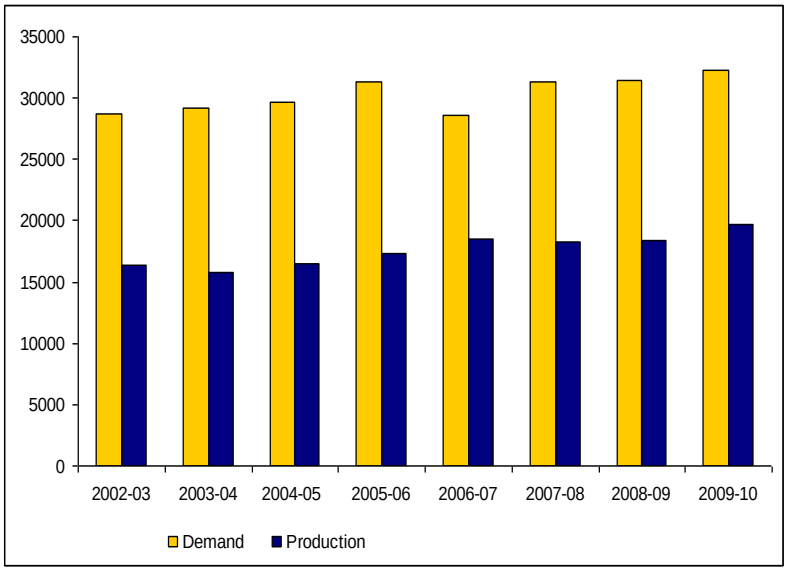
**Present Production Trend**

4.2.15. Total raw silk production touched all time high level to 19,690 tonnes in FY10 compared to 18,370 tonnes in FY09, showcasing 7.20% growth. Mulberry raw silk production also grew by 4.6% to 16,322 tonnes in FY10. Production of Vanya silks ( *Tasar, Eri and Muga* ) during FY10, were 803 MT, 2,460 MT & 105 MT respectively, as against 603 MT, 2,038 MT &119 MT produced during FY09, representing a raise of 33.2%, 20.7% and decrease of 12% respectively.

## Demand –Supply Gap

4.2.16. Domestic production of raw silk continues to stagnate and is not sufficient to meet the rising demand, particularly to meet the export requirements. Hence, the country is dependent upon imports, mostly from China. In 2009-10, India imported raw silk to the tune of 7500 tonnes, a marginal decrease over the imports in 2008-09.

**Exhibit 4.2.9: Raw silk: Demand-Production Gap (MT)**




*Source: Central Silk Board, D&B India*

| | Import Volume | Change |
|---|---|---|
| **Year** | MT | % |
| 2003-04 | 9,258 | 2.3 |
| 2004-05 | 7,948 | -14.1 |
| 2005-06 | 8,383 | 5.5 |
| 2006-07 | 5,565 | -33.6 |
| 2007-08 | 7,922 | 42.4 |
| 2008-09 | 8,392 | 5.9 |
| 2009-10 (P) | 7,500 | -10.6 |

**Provisional Source: Central Silk Board, D&B India*

## Imports of silk from China

4.2.17. As per DGCI&S data, 99% of India's raw silk imports come from China. The raw silk imported from China is mainly utilised in powerlooms and as warp for handloom fabrics. Availability of imported silk in large quantities with certainty in supply and of uniform quality has led to increased preference for such silk among the weaving community (due to its better reelability). This has thereby increased the industry's dependency on imports. With insufficient domestic production, a significant portion of the domestic demand is met through imports. Current imports from China contribute 27% of the demand. This is depicted in the chart below:

**Exhibit : Raw silk imports: Quantity (MT)**

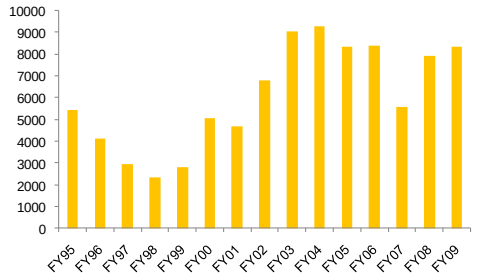
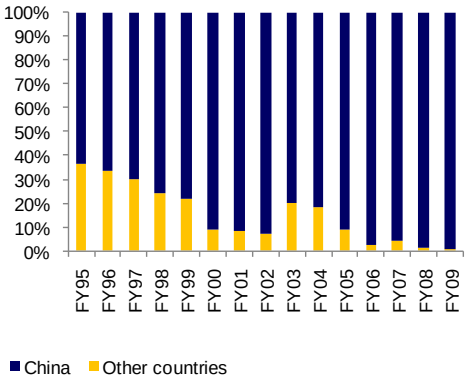


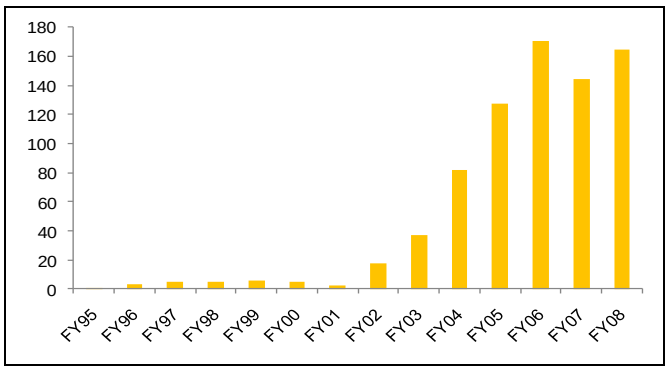

**Exhibit : Dependency on China for raw silk imports**




*Source: DGCI&S, D&B India*

4.2.18. Not only is the import of raw silk from China on a rise, imports of woven fabrics of silk and silk waste have also been rising sharply since FY02.

**Exhibit 4.2.10: Imports of woven fabrics of silk or silk waste from China (US$ Million)**



# 4.3. INDUSTRY OUTLOOK

4.3.1. For forecasting various parameters for the silk industry, certain assumptions have been made These are based on historical trend of the concerned parameters (see table below):

**Exhibit 4.3.1: Sericulture statistics: Historical trend**

| Year | Area under cultivation (ha) | Reeling cocoon/hectare (kg/ha) | Mulberry Renditta (Cocoon/kg of raw silk) | Production of Mulberry silk (MT) | Production of Vanya silk (MT) | Consumption (Prod+Import) (MT) |
|---|---|---|---|---|---|---|
| 2001-02 | 232076 | 602 | 8.8 | 15842 | 1509 | 24159 |
| 2002-03 | 194463 | 659 | 8.8 | 14617 | 1702 | 25373 |
| 2003-04 | 185120 | 635 | 8.4 | 13970 | 1772 | 25000 |
| 2004-05 | 171959 | 698 | 8.2 | 14620 | 1880 | 24448 |
| 2005-06 | 179065 | 705 | 8.2 | 15445 | 1860 | 25688 |
| 2006-07 | 191893 | 706 | 8.2 | 16525 | 1950 | 24040 |
| 2007-08 | 184928 | 714 | 8.1 | 16245 | 2075 | 26242 |
| 2008-09 | 177943 | 702 | 8.0 | 15600 | 2760 | 26762 |
| 2009-10 | 183773 | 717 | 8.0 | 16322 | 3368 | 27190(P) |
| **CAGR (%)** | **-2.60** | **2.39** | **-1.14** | **0.38** | **15.40** | **1.57** |

*Source: Central Silk Board, D&B India*

- Land under mulberry acreage has fallen at a CAGR of 2.60% during 2001-02 to 2009-10. However, the trend has been reversed in 2009-10 due to better price and demand condition and the trend is like to continue as the current global price and demand scenario is likely to continue in the medium term.
- For the period during 2001-02 to 2009-10, cocoon production per hectare rose at a CAGR of 2.39%, Cocoon production per hectare is likely to increase at a CAGR of 3-4% till 2020 due to significant R&D and extension activities being carried out under various programmes by the Central Silk Board.
- At the same time, Mulberry silk productivity (cocoon/kg of raw silk) is likely to improve from renditta 8.0 to 7.3 by 2020.

- During 2001-02 to 2009-10 Vanya silk production grew at a CAGR of 15.40%. This trend is expected to continue in the medium term.

| Exhibit 4.3.2: Sericulture industry: Expected future scenario | | | | | |
|---|---|---|---|---|---|
| **Period** | **Area under cultivation (ha)** | **Mulberry Renditta** | **Total Production (MT)** | **Consumption (Prod+Import) (MT)** | **Shortage/ Imports (MT)** |
| 2010-11 | 198221 | 7.9 | 20482 | 29291 | 8809 |
| 2014-15 | 218799 | 7.6 | 24425 | 33612 | 9186 |
| 2019-20 | 247551 | 7.3 | 31173 | 40894 | 9720 |

## SCENARIO ANALYSIS:

### Domestic scenario

4.3.2. Consumption of raw silk is likely to increase at a rate of 3.5% during the period between FY11-15, and 4.0% during FY15-20. This would be achieved on the back of 9-9.5% growth in consumption of man-made fibres, 6-7% increase in private final consumption expenditure on clothing (PFCE), and 4% growth in world GDP.

4.3.3. Considering the current trend of increase in the area under cultivation and significant changes on the technological and R&D front, domestic production of raw silk is expected to record growth of 4.5% during FY11-15 and 5.0% during FY15-20. Under such circumstance, imports are likely to marginally decline but shall remain in the region of 9000-10000 MT per year till FY20, in order to meet the estimated consumption demand.

### Exports scenario

4.3.4. World GDP is expected to grow by 4%. In such a scenario, total value of exports (in INR) is estimated to record a CAGR of 14.2-16.0% during the period between 2010-11 and 2014-15. For the period between 2014-15 and 2019-20, exports are likely to increase by 14.3-16.1%. Among the various product categories, exports of ‘natural silk yarn, fabrics and made-ups’ are expected to post the highest growth during both these periods.

| Exhibit 4.3.3: Silk & silk products exports (CAGR) (%) | | | | | |
|---|---|---|---|---|---|
| **Period** | **Natural silk yarn, fabrics & made-ups** | **Silk carpets** | **Silk waste** | **Readymade silk garments** | **Total** |
| FY10-FY15 | 14.9 to 16.8 | 5.2 to 5.8 | -17.4 to -19.6 | 13.7 to 15.5 | 14.2 to 16.0 |
| FY15-FY20 | 14.9 to 16.8 | 5.2 to 5.8 | -17.4 to -19.6 | 13.7 to 15.5 | 14.3 to 16.1 |

*Source: D&B India*

# 4.4. ISSUES AND CONCERNS OF INDIAN SILK INDUSTRY

4.4.1. In this chapter attempt has been made to understand what is currently ailing the Indian Silk industry. D&B India has conducted primary and secondary research, whereby D&B consultants visited Bangalore and nearby areas, Coimbatore, Kancheepuram, and Varanasi to understand the issues and concerns of the silk community.

## STAKEHOLDER-WISE ANALYSIS OF ISSUES AND CONCERNS IN THE SERICULTURE INDUSTRY

4.4.2. Based on the primary survey inputs, as given in Annexure A-3, key issues and concerns facing the industry have been discussed, in terms of the various stakeholders, such as farmers, reelers, twisters, weavers and exporters. This section also deals with the steps taken by the government to meet the challenges of the industry, and the results thereof.

