

Review Article

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Background, Current Scenario and Future Challenges of the Indian Silk Industry

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ABSTRACT

India is the second largest producer of silk and also the largest consumer of silk in the world having a strong tradition bound domestic market and it has the distinction of producing all the four varieties of silk viz. Mulberry, Eri, Tasar and Muga. In India, due to favorable climatic conditions, mulberry is cultivated mainly in five states, viz., Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal and Jammu & Kashmir. These five states collectively account for 97% of the total area under mulberry cultivation and 95% of raw silk production in the country. The present global scenario clearly indicates enormous opportunities for the Indian Silk Industry. In 2016-17 the mulberry Silk Production Statistics estimated the world silk production to be 192,692 metric tonnes. China's contribution to world silk production is 80% (158,400 metric tonnes), and the share of Indian silk production is 30,348 metric tons (13%). China and India together account for 93% of world silk production. According to the Annual Report of the Central Silk Board (CSB) for the year 2016-2017 the silk scenario of India Domestic demand 36,000 metric tonnes, Own production 30,348 metric tonnes, Gap in production 6000 metric tonnes, Raw silk imports 3795 metric tonnes, Silk fabric imports 3000 metric tonnes, Silk exports (worth Rs.) 2093.42 cr, Sericulture villages 52,360, Sericulture families 9, 47, 631, Employment (lakh persons) 85.10. The market share of Indian silk exports in the global silk trade is 4% to 5%.

Keywords

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Mulberry, Silk
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Introduction

Silk is the most elegant textile in the world with unparalleled grandeur, natural sheen, and inherent affinity for dyes, high absorbance, light weight, soft touch and high durability and known as the “Queen of Textiles” the world over. On the other hand, it stands for livelihood opportunity for millions owing to

high employment oriented, low capital intensive and remunerative nature of its production. The very nature of this industry with its rural based on-farm and off-farm activities and enormous employment generation potential has attracted the attention of the planners and policy makers to recognize the industry among one of the most appropriate avenues for socio-economic

development of a largely agrarian economy like India. Silk has been intermingled with the life and culture of the Indians. India has a rich and complex history in silk production and its silk trade dates back to 15th century. Sericulture industry provides employment to approximately 8 million persons in rural and semi-urban areas in India. Of these, a sizeable number of workers belong to the economically weaker sections of society, including women. India's traditional and culture bound domestic market and an amazing diversity of silk garments that reflect geographic specificity has helped the country to achieve a leading position in silk industry. Asia is the main producer of silk in the world and produces over 95 per cent of the total global output. Though there are over 40 countries on the world map of silk, bulk of it is produced in China and India. India is the second largest producer of silk with 18475 MT (2006-07) and also the largest consumer of silk in the world. It has a strong tradition and culture bound domestic market of silk. In India, mulberry silk is produced mainly in the states of Karnataka, Andhra Pradesh, Tamil Nadu, Jammu & Kashmir and West Bengal, while the non-mulberry silks are produced in Jharkhand, Chattisgarh, Orissa and north-eastern states. About sixty lakh persons are engaged in various sericulture activities in the country. It is estimated that sericulture can generate employment of 11 man days per kg of raw silk production (in on-farm and off-farm activities) throughout the year. This potential is par-excellence and no other industry generates this kind of employment, especially in rural areas, hence, sericulture is used as a tool for rural reconstruction. Sericulture also provides vibrancy to village economies where about 57 per cent of the gross value of silk fabrics flows back to the cocoon growers thus; large chunk of income goes back to the villages from the cities (Table 7).

Emerging scenario

The Indian silk industry is passing through a crucial phase of reorientation and adjustment necessitated by the market forces. Therefore, at this juncture, it will be interesting to examine the extent to which different production and marketing system of the industry are capable of absorbing the changing market signals. It is also necessary to examine to what extent the output of the industry has been changing in terms of quantity and structure as a result of the changing demand patterns. This study addresses itself to some of these important issues relating to the post cocoon sector of the industry.

The silk industry has a distinctive position in India, that plays a significant role in textile industry and export. India is the 2nd largest producer of silk in the world with 23060 metric tonnes (MT) (2011-12) and also the largest consumer of silk in the world and contributes 15 per cent of the total world raw silk production. Geographically, Asia is the main producer of silk in the world and manufactures over 95 per cent of the total global output. Although there are over 40 countries on the world map of that produce silk, bulk of it is produced in China and India, followed by Japan, Brazil and Korea. China is the leading supplier of silk to the world with an annual production of 1,24,000 MT (2011-12), out of which the Mulberry raw silk production is 90,980 MT.

Indian textile industry

A brief history

India is well known for its textile goods from very ancient times. The traditional textile industry of India was virtually decayed during the colonial regime. However, the modern textile industry took its birth in India in the

early nineteenth century when the first textile mill in the country was established at Fort Gloster near Calcutta in 1818. The cotton textile industry made its real beginning in Bombay, in 1850s. The first cotton textile mill of Bombay was established in 1854. From its inception, the industry passed through vicissitude of fortune till it reached its present status. As the industry grew up, the yarn trade with China fetched it good profit. The Indian market was not favourable initially, because of competition with Lancashire goods, but the natural advantages of humid climate, raw materials and an external market helped the growth of the industry considerably. During the later part of the last century, Japan became a rival to India in yarn trade with China and the Far Eastern Asia. During the First World War (1914-1918), Japan obtained better opportunities for marketing her yarn in China (Roy, 1996).