**Exhibit 4.4.1: Summary: Key issues and concerns**

| Stakeholders | Major issues/concerns |
|---|---|
| Farmers | • Lack of availability of good quality seed cocoon<br>• Inadequate availability of sturdier silkworm races |
| Reelers | • Lack of cocoon supply in desired quantity and quality<br>• Dumping of raw silk from China<br>• Fluctuation in raw silk prices, which move in tandem with dumped Chinese silk prices<br>• Difficulty in getting loans from banks |
| Twisters | • Large-scale imports of twisted yarn from China |
| Weavers | • Inadequate domestic production of silk in desired quantity and quality<br>• Price fluctuation in raw silk<br>• Dumping of silk fabrics from China |
| Exporters | • Poor image of ‘Made in India’ silk products |

*Source: D&B India*

## Farmers

### Inadequate availability of seed cocoon of desired quality

4.4.3. Farmers engaged in silkworm rearing form the backbone of the sericulture industry in India. One of the major problems faced by the farmer community is lack of supply of seed cocoon of the desired quality. This has remained as a major bottleneck in the growth of silk production in the country, as success of the sericulture industry depends upon production of quality silkworm eggs.

4.4.4. D&B India's primary survey also reveals that the uncertainty in production as well as inadequate quality is due to insufficient research and development to come up with the desired quality of seed cocoon that are disease-resistant and weather-resistant. The CSB's success in terms of development of new varieties of silkworm races/breeds has been limited to the extent of the farmers' acceptance of just 5-6 varieties of bivoltine and hybrid races, such as the CSR2 X CSR4, etc.

4.4.5. ***R&D effort and its impact:*** With an aim to increase the availability of improved races and to meet other issues of the farming/reeling community, several initiatives have been taken on the R&D front. In the mulberry sector, the CSB has achieved the following: Improvement in leaf productivity, cocoon productivity, raw silk production per hectare, renditta, among others. Under its initiatives, 40 technologies were filed for patenting of which 16 have been commercialised. Some of the other achievements include authorisation of 12 mulberry silkworm hybrids for various states and regions for commercial use as also improvement in total technology management package for multi-end reeling to 2A to 4A international grade silk.

4.4.6. Although various technology packages have been developed, in practice, there exists resistance to accepting various technology packages. This may be attributed to the attitude of the farming community, insufficient field & extension work to be carried out, and ability of both centre and state organisations to work in a coherent manner to convince the cocoon growers about the benefits of existing schemes, measures and technology.

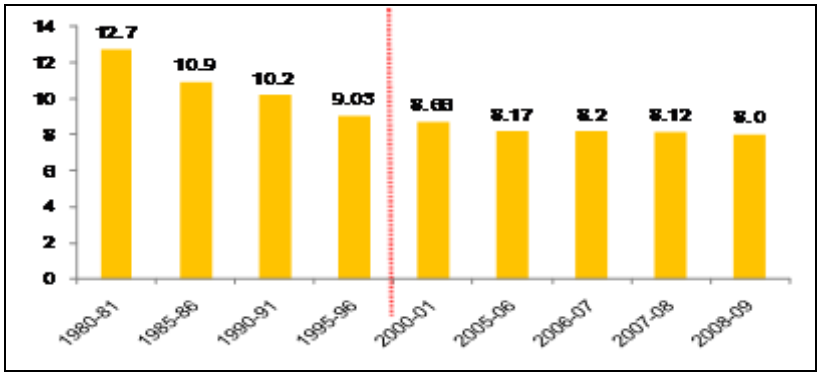
4.4.7. The farmers/growers can effectively adopt the sericulture practices only when proper explanation and hand-holding towards sericulture practices are imparted. These can range from purchase of silkworm seed, to silkworm feeding, rearing to mulberry growing practices – soil nutrients, water and other foliage including technical input. The Coimbatore cluster is an appropriate example in this regard, where farmers are successfully engaged in bivoltine farming and are benefitting from the training and guidance provided to them by the government from time to time. Thus, the need of the hour is to be 'selective and intensive'.

## Reelers

### Lack of cocoon supply in desired quantity and quality

4.4.8. Silk reeling is a weak link in the sericulture chain. The main problems of this stakeholder community are associated with raw material availability and working capital constraints. One of the chief concerns in silk reeling is the quality of cocoons which gives low yield of silk. Although renditta performance has improved since the 1980s, as can be seen from the chart below, it has remained stagnant at around 8 since the last several years.

**Exhibit 4.4.2: Renditta: A measure of success in productivity improvement**




*Source: Central Silk Board, D&B India*

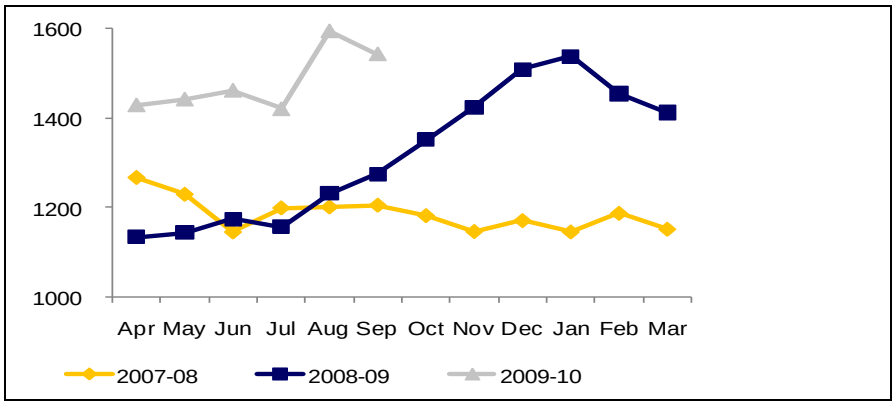
4.4.9. As far as yield of cocoons are concerned, at the time of purchase of cocoons for the purpose of reeling, while the reelers expect the purchased quantity of cocoon to yield a certain amount of raw silk (renditta), the actual renditta turns out to be much higher. Also, use of cocoon which is not of the desired quality, leads to problem in reeling and thus results in wastage of cocoon at the reelers' end, thereby increasing the reelers' cost of production.

4.4.10. On account of the poor financial conditions of the reelers and the already existing loan defaults by silk reelers, reelers are not able to procure loans from banks for their working capital requirements.

### Dumping of raw silk from China

4.4.11. Prices of raw silk in India move in line with prices of Chinese imported silk in India. Hence, before the imposition of anti-dumping duty on raw silk, large-scale imports had led to drop in prices of raw silk in the domestic market. Nevertheless, imposition of anti-dumping duty has helped in stabilising domestic prices of raw silk. However, since Chinese exporters continue to dump raw silk below the domestic raw silk prices, any fall in prices of Chinese silk continues to push down prices in the local market. The reelers thus are left to the vagaries of price fluctuation of raw silk, which is mainly determined by the imported Chinese raw silk price.

**Exhibit 4.4.3: Prices of filature silk at Bangalore Silk Exchange (Rs/Kg)**




*Source: Central Silk Board, D&B India*

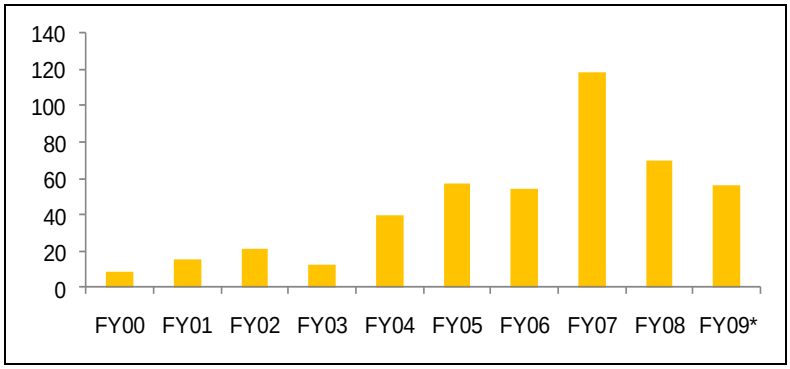
4.4.12. The raw silk imported from China being of good quality and length and is available at cheap rate, there is shift in preference among the weaving community from the traditional Indian reelers to the imported silk. This has further put the reeling sector in deep trouble which is unable to supply raw silk in large quantities of uniform quality and length. As a result, there have been incidences of several reelers going out of business. Being a cottage industry, this is a major loss in terms of employment generation.

## Twisters

### Imports of twisted silk yarn from China

4.4.13. Twisters act as the backbone to the domestic weaving industry. Presently, not just raw silk, the domestic silk industry also has to face competition from imported twisted silk yarn from China. The imported Chinese twisted yarn is cheaper by at least Rs 100 per kg, when compared to the domestic twisted silk. Import of twisted yarn from China, that too at price lower than the domestic twisted silk, has adversely affected the domestic twisting sector, as a result of which, several of them have unutilised machinery, or have closed down their business. Around 3.5-4.0 lakh people are engaged in the twisting activity in the country, with an average investment of Rs 10 lakh per unit (on plant & machinery), and these units have been affected on account of the imports of cheap twisted silk.

**Exhibit 4.4.4: Imports of twisted silk yarn** from China (Rs crore)**




*Source: Central Silk Board, D&B India*

4.4.14. Given the incidences of influx of Chinese exports of raw silk & silk products into India during the last decade, we understand that currently the twisting industry is facing imports of twisted yarns in huge quantity. Twisted yarn can be considered as an intermediate product required by the weavers to make fabric. Given that the twisting community engages around 3-4 lakh people and are traditionally dependent on the activity, large scale imports of twisted yarn from China is adversely impacting the segment; and needs protection in terms of increased import duty on the same.

## Weavers

### Inadequate domestic production of silk in desired quantity and quality

4.4.15. Domestic production of silk is insufficient to meet the domestic demand as also the export orders. Not only is the domestic production inadequate, but the supply is also uncertain in nature. This has resulted in increased dependence of the weavers on raw silk imported from China, which is not only of good quality but cheaper and available in bulk quantities, as compared to domestically produced raw silk.

4.4.16. The domestically produced silk is available in small quantities and also lacks uniformity in quality (length, sturdiness, etc). The locally cultivated varieties of silk are primarily able to run on handlooms. The inconsistency in quality makes it difficult in being used in powerlooms as it affects the weaving process. So, for the powerloom sector (the share of which in the total silk exports is about 80%), the yarn is required to be imported from China.

### Silk price fluctuation

4.4.17. Although it may not be directly related to the anti-dumping duty imposed, the silk community is highly concerned about the raw silk price fluctuation in the domestic market. The beneficiary of this extreme price fluctuation on a day-to-day basis is largely the trading

community. They are virtually manipulating the price of raw silk in the Indian market. As per primary survey respondents, there are around 7-8 big traders in Varanasi area and 6-7 in Bangalore, who procure Chinese raw silk in bulk and engage in hoarding and speculative practices; and also collude among themselves to set market prices. Depending upon the price information, they charge prices that are unremunerative and unacceptable to the weavers; who can do nothing but to finally accept the same. This is leading to severe financial strain. One needs to examine the impact of anti-dumping duty more closely. Whether it has actually led to increased/elevated price level or given benefits to the vulnerable sections of the silk community (mainly farmers).

4.4.18. With recent information from China about the likely drop in production of cocoons in China, the silk price has shot up in the international market . Though the increase in raw silk price has encouraged sericulture activity, it has put pressure on the twisting and weaving sector. It has also put a question mark on the price stabilisation achieved in last two years., .

4.4.19. Despite high import duty on raw silk of 30%, the import of raw silk is on the rise. Currently, with twisted yarn getting imported, the twisting community is affected; thereby warrant protection. If duty rate on twisted yarn is increased, then the domestic weavers would be impacted adversely, and hence would add to the already existing woes of the weavers.

### Imports of silk fabrics from China

4.4.20. In the recent few years, there has been import of Chinese silk fabrics into India, which has affected the domestic weaving sector. Large-scale dumping of silk fabrics from China has destabilised the powerloom silk weaving units, particularly in Karnataka, Uttar Pradesh and Gujarat, leading to closure of several looms. Imports of silk fabrics from China have depressed prices in the domestic market.

4.4.21. Moreover, traders import raw silk from China which is purchased by the domestic weavers, at a price determined by the traders. There is high volatility in the prices demanded by the traders on the imported raw silk, thus leaving the weavers to the whims and fancies of the importers. Hence, large-scale ‘dumping’ of cheap silk raw in India has forced weavers to switch over to other kinds of fabrics (viscose etc) due to non-availability of orders for silk fabric because of unremunerative price for Indian silk fabrics.

4.4.22. Finally, unremunerative prices and fall in production volumes due to ‘dumping’ by China has affected the weavers’ ability to invest on modernisation. Weavers depend upon banks, mainly textile cooperative banks and other nationalised banks for their working capital requirements. However, due to decline in production and idle capacities in the industry, the recoveries on the loans are poor. As a result, banks have become reluctant in offering loans to weavers, thereby further affecting their business operations and their ability to raise capital.

## Exporters

4.4.23. Domestic manufacturers of silk/silk products particularly the small weavers find marketing their products as a major challenge, mainly because of the perceived lower quality of Indian silk products. This is despite the Indian silk industry having major strength in export trade, which is India's wide product range including handloom silk fabric, with designs unique to India. Many a times, because of the use of raw silk which does not meet requirements of international customers, quality of the final product is not up to the mark. This, in turn, hampers the prospects of the Indian silk exporters in establishing a name of repute for them in the international market.

4.4.24. The exporter community suffers from inadequate brand promotion activities in the international arena.

4.4.25. ***Silk Mark Scheme and its impact:*** In an effort to build the image of 'Made in India' brand, the government launched the Silk Mark scheme in June 2004. Since its launch, Silk Mark has a membership of over 1,300 members and 1,200 authorised users across the country. Around 81 lakh Silk Mark labelled products have reached the market, which has enabled the consumers significantly in identifying pure silk. The Silk Mark Scheme is being introduced to many new areas in a phased manner. During 2008-09 alone, 296 members and 292 authorised users have been enrolled and 21.29 lakh of Silk Mark labelled products have reached the market.

4.4.26. As part of its efforts in building the 'Made in India' brand, the Silk Mark Organisation of India (SMoI) continues to participate in various exhibitions and conducts awareness programmes for consumers and trade across the country. During 2008-09, the SMoI participated in 262 exhibitions/ workshops/road shows etc. As per various respondents, the SMoI although has created some sort of awareness, it has a mixed reaction:

- SMoI's policy on label selling to promote pure silk is often driven by revenue consideration, rather than appropriate monitoring, etc.
- With fluctuating prices of raw silk and other constraints, if weavers, after getting license and membership, use unscrupulous practices by mixing various other fabrics/low grade silk and put 'Silk Mark' indicating pure silk variety, there is no mechanism to protect the interest of the consumers (legal proceeding is a long drawn process).
- Charging of members for fees to establish shops in exhibitions/promotions often does not yield desired sales and other benefits; and hence weavers, exporters, etc are often not able to recover their costs.

### Box 4.4.1: Issues related to Vanya silk sector

The main concern with respect to the Vanya silk sector is the retarded growth of the sector. This can be attributed to the following factors:

a) Inadequate supply of quality silkworm seed to the farmers

b) Drastic reduction in the population of wild eco races due to deforestation and global warming; Mining, coal industry and other such industrial activities have affected the Vanya sericulture due to pollution and dust

c) Inconsistent supply of yarn to the manufacturers and exporters

d) Poor absorption of technology due to poor extension machinery

e) Dumping of Chinese Tasar silk at lower price; imported Tasar silk yarn is sold as Muga silk in North Eastern Region after dyeing

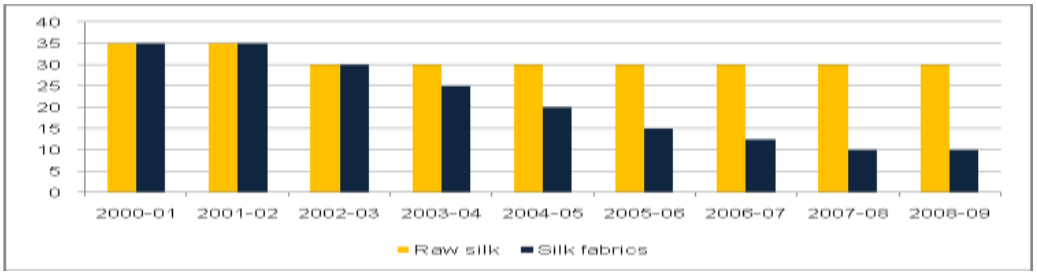
f) Low value realisation to the final product due to limited product range and low accessibility to metro cities

g) Though Vanya Silk production is considered as a forest-based activity and the policy guidelines of Forest Amendment Act 1980, supports large-scale plantation of Vanya silk host plants in the forests, the grass root level forest officials do not support the same in many states. Therefore coordination and support of the State Forest Department is essential for the expansion of Vanya silk host plantation in degraded forest areas, adapahis, waste land etc, as a part of afforestation programme.

## DUTY STRUCTURE

4.4.27. In India, raw silk attracts a higher duty at the rate of 30%, as compared to the intermediate and finished product, which attract duty at the rate of 10% each. With liberalization and globalization of the Indian economy, there had been changes in the import duty structure, as depicted below:

**Exhibit 4.4.5: Import duty (%) changes: Raw silk & silk fabrics**




*Source: CSB, D&B India*

4.4.28. The current import duty structure for silk and silk products (2008-09) is shown below:

**Exhibit 4.4.6: Import duty structure for silk, silk products**

| Item Description | ITC (HS) Code | Basic Customs Duty (%) | Addl. Duty of Customs (CVD) (Including Cess) (%) | Central Excise Edu Cess% | Customs Edu. Cess(%) | Special Addl. Duty of Customs (Spl.CVD)(%) | Total Customs duty (%) |
|---|---|---|---|---|---|---|---|
| Silkworm Cocoon Suitable for reeling | 5001 | 30 | 0 | 0 | 3 | 0 | 31.09 |
| Raw silk (Not thrown) | 5002 | 30 | 0 | 0 | 3 | 0 | 31.09 |
| Silk waste | 5003 | 15 | 0 | 0 | 3 | 4 | 20.07 |
| Silk yarn (Other than spun from silk waste) | 5004 | 10 | 8 | 3 | 3 | 4 | 24.14 |
| Yarn spun from silk waste not put up for retail sale | 5005 | 10 | 8 | 3 | 3 | 4 | 24.14 |
| Woven fabric of silk or of silk waste | 5007 | 10 | 8 | 3 | 3 | 4 | 24.14 |

# 4.5. POLICY RECOMMENDATIONS FOR THE SILK INDUSTRY

4.5.1. The **gap between demand and supply** of silk fibre is likely to remain in the medium term horizon. The National Fibre Policy recommendations for the silk sector are aimed at bridging the gap between domestic demand and supply both in terms of quality and quantity, and at reducing the country's dependence on import of raw silk, while maintaining a balance between the interests of all stakeholders in the value chain, including farmers, reelers, twisters, weavers and value-added producers. These objectives are designed to be achieved through a set **of Fiscal and Non Fiscal measures**, focused R&D efforts and field extension work.

4.5.2. The policy recommendations in this report are so designed as to **encourage sericulture activities, improve the quality and output of fibre by intensive R&D and extension activities**, and to establish economies of scale through **modernisation and clusterization** of various pre- and post- cocoon activities, thereby promoting competitiveness of Indian Silk industry in the global market.

## FISCAL MEASURES

**a) Duty exemption on Silk Machinery till 2015**

4.5.3. Indian silk industry is essentially in the cottage and small-scale sector working with crude processes and outdated technologies. One of the ways to meet these challenges is to import latest technology/equipments suitable for Indian conditions at affordable prices.

4.5.4. Under the Chapter No. 84 of customs tariff the Govt. has provided a concessional duty of 5% under Sl. No 252 of Appendix-A (List-32) on Silk machinery such as Automatic Silk Reeling, Silk Weaving, Twisting, Arm Dyeing, Fabric Dyeing, Finishing Machinery, etc.

4.5.5. It is desirable that the silk machinery should be exempted from duty for at least 5 years, i.e. till 2015, as it would aid in modernisation of post-cocoon stage and make the sector more competitive. Following are the list of machineries to be considered by Ministry under 0 % duty till the year 2015.

- Automatic silk reeling machinery & its supporting equipments (Including cocoon drying chamber)
- Automatic Dupion silk reeling machinery & its supporting equipments (Including cocoon drying chamber)

- Silk twisting (Two for One or Three for One or up twisters) & its supporting preparatory machinery such as Hank to bobbin cone winding machine/ silk doubling machine/ rewinding machine for bobbin to hank/Twist setting chamber.
- Shuttleless looms for silk (including high speed weaving looms with electronic jacquard attachment)
- Sectional Warping machine suitable for silk
- Computer aided design system for silk weaving
- Silk wet processing Machinery like Arm dyeing machines for hank degumming & dyeing/Winch dyeing machine/Package dyeing machine for cone & cheese/Automatic dyeing jigger/Jumbo Jigger with or without liquor circulation/Jet dyeing machine/soft flow dyeing machine/ sample dyeing machine/Semi automatic flat bed screen printing machine/Rotary Printing machine/ fabric digital printing machine/Silk Calendaring machine/ Stentering Machine/ Decatizing machine other fabric finishing equipments
- Warp & Weft knitting machine for silk (Circular Knitting machine /warp Knitting machine /Flat bed Knitting machine /socks knitting machine)
- Silk Sewing & its supporting machinery such as fabric lay cutting machine/ Button stitch sewing machine /stud machine, software for Pattern making/ Chain stitching machine/loop making sewing machine/Power operated flat lock/over lock machine. Zigzag flat bed sewing machine/Decorative stitching machine/ /double stitch sewing machine/Button hole making machine /Silk embroidery machine

**b) Rationalisation of the duty structure:**

5. The current import duty structure in silk sector is inverted with higher duty on raw materials and relatively lower duty on finished products. This imbalance needs to be corrected, while keeping in view the price sensitivity of the sericulture sector. The current price of raw silk and global outlook of production and prices indicates that the prices are expected to remain high in the medium term horizon due to significant fall in world production. Therefore, there is a need for rationalisation of the duty structure of various silk products starting from the basic raw materials i.e. raw silk so that parity could be maintained in the import duty structure on the raw silk and its derivatives such as raw silk (including dupion silk), twisted (thrown) silk and silk fabrics etc. The revised duty structure proposed is designed to provide an opportunity to convert the raw silk into value added finished products, while protecting the interests of the sericulture and reeling sector. It is also suggested to review the duty structure from time to time considering the domestic prices, prices in the international market, landed price of the

imported silk or its derivatives, etc. The table below indicates the present and proposed duty structure for silk items –

| S.No. | Details | Present duty structure % | Proposed duty structure |
|---|---|---|---|
| 1 | Raw Silk | 31.09 | 25.90 |
| 2 | Silk Fabric | 24.14 | 24.14 |
| 3 | Twisted Silk | 24.14 | 24.14 |
| 3 | Silk Waste | 20.07 | 20.07 |
| 4 | Spun Yarn | 24.14 | 24.14 |

**c) Export incentives**

5.5.3. Silk Products (including silk fabric, garments and made-ups) should be covered under **Focus Product Scheme** so that the duty scrip or similar other benefits provided to exporters to compensate the transport and other costs shall apply to all silk products.