India was dependent considerably on the United Kingdom for the supply of machinery, caustic soda, bleaching powder, etc., for her cotton mills. The home market was not favourable to the industry because of competition with Lancashire fabrics which poured into India in large quantities. Production of yarn was more profitable than the production of cloth, since yarn could be marketed outside. Railway freight charges in India for transporting coal to the cotton mills were high as the coal had to be obtained from the Damodar Valley, the only important coal producing area in the country. It was, therefore, more profitable to import coal from South Africa by sea route for the cotton mills in India. This situation continued till water power was developed in Bombay and other areas in the early part of the 20th century.

The two world wars and the Swadeshi movement provided great stimulus to the Indian cotton textile industry. However, during the period 1922 to 1937 the industry

was in doldrums and during this period a number of Bombay mills changed hands. The Second World War, during which textile import from Japan completely stopped, however, brought about an unprecedented growth in this industry. The number of mills increased from 178 with 4.05 lakh looms in 1901 to 249 mills with 13.35 lakh looms in 1921 and further to 396 mills with over 20 lakh looms in 1941. Thus by 1945, there were 417 mills employing 5.10 lakh workers (Sastry, 1984).

Growth of Textile Industry Since Independence

After independence, the cotton textile industry made rapid strides under the Plans. Between 1951 and 1982, the total number of spindles doubled from 11 million to 22 million. It increased further to over 47 million by 2011-12. The Indian textile sector plays an exceptionally significant role in shaping the economy of India notably in terms of employment, foreign exchange earnings and share in value added. This sector is the second largest sector after agriculture. It has come of age and is gaining acknowledgment on the world platform with excellent textiles manufacturing base and availability of massive raw material. India being the second largest producer of cotton in the world, makes it self-sufficient, by providing a competitive edge to its competitors worldwide in terms of cost of raw materials. Along with abundant cotton production, India has the availability of highly skilled labour at very low prices (Texsummit, 2012).

Domestic consumption

The total Indian consumption of textiles and apparel is estimated at Rs. 2.85 lakh crores, out of which apparel retail contributes Rs. 2 lakh crores, technical textiles contributes Rs. 50 thousand crores and home textiles

contributes Rs. 35 thousand crores. The market has grown at an annual growth rate of 13 per cent, since 2005-06. The domestic consumption has been propelled by several factors such as growing consumer prosperity and awareness, increasing availability of product variations, catching up with international trends, growth of organized retail, etc. On the basis of these factors, it is estimated that the Indian domestic consumption will become Rs. 5 lakh crores by 2016 growing at an overall annual rate of 12 per cent (Government of India, 2013).

External trade

Indian textile and clothing exports have come a long way in the last decade or so, tripling the exports value in this duration. Indian textile and apparel as an export category has excelled several large textile producers of past including Germany, Italy, USA, Turkey, etc. The reasons for excellent growth of textile and apparel exports from India is the country's strong raw material base, design and skill heritage, manufacturing capacities that are flexible for small orders, manpower cost competitiveness and government's incentive schemes for export promotion. India imports textile and apparel goods to the tune of Rs. 20 thousand crores, which comprises mainly of products like high end woolen / worsted fabrics, coated and performance fabrics, other technical textile and speciality products, fine cotton yarn dyed fabrics, premium and super premium garment categories, etc. The main reason for imports is the non-availability of the above said products. In recent years, even some inexpensive articles like raw silk, other fibres, basic fabrics and garments have also made inroads from suppliers like China (Gherzi Report, 2009).

With dismantling of the quota system in January 2005, investments in the textile sector

have been raising and the export percentage too has increased drastically. Other government initiatives such as setting up of Special Economic Zones (SEZs) for textiles, and allowing 100 per cent foreign direct investment (FDI) in the textile sector have not only helped in creating opportunities for Indian entrepreneurs, but also for global investors. The structure of worldwide trade in textiles also marked a significant turn out after this period, as all the textile and clothing products can be traded globally without quota-restrictions. The elimination of quota restrictions on the export of textiles under the Agreement on Textile and Clothing (ATC) did facilitate India in escalating its market share of its major importers, but the growth rate remained much below expectations. The dismantling of the quota regime symbolizes both an opportunity and a threat. It can be an opportunity for the reason that markets will no longer be restricted and, also the domestic market will be exposed to competition. At domestic front, robust economic growth, rising demand, increasing consumerism, expanding organized retail and textile SEZs would provide healthy atmosphere for the growth of industry, whereas it also acts as a threat, as markets will no longer be assured by the quotas (Mayer *et al.*, 2008).