5.5.4. Further, sericulture should be included under **Vishesh Krishi and Gram Udyog Yojana (VKGUY).** Sericulture is an agro based industry, employing poor women who form weaker section of the society in the villages. Cocoon production is cottage based and conversion of cocoons to finished products is cottage based. Further, export products made from Tassar, Eri, Muga need to be categorized as “Minor Forest produce and their value added products”. Para 3.8 of the foreign Trade Policy, claims for the inclusion of products under the said scheme are entertained for the export of agriculture produce, minor forest produce and gram udyog products and their value added products. Mulberry Raw Silk is purely a minor forest producer and raw silk produce is a village based cottage industry, thus on this basis silk Industry products should be included under the Vishesh Krishi & Gram Udyog Yojana.

**d) Introduction of price support scheme**

5.5.5. The adverse weather conditions affect production of quality cocoons in major traditional states of Karnataka, Andhra Pradesh, Tamilnadu, West Bengal and Jammu & Kashmir which resulted in fall of prices at the markets and seasonal cocoon purchasing centers. During such situations, fall in the cocoon prices below the normal price (i.e., ≥ cost of production of cocoons per kg) directly affect the farmer community and result in distress sale of cocoons in the Cocoon markets. Also, in the

long run the sericulture farmers resort to uprooting of mulberry plantation and switch to other crops.

5.5.6. "Price Support Scheme" (PSS) for the benefit of sericulture farmers in the country, taking into consideration the suggestions/views of all the silk producing States will be prepared for Mulberry Reeling Cocoons covering all the states in the 4 seri-zones namely**, Southern India – Z1; Eastern & North Eastern – Z2; North Western Himalaya –Z3 & Western & Central – Z4 (details given in the scheme).**

5.5.7. Two Committees one each at Central & State levels to monitor the market prices & for implementing the scheme are proposed to be formed.

5.5.8. The Scheme is applicable to only commercial mulberry cocoons transacted in the Cocoon Markets and Purchasing Centres in the respective States and will be operated only in the designated Cocoon Markets/ Purchasing centres under respective Department of Sericulture of the states.

5.5.9. This scheme comes into effect only when the market situation continues to have low prices than the normal prices for the cocoons for a period not less than a week. The farmers will be eligible to get the incentive amount to a maximum of Rs 15 /kg of cocoon paid against the lot put for sale during the period which is declared as "eligible to get the PSS incentive" based on the average price of cocoons per kg.

5.5.10. The Scheme will be monitored by the respective State Departments of Sericulture with over all coordination from CSB. **The amount will be shared equally between the Central and state govts.**

## NON-FISCAL MEASURES

5.5.11. *Non-fiscal measures,* which are required to provide boost towards improving the quantity and quality of silk in India to enhance income generation capacity of the silk community, and improve the industry's competitiveness and brand image in the world market.

**a) Increased thrust on R&D for scientific ways of increasing silk productivity & quality**

5.5.12. Although the sericulture industry in India has witnessed progress over the decades, the research efforts have proved to be insufficient in developing such silkworm races which can give higher yield and can withstand the vagaries of nature. There is a need to increase thrust on developing silkworm races that are not only resistant to drought/change in climatic conditions, but are also disease-resistant, and high-yielding.

5.5.13. Domestic production of silk needs to be augmented through constant up-gradation of sericulture technology and productivity improvement through research, skill enhancement and modernisation to match the international standards. Sustained R&D efforts are recommended for systematic development and strengthening of silkworm seed production, for improvement in productivity of silkworm food plants through soil enrichment adopting eco-friendly measures and for development of mechanisation in sericulture farming and silkworm rearing to reduce labour inputs.

5.5.14. As a policy initiative, R&D activities should focus on:

- social upliftment of rural population by providing them opportunities for improving their earnings through improved sericulture techniques
- improving productivity and quality of silk to meet the domestic and exports requirements
- eco-friendly approaches to reduce carbon emission, utilisation of solar and non conventional energy, etc

5.5.15. Centrally Sponsored programmes for R&D and extension works through Central Silk Board and State Sericulture Departments shall be strengthened and monitored to achieve these objectives. R & D by private players will be encouraged. Besides, public private partnerships (PPP) can be explored in the R&D areas (especially for the development of cocoon seeds for bivoltine races).

5.5.16. The policy initiatives suggested on the R&D front have been detailed below, for pre-cocoon as well as post-cocoon stages:

***Pre cocoon stage R&D initiatives***

- Constant up-gradation of productivity and quality through the **development of silkworm breeds and their food plants** (Mulberry and Vanya Silk host plants)
- Development of **clonal propagation techniques** for important perennial primary food plants of vanya silks
- Device practices for improving soil health and fertility and cultivation practices to improve the productivity and quality of fodder.
- Develop devices, practices, products, etc to protect the food plant and cocoon crop from various pests, diseases and harsh environment. **Disease forecast and forewarning system** need to be developed to enable the farmers take preventive action to control the diseases.
- Develop **economic farming models and practices** towards optimum utilization of resources and reducing the cost of production aiming at self sustainability.
- Conserving the silkworm and their host plant bio-diversity
- Develop **mechanization in sericulture farming and silkworm rearing** to reduce labour inputs
- ***Remote sensing satellite imaging***

  The existing and potential areas for developing sericulture in the country should be **mapped through ISRO remote sensing satellite images** and schemes will be implemented in a concerted manner in non-traditional new areas as well. CSB has taken up collaborative project with North Eastern Space Application Centre (NESAC) to map and identify the potential areas for development of food plants for mulberry and *vanya* sericulture in the non-traditional States on 1:50,000 scale. The project envisages carrying out an appraisal survey to evaluate the progress of sericulture development (pre and post project) for a few selected areas from the four sericulture zones, and to develop and implement a network of Sericulture Information Linkage & Knowledge Systems (SILKS). The project will play a vital role in utilizing the untapped potential waste land suitable for sericulture. The study in addition to 8 North eastern States will cover other non traditional sericulture states viz Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Himachal Pradesh, Maharashtra, Uttar Pradesh, Kerala, Punjab, Uttarakhand and Orissa.
- CSB Act has been amended in 2006 to bring in quality standards in silkworm seed production to improve the productivity. The Act provides for -
    i. Bringing in quality standards for Silk-worm Seeds of all kinds and its production process;

ii. Authorization of Silk-worm races and hybrids through the Hybrid Authorization Committee for Commercial exploitation,
iii. Silk-worm Seed Certification, through the Seed Certifying Agency;
iv. Registration of notified kind or variety of silk worm Seeds/Seed Producers and Seed Dealers through the Registration Committee
v. Quality norms for Export Import of Silk-worm Seeds.

- **There should be development of technologies and commercialization thereof in collaboration with National Research Development Corporation (NRDC).** The Research Institutes of Central Silk Board have developed a number of technologies which are being commercialized through National Research Development Corporation (NRDC). CSB has signed an MOU with NRDC in this regard. As per the MOU the technologies developed by CSB research Institutes will be patented and commercialized through NRDC. The earnings through commercialization in the form of premium and royalty will be shared between CSB and NRDC @ of 70: 30. CSB has earned amount of Rs 1.039 crores so far as 70% of premium and royalty. As on 2008-09 CSB has assigned 42 technologies for patenting through NRDC of which 33 have been commercialized. During 2009-10, 4 technologies were patented and 4 were commercialized.

***Post cocoon stage R&D initiatives***

- Develop devices, machines, processes, practices, etc to improve the quality of silk yarn and fabric.
- Conduct basic research to widen knowledge base useful in developing new methodologies, practices, devices, products, etc useful in silk industry or allied industries.
- Develop improved reeling, weaving and processing devices for silk at low cost to produce quality silk
- Support initiatives are required for processing and finishing of silk such as degumming, dyeing and printing, etc both in terms of practices and machinery improvement to obtain the desired finishing. Focus should be laid on basic research in this area to expand knowledge base that can be converted into technology.
- Technology inputs to improve the end use of silk, design development, blending silk with other fibers etc.
- Diversification and development of value added products

- Support to universities and other research institutes both at public and private sector to take up zonal based research programme.

**b) Strengthening of extension activities**

5.5.17. Extension staff functions under the control of Director of Sericulture or related departments under the state governments. Extension staff who have put in long years of service, require updation of knowledge on latest technologies and other developments in the sericulture at regular intervals. They are required to be oriented to the current environment. Refresher courses/ training programmes should be organised for the extension staff at regular intervals. Extension activities can also be promoted through NGOs, Krishi Vigyan Kendras and Agricultural Universities. To take up sericulture extension work in non traditional and new potential areas, additional requirement of staff needs to be assessed and proper arrangements are to be made to cover such additional areas.

5.5.18. Most of the sericulture department staff is attuned to the pre-cocoon activities. More emphasis is required on post-cocoon sector. Separate staff may be placed at the district or Assistant Director level to supervise reeling units and other post cocoon activities. They should be given special training in the post cocoon sector with the assistance of CSTRI, Bangalore.

5.5.19. Training institutes available in the states may be strengthened to take up training programmes for sericulture staff in pre-cocoon and post-cocoon sectors. Infrastructure facilities may be provided to take up such training courses and localised research work at these training institutes.

5.5.20. Single window facility for stakeholders in the silk industry, i.e. from farmers to the weavers should be available. At present, sericulture activities upto reeling are handled by sericulture departments and activities beyond reeling are handled by handloom departments in most of the states. Proper structural arrangements may be made in each state to provide single window facility to the stakeholders.

**c) Quality-based pricing and incentive system**

5.5.21. Due to the absence of quality-based price fixation for cocoons, there has been very little quality control. There is need for introduction of advanced systems of quality-based pricing mechanism for cocoons for appropriate and better price realization by the cocoon growers. Reelers are likely to benefit in terms of reelability of cocoons and renditta performance; thereby reducing wastage. This is likely to result in sizeable difference in terms of returns to attract bivoltine cultivation.

5.5.22. It is suggested that there should be an incentive for production of bivoltine silk. The objective of the current scheme is to encourage the production of quality Bivoltine silk by the private and co-operative reeling units. This envisages payment of an incentive of Rs.100 per kg of Bivoltine silk reeled on Multiend / Automatic reeling units in the States of Karnataka, Tamil Nadu and Andhra Pradesh and Multiend / Automatic / Cottage basin reeling units in all the other States. The incentive amount is shared by CSB and State in the ratio of 50:50 (general States) / 90:10 (NE and special status States) in respect of the Bivoltine silk reeled on Multiend / Cottage basin units.

5.5.23. It is suggested that there should be a higher incentive for production of better quality of bivoltine silk.

- The eligibility criteria for providing incentive shall be based on Testing & Grading of raw silk following standard testing procedures. The test results are to be confirmed from the CSB testing institutions/concerned state department/ i.e. the **Bivoltine raw silk which falls 2A Grade & below should be eligible for an amount of Rs.100/kg and the raw silk which falls 3A grade & above should be provided with an additional incentive of Rs. 50 per kg** (to be shared by state & Centre, as at present).

**d) Extension of benefits to the Agriculture and allied Activities to Sericulture Sector**

5.5.24. Sericulture involves food plant cultivation which is an agricultural activity while silkworm rearing is similar to livestock farming and reeling and other processing activity is a small cottage industry practiced by a large chunk of people below poverty line. It is therefore necessary to **treat sericulture at par with agriculture and allied activities and the post cocoon part at par with the small and village /cottage industries to bring parity in extending all benefits** such as:

- Implementation of various schemes like Rashtriya Krishi Vikas Yojana (RKVY)
- Priority lending by banks and exemption from collateral security for availing loans
- Subsidy on seeds & fertilizers
- Inclusion of sericulture under the purview of National Calamity Fund, and
- Similar other benefits enjoyed by Agriculture and Allied Sectors

5.5.25. **Rashtriya Krishi Vikas Yojana (RKVY)** was introduced during XI Plan as an Additional Central Assistance Scheme to incentivise the States to draw up plans for Agriculture and Allied sectors to supplement state specific strategies including special schemes for beneficiaries of land reforms. The objective of the scheme is to promote public investment in agriculture and allied sectors. The broad features of the scheme are suitable for promoting sericulture by the State Sericulture Departments.

**Sericulture and post cocoon activities upto the stage of production of Yarn and marketing has been recently approved under the RKVY and allied schemes** to provide much needed support to this sector**.**

The benefits of the focus areas of Rashtriya Krishi Vikas Yojana can be availed to (i) **improve sericulture extension system, (ii) silkworm seed base, (iii) sericulture mechanization, (iv) enhancement of soil health, (v) development of rain fed sericulture, (vi) integrated pest management, (vii) development of market infrastructure, (viii) promotion of Seri enterprise, (ix) support to non farm activities, (x) special schemes to beneficiaries of land reforms such as marginal and small farmers etc. to maximize returns to the sericulture farmers**. The states would be urged to utilise the benefits of the scheme to incentivise the sector.

**e) Dovetailing Sericulture with other programmes/ funding agencies to tap resources**

5.5.26. **Sericulture should also be included as priority sector in other flagship programmes of the Government such as MGNREGS, SGSY** for providing necessary labour input**,** infrastructure and skill development. For instance, MGNREGS includes raising plantations in order to strengthen forest based livelihoods and improving conservation of natural resources. Raising of Tasar host tree plantations can be included under this scheme to transform large tracts of unproductive fallow lands into long-term assets of local people. Subsequently these families can also be supported further to earn their livelihoods by Tasar silkworm rearing in their plantations. As plantation raising is a highly labour intensive activity, hence large scale promotion of Tasar host tree plantations would generate employment opportunities at a significant scale under MGNREGS. At present only a few states have utilised MGNREGS for sericulture, viz. Orissa, Andhra Pradesh and Jharkand. It is recommended that all other states should also promote sericulture under the MGNREGS and thus facilitate creation of sustainable livelihoods for poorer households and revenue earning for all the states.

5.5.27. Sericulture should be listed as **priority sector for external funding** through agencies like World Bank, Swiss Agency for Development and Cooperation, JICA, UNDP, UNIDO, FAO etc. who have earlier funded sericulture projects in India considering the merits of this sector in improving the rural economy.

**f) Augmentation of supply of raw silk to weavers at attractive price**

5.5.28. As discussed earlier the demand supply gap in India both in terms of quantity and quality of raw silk is likely to continue in spite of increase in domestic production of

raw silk till full benefits of R&D efforts and extension work start showing up in significant increase in productivity. At the same time the supply chain of raw silk, particularly imports, on which large number of weavers from non-silk growing states, is controlled by few large traders who manipulate the prices in the market irrespective of global price. Therefore, there is a need for intervention to augment supply of quality raw silk to the weavers at a stabilised price. In order to achieve this objective the government should allow importing a stipulated quantity of raw silk (not more than 25% of the demand supply gap) at a concessional duty through designated public sector agencies such as NHDC for distribution to the handloom and powerloom weavers through weavers cooperatives/federations through a formulated pricing mechanism to be put in place. The details and modalities should be examined and worked out in detail by appropriate authority.

g) **Silk Bank Scheme**

5.5.29. The Scheme is implemented by the Department of Sericulture, Cooperatives, NGOs etc. The scheme envisages strengthening the Silk exchange with necessary infrastructure like equipments, expansion of the existing market yard, testing facilities etc. The scheme also provides support for creation of non erodable revolving fund for purchasing raw silk at minimum fixed price based on quality parameters. The scheme also support IT application in quality linked price support system and other market operations.

h) **Catalytic Development Programmes to be continued with some modifications**

5.5.30. The Catalytic Development Programme (CDP) is a centrally sponsored scheme continued from IX and X Plans with certain modifications and inputs aiming towards employment generation, quality and productivity improvement and technology up-gradation. CDP is a unique and effective tool for the transfer of technology developed by the research institutes to the filed without much dissemination loss. The scheme is being implemented by the Central Silk Board, Ministry of Textiles in collaboration with 26 states with matching share of the state and equity contribution of the beneficiaries to supplement the efforts of the states in achieving the targets set for XI Plan. The objective of the scheme is to focus on complete and holistic development of sericulture industry in the country involving the states and stake holders for sustainable development of silk industry in terms of quality and quantity improvement. The scheme would catalyze the efforts of the states to increase the production of raw silk including superior quality bivoltine silk and vanya silks.

5.5.31. The CDP schemes should be continued during XII Plan with modifications as below:

- support to increase the area under food plants with higher inputs

- special incentives to farmers to encourage them to take up sericulture in new areas,
- support for strengthening the extension system
- promotion of moisture conservation and water saving techniques to promote rain-fed sericulture
- support to adopted seed rearers and improvement in seed multiplication infrastructure to produce silkworm seed as per quality standards
- creation of infrastructure to improve the quality and productivity
- establishment of reeling and dupion reeling infrastructure to produce import substitute quality silk
- improvement in weaving infrastructure, processing, dyeing, printing etc. to produce quality silk products based on market demands
- skill development in all stages of silk production chain etc.

i) **Cluster approach for integrated development of sericulture**

5.5.32. Cluster is a group of firms or geographically bounded concentration of related activities functioning together in-order to derive enhanced competitive advantage (or collective efficiency) through the development of close relations and linkages (activities) by way of sharing, collaborating to meet a particular market demand.

5.5.33. Sericulture is a group of many on farm and non-farm activities carried out by various agencies in isolation. The sericulture industry needs many backward and forward linkages, common facilities and integrated approach for sustained development. There are many developmental agencies supporting sericulture and there is no satisfactory coordination among these agencies. **The Cluster Development in sericulture would ensure convergence of schemes of Government of India and State Government for sericulture and silk industry development which would reach beneficiaries in the identified clusters and create awareness.** With this kind of cluster approach, the technical innovations could be disseminated systematically to improve the production and productivity. This is an ideal approach for development of sericulture in selected clusters in a planned way.

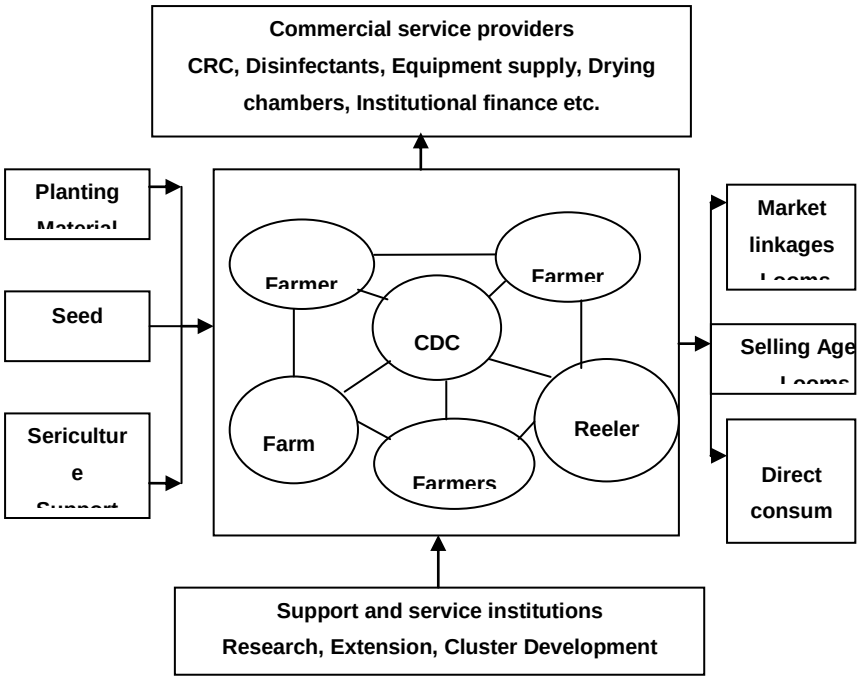
5.5.34. The cluster development also creates interest among other farmers to take up sericulture, mainly due to the reason that from the start of development of mulberry plantation till post cocoon activity, support and constant guidance is given by the implementing agency to the farmers. The cluster development programme brings awareness among the beneficiaries about the latest technologies developed by Central Silk Board / State Departments. The project plays a major role in sustained

development of sericulture as it develops networking among the farmers and help them to work collectively with increased efficiency. The concept of community development has been built into the cluster. Central Silk Board has organized 51 clusters covering 16 states in mulberry, tasar, eri and muga covering both pre and post cocoon sectors.

5.5.35. More sericulture clusters should be established through group approach in potential areas with necessary inputs, forward and backward linkages, credit facilities, R&D and extension support through Institute Village Link Programme for the effective adoption of improved technology packages developed by the research institutes.

5.5.36. Some of the selected clusters should be developed as **Medium-sized Clusters** mainly in the post cocoon areas with hinterland approaches through pre-cocoon clusters to ensure consistent supply of quality cocoons. The cluster development scheme for these clusters would provide requisite support/ linkages in terms of adequate infrastructure, technology, product diversification, design development, raw material banks, marketing and promotion, credit, social security, amongst other key components for the development of the silk sector. The catchment for such clusters could be 5000-10000 looms. Common facilities would also be developed in these clusters for **processing, degumming, dyeing,** etc.

5.5.37. The sub-group has suggested **development of medium-sized cluster catchments in Sibsagar (Assam), Kanchpuram (TN), Benaras (UP), Hindupur/Dharmavarm (AP), Bagayya (Jharkhand), Bhagalpur (Bihar), Chanderi (MP) and Champa (Chhattisgarh).** The concept and the modalities for same would have to be discussed in detail with states, stakeholders etc. The following approach could be conceived after detailed discussion –



### j) Measures for product development & diversification

5.5.38. Specific efforts are required to promote development of basic designs, structures and materials that can be used in production of commercial products. Common infrastructural facilities should be developed for this purpose, which can be utilized by small entrepreneurs who can not afford to make huge investments.

5.5.39. Initiatives are required in creating awareness and promoting uses of silk, their byproducts, etc in the new areas such as bio-medical applications in medicinal industry, surgical applications, genetic engineering areas, cosmetics, handicrafts, ceramic industry, sports industry for the production of mulberry tipped hockey sticks, cricket bats, oil and soap industry, poultry foods, aviation industry etc.

### k) Generic Promotion of Indian Silk

5.5.40. Generic promotion of Indian silk needs to be taken up to create a mental picture of the comforts of Indian silk and the mind set that the Indian silk has no real substitute and it enjoys the status that is exclusive and rich in Indian traditional designs. It is also necessary to create an increased awareness among the consumers about different varieties of silks produced exclusively in India, different aspects of natural & eco friendly silks primarily produced by the small farmers and tribals inhabiting the forest areas. Economic importance of Indian Silk in improving the economic status of the country, employment potentials of silk industry etc. The ethnic values of Indian silk and varieties of designs handloom weavers in India can produce needs to be highlighted to create a brand image of Indian Silk. This kind of brand image can create a market niche for Indian Silk in domestic and global markets. Developing a knowledge base about Indian Silk in domestic and global platforms, Tips for “Indian Silk care”, should also be a part of the brand boosting exercise. Brand building process of Indian silk should include various publicity and promotion programmes in the form of exhibition, road shows, mass media campaigns covering print and electronic media, by participation in the domestic and international exhibitions, trade fairs, promotional schemes, seminars, workshops etc.

l) In view of the dumping of **twisted silk yarn** by China at cheaper rates, efforts should be made to initiate anti-dumping procedures to check that in order to protect the domestic twister units.

m) The issue of fixing an appropriate period for silk imported under advance licensing will also be taken up.

n) There should be an increased subsidy for silk reeling and silk weaving machinery under TUFS.

### o) Recommendations for Vanya silk sector

5.5.41. India has the unique distinction of producing the commercial varieties of non-mulberry silk. These varieties of silk fetches premium in the international markets. Therefore adequate thrust should be laid for development of this segment of the silk industry.

5.5.42. Central Silk Board has been promoting various eco friendly production and processing techniques in various stages of silk production. The Vanya Silk producing states like Jharkhand have already accredited the entire production process of tasar silk through approved accredited agencies to get eco silk certification. Central Silk Board is promoting such efforts of the states to get eco silk certification. Eco Silk has specific market demand in European countries and it can create a global market niche. Eco Friendly production process is easier in Vanya Silk as they feed on naturally grown host plants and the silk produced is of natural colour without any chemical intervention.

5.5.43. Vanya silks should be promoted as Eco Silks; following measures can be taken for this purpose:

- provide support for eco friendly production and processing of Vanya silks in the form of subsidy/incentives
- Supporting accreditation of the entire production process through approved accredited agencies to get eco silk certification.
- R&D support for promoting technology packages to adopt eco friendly production process

5.5.44. Besides promotion of Vanya Silk as Eco silk, additional measures can be adopted for development of this segment:

i. Allowing free trade of Vanya silk commodities such as dfls, cocoons, yarn etc, across the states to ensure remunerative price to primary producers

ii. Integrated development of Indian Vanya Silks in the country through the implementation of Technology Mission

iii. Demarcate Vanya silkworm seed zones for producing quality seed through adopted seed rearers.

5.5.45. The Vanya Silk Industry is limited to few remote clusters and they produce limited products like Chhadar, Mekla, Shawls etc. with limited designs without much value addition. The Central Silk Board as a part of Vanya Silk Market Promotion programme will take up collaborative project with NIFT, Bangalore, Army Institute of Fashion Design (AIFD), NIFT – TEA – Knitwear Fashion Institute, Tirupur, Sports King Institute Ludhiana and other institutes to develop exclusive Vanya silk apparels,

home furnishings, life style products, knitwears, fashion products etc. to ensure better value addition to Vanya silk products. More such collaborative project should be taken up for the market promotion of Vanya Silk. Market research will be conducted to suggest end-use of Eri and Muga silk. .

# 4.A. ANNEXURE

## 4.A.1. PRODUCT-WISE IMPORT: ANALYSIS

**Raw silk**

4.A.1. Almost the entire requirement of imported raw silk comes from China, which accounts for 99% of India's total raw silk imports (2008-09). Raw silk imports into India have been rising sharply. In 2008-09, imports surged by 22.5% to Rs 899.4 crore.

| Raw silk (Rs crore) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Countries** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **% Change over 2007-08** | **Share in 2008-09 (%)** |
| China | 582.4 | 762.9 | 649.9 | 727.5 | 893.5 | 22.8 | 99.3 |
| Brazil | 6.7 | 4.4 | 13.1 | 5.0 | 3.3 | -32.7 | 0.4 |
| Uzbekistan | 1.0 | 2.9 | 7.7 | 1.1 | 1.3 | 15.6 | 0.1 |
| Hong Kong | 0.2 | 0.4 | 0.4 | | 0.9 | n.a. | 0.1 |
| Vietnam | | 2.5 | 0.8 | | 0.4 | n.a. | 0.0 |
| **World** | **637.4** | **779.7** | **673.4** | **734.4** | **899.4** | **22.5** | |
| ***Source: DGCI&S, D&B India*** | | | | | | | |

**Silk yarn & fabrics**

4.A.2. India imports silk yarn and fabrics worth over Rs 800 crore annually, almost entirely from China. In 2008-09, silk yarn and fabrics imports declined by 2.6%, reflecting lower imports from China, which accounted for 97% of India's total imports of silk yarn and fabrics.

| Silk yarn & fabrics (Rs crore) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Countries** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **Change over 2007-08 (%)** | **Share in 2008-09 (%)** |
| China | 771.6 | 924.7 | 863.6 | 796.0 | 786.9 | -1.2 | 97.1 |
| Hong Kong | 11.7 | 8.7 | 3.8 | 5.2 | 2.9 | -44.6 | 0.4 |
| Korea Republic | 4.2 | 12.3 | 16.8 | 16.2 | 3.1 | -80.9 | 0.4 |
| Vietnam | 1.0 | 1.4 | 3.1 | 3.9 | 10.3 | 162.4 | 1.3 |
| Italy | 1.2 | 3.8 | 2.5 | 2.1 | 2.2 | 3.3 | 0.3 |
| **World** | **803.1** | **964.6** | **899.8** | **832.1** | **810.5** | **-2.6** | |

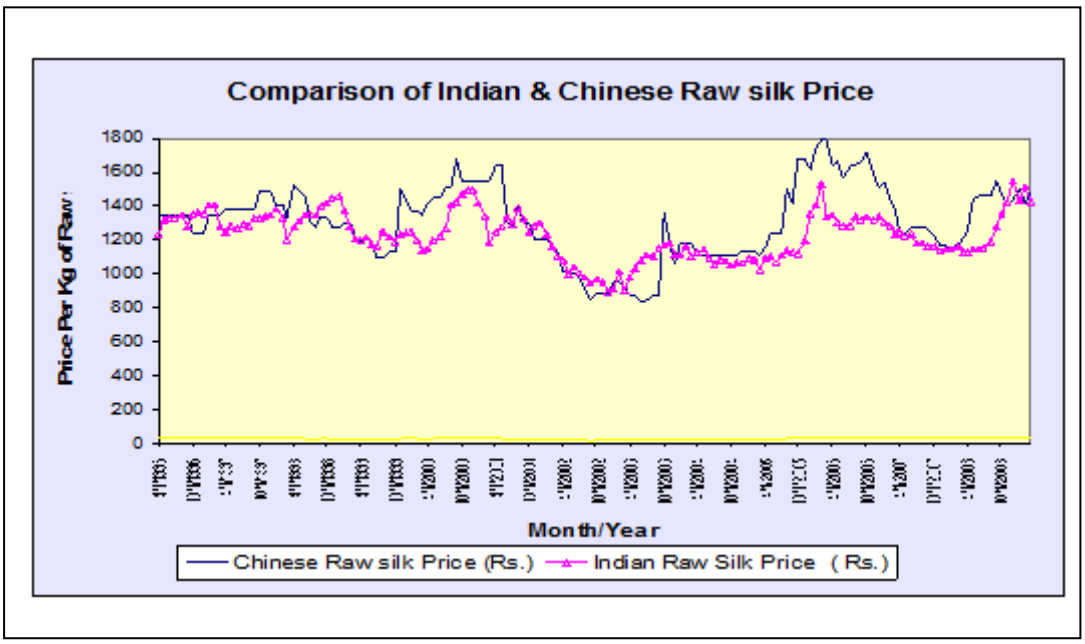
*Source: DGCI&S, D&B India*

**Domestic and International Price of Raw Silk**

4.A.3. The following table depicts the price trend of cocoon and raw silk in the country-

| Price trend of cocoon and raw silk in the country (Rs/ kg) | | |
|---|---|---|
| **Year** | **Cocoon (Rs per Kg)** | **Raw Silk (Rs per Kg)** |
| FY 03 | 92 | 805 |
| FY 04 | 126 | 984 |
| FY 05 | 114 | 915 |
| FY 06 | 135 | 1052 |
| FY 07 | 129 | 1062 |
| FY 08 | 119 | 1026 |
| FY 09 | 135 | 1285 |
| FY 10 | 194 | 1691 |
| Source: Central Silk Board, D&B India | | |

4.A.4. The domestic price mainly depends on the landed price of Chinese silk. The graph below indicates the comparative price of Indian and Chinese raw silk.



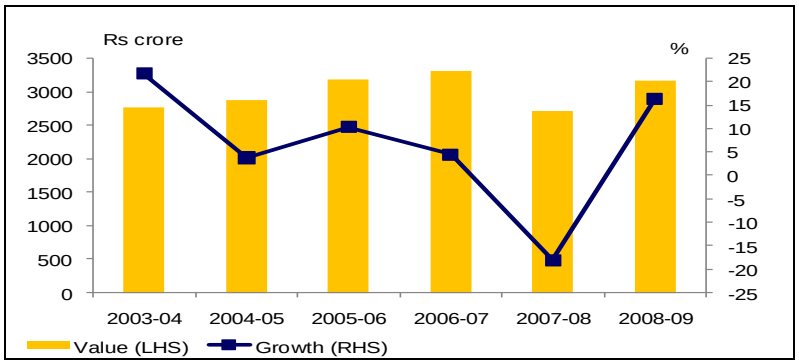
4.A.5. There is an increase price trend during last three years, which has encouraged the farmers to expand the sericulture.

**Silk goods exports**

4.A.6. The export earnings from the silk have showcased an upward trend on the back of increasing demand for Indian silk goods particularly, from the USA and European countries. Exports earnings grew from Rs.2,294.05 in FY03 to Rs.3,338.35 crores in FY07, showing 45.5% growth. However, there was a slump in silk goods exports of about 18.3% (Rs.2,728 crores) during FY08 y-o-y. However, the silk goods export earnings again bounced back to Rs.3,178 crores with 16.5%, y-o-y growth in FY09. Export earnings from silk goods for the period April-2009 to Feburary-2010 was Rs.2,611.51 crores. It is aimed to achieve Rs 4,500 crores silk exports earnings in terminal year of XI plan (2011-12).

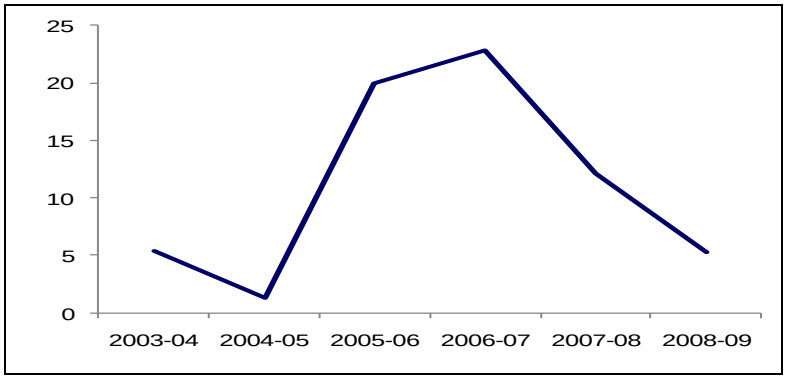
4.A.7. The Indian silk goods have high export potential because of its distinctiveness and low production cost. India has a competitive edge of, being a traditional sericultural country and cultivator of all the four commercially known varieties of silk. The export potentialities of eco friendly natural Vanya Silks (Tasar, Eri and Muga) are yet to be exploited on commercial scale.

**Silk goods exports**




*Source: Central Silk Board, D&B India*

**Silk waste exports (Rs crore)**




*Source: Central Silk Board, D&B India*

## 4.A.2. PRODUCT-WISE EXPORT: ANALYSIS

4.A.8. In the case of natural silk yarn, fabrics and made-ups, during 2008-09, Hong Kong and USA were the leading destinations for exports from India. Cambodia and Netherlands led in terms of growth during the year. USA and Germany have the largest shares in exports of silk carpets from India, while exports of silk carpets to Czech Republic and Monaco recorded highest growth in 2008-09. While USA and UAE are the leading two destinations (share in total exports) in the case of readymade silk garments, Thailand and Bangladesh are the two leading destinations for India's silk waste exports

4.A.9. The table below summaries the leading destinations for India's exports of silk and silk products.

| **Leading export destinations (2008-09)** | | |
|---|---|---|
| **Products** | **In terms of share** | **In terms of growth** |
| Natural silk yarn, fabrics & made-ups | Hong Kong, USA, UK, Germany, Italy | Cambodia, Netherlands Antilles, Afghanistan, Pakistan, Maldives |
| Silk carpets | USA, Germany, UAE, UK, Qatar | Czech Republic, Monaco, Hungary, Philippines, Azerbaijan |
| Readymade silk garments | USA, UAE, UK, Spain, Italy | Georgia, Ecuador, Namibia, Jamaica, Venezuela |
| Silk waste | Thailand, Bangladesh, Pakistan, USA, China | Canada, Bangladesh |

*Source: DGCI&S, D&B India*

4.A.10. Among the various product categories, exports of natural silk yarn, fabrics & made-ups, and readymade silk garments recorded growth of 8.0% and 31.5%, respectively, during 2008-09. Exports of silk carpets and silk waste, on the other hand, recorded decline of 18.6% and 57.0%, respectively.

| **Product-wise exports (Rs crore)** | | | | | | |
|---|---|---|---|---|---|---|
| **Products** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **Change over 2007-08 (%)** |
| Natural silk yarn, fabrics & made-ups | 1,818.3 | 1,895.2 | 1,976.9 | 1,540.9 | 1,664.0 | 8.0 |
| Silk carpets | 127.4 | 103.4 | 132.4 | 72.1 | 58.7 | -18.6 |
| Readymade silk garments | 851.6 | 1154.3 | 1197.2 | 1093.7 | 1437.7 | 31.5 |
| Silk waste | 1.5 | 19.9 | 22.8 | 12.1 | 5.2 | -57.0 |

*Source: DGCI&S, D&B India*

## Natural silk yarn, fabrics & made-ups

4.A.11. During 2008-09, exports of natural silk yarn fabrics made-ups from India rose by 8% to Rs 1,664 crore, over exports in the preceding year. Hong Kong, USA, UK, Germany and Italy are the leading markets for India's exports of these products. Traditionally, USA has been the largest market for India's exports of natural silk yarn fabrics made-ups, with a share of around 20% until 2006-07. However, in the recent couple of years, there has been a change in trend. Honk Kong has taken over the US as India's largest market for these products, with the single largest share of 22.4% in 2008-09. During 2008-09, exports to Hong Kong surged by over 200%. On account of the global financial crisis, exports to the US declined by 21.1% in 2008-09, it being the second consecutive year of lower exports.

| Natural silk yarn fabrics made-ups (Rs crore) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Country** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **Change over 2007-08 (%)** | **Share in 2008-09 (%)** |
| Hong Kong | 127.9 | 151.2 | 72.4 | 94.5 | 372.1 | 293.8 | 22.4 |
| USA | 545.5 | 559.7 | 572.8 | 364.5 | 287.7 | -21.1 | 17.3 |
| UK | 154.6 | 160.1 | 210.7 | 210.1 | 188.7 | -10.2 | 11.3 |
| Germany | 117.5 | 115.9 | 117.1 | 101.7 | 120.4 | 18.4 | 7.2 |
| Italy | 130.4 | 143.6 | 124.9 | 92.3 | 89.8 | -2.7 | 5.4 |
| Others | 742.4 | 764.6 | 879.0 | 677.8 | 605.3 | -10.7 | 36.4 |
| **World** | **1,818.3** | **1,895.2** | **1,976.9** | **1,540.9** | **1,664.0** | **8.0** | **-** |

*Source: DGCI&S, D&B India*

## Silk carpets

4.A.12. Exports of silk carpets from India recorded year-on-year declines in 2007-08 and 2008-09. At Rs 58.7 crore in 2008-09, exports were 18.6% lower than in 2007-08. Exports to USA, which is the largest market for India's silk carpets exports, recorded a steep 29.1% drop in 2008-09. On the other hand, exports to Germany recorded sharp increase. In 2008-09, Germany had a significant share of 24% in India's silk carpet exports, as compared to marginal share of around 5-6% in the preceding two years. UAE, UK and Qatar account for about 5-6% share each in India's silk carpet exports.

| Silk carpets (Rs crore) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Countries** | **2003-04** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **Change over 2007-08 (%)** | **Share in 2008-09 (%)** |
| USA | 38.7 | 43.8 | 32.6 | 33.4 | 20.2 | 14.3 | -29.1 | 24.4 |
| Germany | 33.1 | 16.4 | 22.7 | 8.5 | 6.1 | 14.1 | 129.3 | 24.0 |
| UAE | 2.6 | 3.5 | 4.8 | 3.8 | 5.1 | 3.9 | -23.6 | 6.6 |
| UK | 10.3 | 8.7 | 8.3 | 6.0 | 4.5 | 3.4 | -23.6 | 5.8 |
| Qatar | 0.2 | 0.4 | 0.5 | 0.4 | 1.9 | 3.2 | 66.0 | 5.4 |
| **World** | **120.2** | **127.4** | **103.4** | **132.4** | **72.1** | **58.7** | **-18.6** | **-** |

*Source: DGCI&S, D&B India*

## Readymade silk garments

4.A.13. Exports of readymade silk garments from India have been on a rise. In 2008-09, exports rose by a buoyant 31.5% to Rs 1,437.7 crore. USA, UAE, UK, Spain and Italy are the largest markets for India's readymade silk garment exports, together accounting for over 55% of India's exports (2008-09). Since the last 2-3 years, there has been a shift in the composition of export destination, away from USA and in favour of UAE. Until 2005-06, USA accounted for around 28% of exports of readymade silk garments from India. This share has come down to around 16% currently. On the other hand, share of UAE has increased to 15% in 2008-09, from about 7-8% until 2005-06.

| Readymade silk garments (Rs crore) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Countries** | **2003-04** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **Change over 2007-08 (%)** | **Share in 2008-09 (%)** |
| USA | 196.9 | 229.9 | 323.8 | 266.6 | 229.6 | 233.8 | 1.8 | 16.3 |
| UAE | 66.2 | 73.3 | 76.7 | 110.6 | 131.9 | 210.2 | 59.4 | 14.6 |
| UK | 73.3 | 102.7 | 144.9 | 152.3 | 176.0 | 156.7 | -11.0 | 10.9 |
| Spain | 37.0 | 50.2 | 66.9 | 74.3 | 67.0 | 116.1 | 73.3 | 8.1 |
| Italy | 51.0 | 80.6 | 100.6 | 109.5 | 96.4 | 106.9 | 10.8 | 7.4 |
| **World** | **760.0** | **851.6** | **1154.3** | **1197.2** | **1093.7** | **1437.7** | **31.5** | **-** |

## Silk waste

4.A.14. Exports of silk waste from India have fallen sharply in the recent couple of years, reflecting the fall in exports to Thailand. Total silk waste exports have fallen from about Rs 20-23 crore during 2005-06 and 2007-08, to Rs 5.2 crore in 2008-09. Thailand is the largest market for India, accounting for as much as 87% of exports of silk waste from India.

| Silk waste (Rs crore) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Countries** | **2003-04** | **2004-05** | **2005-06** | **2006-07** | **2007-08** | **2008-09** | **Change over 2007-08 (%)** | **Share in 2008-09 (%)** |
| Thailand | 1.3 | 0.9 | 16.2 | 16.2 | 8.7 | 4.6 | -47.4 | 87.2 |
| Bangladesh | - | 0.02 | 0.03 | 0.03 | 0.3 | 0.4 | 58.8 | 8.0 |
| Pakistan | - | - | - | - | - | 0.1 | n.a. | 1.7 |
| USA | - | 0.04 | 0.01 | 0.4 | 0.1 | 0.1 | -56.6 | 1.0 |
| China | 2.5 | - | 2.6 | 5.5 | 2.9 | 0.05 | -98.3 | 0.9 |
| **World** | 5.3 | 1.5 | 19.9 | 22.8 | 12.1 | 5.2 | **-57.0** | |

*Source: DGCI&S, D&B India*

## 4.A.3. PRIMARY SURVEY FINDINGS

We present below a snapshot of responses of the various stakeholders.

| Stakeholder | Survey responses |
|---|---|
| **Farmers** | *Seed cocoon & silk worm races*<br>• About 70-80% of silk cocoon is supplied by private seed cocoon producers, and many of them lack proper facilities.<br>• Lack of availability of good quality seed cocoon<br>• Strong need for sturdy silkworm races which are highly resilient and drought-resistant and disease-free<br><br>*Higher risk of bivoltine cultivation*<br>• Unwillingness to whole-heartedly adopt bivoltine silk worm rearing on account of absence of sturdy breed/races, extra care and attention needed, higher risk involved, additional costs involved (initial plantation cost, equipments, better rearing houses), need for good irrigation facilities<br>• Advancement in technology has resulted in mulberry feedings reducing from about 10 times a day to about 3 times a day<br>• Lack of training and education needed to rear improved silkworm breeds; problem in adoption and absorption of technology. Nevertheless, with proper hand-holding and training, it is possible to derive good results as has been seen in the Coimbatore cluster, where farmers are not only getting proper guidance and training on appropriate sericulture practices by the government extension staff, but themselves are willing to adopt to latest technology<br>• Due to the marginal price differential between multivoltine and bivoltine, farmers are satisfied with growing multivoltine silkworm and unwilling to adopt bivoltine silkworm rearing<br><br>*Fall in area under cultivation*<br>• Fall in area under mulberry cultivation due to sale of land by farmers due to rising real estate prices; lowering water table, and shifting of cultivation from sericulture to other activities such as horticulture as these activities are more remunerative and avoids uncertainty in terms of income. In Karnataka alone, the area of land under sericulture activities is coming down at the rate of 4-5% each year<br>• In Udumalpet, Tamil Nadu, however, with government hand-holding, it has been possible to increase the area under sericulture practice from 500-600 acres in the early 90s to about 3,600 acres currently. In fact, in the last one year alone, as many as 430 new farmers have entered sericulture in this region<br>• To mitigate the problem of labour shortage and high cost of labour, sericulture farmers are adopting increased use of machinery, in the Udumalpet region. While this has helped them reduce the cost of production, they are dissatisfied with the level of subsidy provided (one-time support of Rs 30,000 per farmer)<br>• Development of IT/BPO sectors in neighbouring cities has resulted in migration of labour to cities, thereby increasing cost of labour for |

<table>
<tr><th>Stakeholder</th><th>Survey responses</th></tr>
<tr><td></td><td>sericulture activities<br><br><u>Chinese imports</u><br><br>• Initially when Chinese raw silk was getting dumped in a large scale, it had resulted in non-remunerative prices for farmers. This had led to sericulture farmers uprooting mulberry and diversifying to other crops (such as cash crops, and other plantation, like coconut, mango, etc.).<br><br>Exhibit 4.4.7: Profit comparison of different crops*<br><table><tr><th>Crop</th><th>Frequency of cultivation</th><th>Profit/Acre/Year (Rs)</th></tr><tr><td>Mulberry</td><td>Monthly</td><td>70,000</td></tr><tr><td>Coconut</td><td>Every 40 days</td><td>30,000</td></tr><tr><td>Sugar cane</td><td>Once in a year</td><td>20,000-30,000</td></tr><tr><td>Maize</td><td>Twice a year</td><td>20,000-24,000</td></tr></table><br>*For Udumalpet (Tamil Nadu); Source: Industry</td></tr>
<tr><td>Reelers</td><td><u>Cocoon availability and grading system</u><br><br>• Sometimes availability of cocoon is a problem, for the reelers do not get enough cocoon to keep their business running smoothly. Shortage of silk cocoon, both in terms of quantity and quality<br><br>• Unsteady availability of cocoon causes problems in smooth functioning of production operations, and thus, impacting steady flow of income<br><br>• Inadequacy of scientific method of sorting (grading) of cocoons results in mixing of bad quality cocoons in the auction market. This results in wastage of cocoons during the reeling process, resulting in increased cost of production to the reelers<br><br><u>Chinese imports</u><br><br>• Dumping of cheaper Chinese raw silk has brought down prices, of both cocoons and raw silk, in the domestic market. Prices in domestic market move in line with dumped Chinese silk prices, thereby causing frequent price fluctuation in the domestic market<br><br>• The current market price (December 2009) of the local raw silk is between Rs 2,000 and Rs 2,100 per kg. The price of the raw silk six months prior to this was between Rs 1,550 and Rs 1,600 per kg and the same one year back (end-2008) was Rs 1,250-1,400 per kg.<br><br>• As sericulture activities are vulnerable to vagaries of nature, a bad crop results in shortage of cocoons, thereby pushing up cocoon prices for the reelers. At the same time, when Chinese imported silk is sold at cheaper rates in the domestic market, domestic reelers are forced to bring down their raw silk prices<br><br><u>Financial distress</u></td></tr>
</table>

| Stakeholder | Survey responses |
|---|---|
| | • Large proportion of reelers has gone out of business<br>• Reelers, particularly the small reelers, are in a poor financial position<br>• Reelers are facing working capital problem. However, due to high loan defaults in the industry, banks are unwilling to offer loans to reelers |
| **Twisters** | • Imports of twisted yarn from China have adversely affected the domestic twisting units<br>• Several twisting units have closed down, or the machinery remains unused<br>• There were about more than 10,000 twisting units in Karnataka before, and more than two lakh persons were earning their livelihood directly and indirectly through these units. Now there are merely about 2,000 units and mostly half of them would be idle for most part of the year for shortage of the raw material<br>• The cost of production during twisting process is between Rs 200-250 per kg. The profit margin usually depends on the demand in the market |
| **Weavers** | • Domestic silk is not available in large quantity and uniform quality<br>• Higher preference for Chinese imported raw silk, which is not only cheaper, but also of uniform quality and length and is available in large quantities<br>• Handloom quality of silk is produced by the multivoltine variety, and standardisation of quality of silk is extremely difficult<br>• Majority of the imported silk yarns from China is confined to two varieties:<br>  ○ 20-22 denier bivoltine yarn<br>  ○ 33-37 denier Tassar yarn<br>• The other varieties, such as yarn deniers starting 13-15 deniers to 18-20 deniers & 26-28 denier are generally supplied by domestic reelers, mainly from Bangalore.<br>• The 20-22 denier bivoltine yarn is demanded at huge quantity by the weavers (mainly Varanasi) because of its appropriateness of quality desired for usage in both hand- and power-looms.<br>• Price fluctuation of the raw silk yarn is one of the most pressing concerns expressed by the weaving community, mainly at Varanasi. Between May 2009 & November 2009, the prices of raw silk have not only increased by almost Rs. 500-550, it experienced day-to-day fluctuation too<br>• There are a few big traders in these centres (Bangalore & Varanasi), who control the price movement in the local markets and ensure that prices are leveled across markets within a very short span of time<br>• It has been brought to notice that a lot of imported silk and silk fabrics are available in the Indian market that has not come through official Customs route; as the traders are not able to produce proper invoice and demand cash transaction for the same.<br>• Multivoltine and non-mulberry varieties of silk are in high demand in the domestic market, mainly for making sarees<br>• Dumping of silk fabrics from China is adversely affecting the domestic weaving industry. The Chinese fabrics are cheaper than the comparable |

| Stakeholder | Survey responses |
|---|---|
| | domestic fabrics, by at least Rs 20-30 per metre. Moreover, the finishing of the fabric is better in the former, mainly because of the superior technology being used in China<br>• Fluctuating high prices of raw silk & rampant import of Chinese fabric are making survival for the weaving community difficult – in terms of losing equivalent amount of business, and hence, looms are facing closures |
| **Exporters** | • Poor image of 'Made in India' brand in the international markets<br>• Unable to fetch price premium as compared with Chinese counterparts, even for comparable quality product |

Source: D&B India

## 4.A.4 COMPARATIVE DUTY STRUCTURE

As can be seen from the composite import duty table below, India imposes the highest duty on imports of silk cocoons as also raw silk, as compared to other producer countries such as China, Thailand and Brazil. India also levies higher duty on imports of silk waste. India, along with Brazil, levies higher duties on imports of silk yarn and yarn spun from silk waste. However, unlike Brazil and Thailand, India levies lower duties on imports of woven fabrics. India's import duties on woven fabrics match those levied by China.

| Comparative import duty structure for silk, silk products & machinery (2008) (%) | | | | | |
|---|---|---|---|---|---|
| **Item description** | **HS Code** | **Brazil** | **China** | **India** | **Thailand*** |
| Silkworm cocoons suitable for reeling | 500100 | 4.0 | 6.0 | 30.0 | 9.0 |
| Raw silk "non-thrown" | 500200 | 4.0 | 9.0 | 30.0 | 10.0 |
| Silk waste, incl. cocoons unsuitable for reeling, yarn waste and garnetted stock | 500300 | 4.0 | 9.0 | 15.0 | 1.0 |
| Silk yarn (excl. that spun from silk waste and that put up for retail sale) | 500400 | 14.0 | 6.0 | 10.0 | 5.0 |
| Yarn spun from silk waste (excl. that put up for retail sale) | 500500 | 14.0 | 6.0 | 10.0 | 5.0 |
| Silk yarn and yarn spun from silk waste, put up for retail sale; silkworm gut | 500600 | 16.0 | 6.0 | 10.0 | 5.0 |
| Woven fabrics of noil silk | 500710 | 26.0 | 10.0 | 10.0 | 17.5 |
| Woven fabrics containing >= 85% silk or schappe by weight | 500720 | 26.0 | 10.0 | 10.0 | 17.5 |
| Woven fabrics containing predominantly, but < 85% silk or silk waste by weight | 500790 | 26.0 | 10.0 | 10.0 | 17.5 |

*Note: Average of all Ad valorem duties in the HS subheading. No Ad valorem equivalents for non-AV duties are included; * 2007;*

*Source: World Trade Organisation*

## 4.A.5. COMPOSITION OF THE SUB GROUP ON SILK

| S. No | Name | Designation |
|---|---|---|
| 1. | Ms Monika S. Garg, Jt Secretary, Min. of Textiles | Convenor |
| 2. | Dr. Bimal Mawandia, ViceChairman, ISEPC, Mumbai | Co-convenor |
| 3. | Shri S. S. Das, Director (Silk), Min. of Textiles | Member |
| 4. | Shri M K Menon, Jt. Director, CSB, Bangalore | Member |
| 5. | Shri Dinesh Singh, ADC O/o DC (Handlooms) | Member |
| 6. | Shri Harminder Singh, Commissioner, Sericulture, Tamil Nadu | Member |
| 7. | Shri Nazeer Ahmed, Reelers of Silk | Member |
| 8. | Shri Vaibhav Kapoor, Varanasi Silk Weavers & Traders Association | Member |
| 9. | Shri Bhavanishankar, VSSPC | Member |
| 10. | Shri T.V.Maruthi, Silk Exporter, Bangalore | Member |
| 11. | Shri A.K.Gupta, Silk Exporter, New Delhi | Member |
| 12. | Shri Dilip Barooah, Fabric Plus | Member |
| 13. | Shri P.Rajendran, Kancheepuram Pure Zari Silk Manufacturers Association | Member |
| 14. | Sh. Amitabh Singh, Great Eastern Exporters Association | Member |
| 15. | Shri Rakesh Kr.Pandey, Shramik Bharti | Member |
| 16. | Shri Nurul Hasan, Jainpura, Varanasi. | Member |
| 17. | Shri Badruddin Ansari, Pilikothi, Varanasi. | Member |
| 18. | Shri Satyabrata. Acharya, Programme Director, PRADAN | Member |
| 19. | Sh. B.S.Ramaprasad, Secretary to Govt. (Mines, SSI & Textiles), Govt. of Karnataka, Bangalore | Member |
| 20. | Shri Vivek Kumar Devangan, Commissioner (Sericulture), Govt. of Manipur, New Secretariat, IMPHAL | Member |
| 21. | Shri Manoj Kumar, Commissioner (Sericulture), Himachal Pradesh, Shimla | Member |

| | | |
|---|---|---|
| 22. | Shri Dhirendra Kumar, Special Secretary (Handloom, Sericulture & Handicrafts), Govt. of Jharkhand, Ranchi | Member |
| 23. | Sh.M.A.Khan, Director, Sericulture Development Deptt, Govt. of J&K, Srinagar | Member |
| 24. | Shri K.S. Menon, Jt. Director. CSB, & & CEO (SMOI), Bangalore. | Member |
| 25. | Executive Director, Indian Silk Export Promotion Council, Mumbai | Member |
| 26. | Shri Shiv Kumar, Publicity Director, Carpet Export Promotion Council, New Delhi | Member |
| 27. | Sh. G.M.Vathanan, Executive Director, Handloom EPC, Chennai | Member |
| 28. | Shri Dinesh Singh, ADC, O/o DC(Handlooms), M/o Textiles, ND | Member |
| 29. | Shri K.K.Shetty, Dy. Secretary (Tech.), CSB, Bangalore | Member |
| 30. | Shri G.S.Nadigar, Research Advisor, Bombay TRA, Mumbai | Member |
| 31. | Shri Dipankar De, Sr.Manager,<br>Dun & Bradstreet Informatión Services India Pvt. Ltd | Member |