Structure of the Indian textile industry

The textile sector in India is one of the world's largest industries. It is divided into three segments:

1. Cotton Textiles
2. Synthetic Textiles and
3. Others like Wool, Jute and Silk.

All segments have their own place but, even today, cotton textiles continue to dominate with 73 per cent share. The structure of the textile industry is extremely complex with the modern, sophisticated and highly mechanized

mill sector on the one hand and hand spinning and hand weaving (handloom sector) on the other; in between falls the decentralised small scale power-loom sector. Unlike other major textile-producing countries, India's textile industry is comprised mostly of small-scale, nonintegrated spinning, weaving, finishing, and apparel-making enterprises. This unique industrial structure is primarily a legacy of government policies that have promoted labour-intensive, small-scale operations and discriminated against larger scale firms (Rangarajan, 2005).

Silk Industry in India

Silk is a lustrous, tough, elastic fibre produced by the larvae of silkworms; the term also covers the thread or cloth made from this fibre. The silk industry originated in China, as early as 2640 BC according to tradition.

Towards the 3rd century AD, knowledge of the silkworm and its product reached Japan through Korea; it probably spread to India a little later. India is the largest consumer of silk in the world. Silk is a unique fabric which has gradually crept in everybody's home in some way or the other. The Indian silk industry is an integral part of the Indian textile industry and is among the oldest industries in India. It engages around 60 lakh workers and it involves small and marginal farmers. Indian silk industry is the second highest contribution of silk to the world production. Consistent market demand and remarkable approach has led to the widening of this industry (Bhushi and Pharsiyawar, 2004).

Silk is mainly produced in Pochampally, Kanchipuram, Dharmavaram, Mysore, etc., in South India and Banaras in the North for manufacturing garments and sarees. "Murshidabad silk", famous from historical times, is mainly produced in Malda and Murshidabad districts of West Bengal and

woven with hand looms in Birbhum and Murshidabad districts. Another place famous for production of silk is Bhagalpur. The silk from Pochampally is particularly well known for its classic designs and enduring quality. The silk is traditionally hand-woven and hand-dyed and also usually has silver threads woven into the cloth (Sastry, 1984).

Among the four varieties of silk produced, in 2014-15, Mulberry accounts for 74.51% (21,390 MT), Tasar 8.5% (2,434 MT), Eri 16.5% (4,726 MT) and Muga 0.55% (158 MT) of the total raw silk production of 28708 MT. Production of raw silk in India during the year 2015-16 (April to August- 2015) has been 9,590 MT in which, mulberry and Vanya raw silk output amounts to 7,053 MT and 2,537 MT, respectively.

Export and import performance of silk

India exports considerable quantity of silk goods and the value of these silk goods is more than 15 per cent of the total raw silk production. India's export includes Dress Materials, Readymade Garments, Saris and Made-up articles for interior decoration. India's export has adequately progressed during the study period with both quantity and value of export showing high and significant growth.

This increased growth is also accompanied by higher volatility. India exports mainly to 10 countries viz., USA, UK, Hong Kong, German People Republic, Italy, France, Spain, Saudi Arabia, UAE and Singapore. The share of total Indian exports to these 10 countries constitutes 80 per cent (Table 1, 2 and 3).

Raw silk imports

The quantity and value of raw silk imported during XI Plan and during the first 4 years of XII Plan are given below:

Exports

Including silk yarn, fabrics & made-ups, silk waste and silk RMG

The Indian silk goods are being exported to the traditional major markets like the USA and European countries and small markets of Asia Region. The silk goods export earnings decreased over the years due to global recession. The export earnings during 2014-15 were Rs.2,829.88 crores. Export values of silk goods during XI Plan and during the first 4 years of XII Plan are given below: Table 6 shows an increase in the import of silk yarn and fabrics from the year 1999-00 to 2006-07. The import of silk yarn and fabrics was 1.62 in the year 1999-00 and it rose to 23.59% in the year 2006-07 (Table 4 and 5).

Silk mark expo

In order to ensure that Silk Mark gains further credibility & popularity, Silk Mark Expos are being organized exclusively for Silk Mark Authorized Users from across the country. The Expo is an ideal platform not only to popularize Silk Mark but also in bringing the manufacturers and the consumers under one platform for buying and selling of pure silk products. Substantial business for the participants is generated during this event. During the event massive awareness and publicity campaigns are carried out by the SMOI. During the year 2015-16 (till September-2015) seven Expos have been organised at Guwahati, Kochi, Puducherry, Thiruvananthapuram, Bhubaneswar, Kolkata & Ranchi against the annual target of 22 Expos.

Brand promotion & technology up-gradation

During XII Plan, this new component is being implemented for the Brand Promotion of Indian Silk. This will provide tremendous

impetus to the Indian Silk export promotion in international market. This can be in the form of advertisement and market promotion, participation in international show as 'Indian Silk Brand', establishment of laboratories at Kolkata, Sualkuchi for silk testing, etc.

Promotional programmes for Indian Silk at Sualkuchi, Uppada and Chanderi have been completed. • Exclusive Indian silk portal is under development. • Participated in ISC congress by showcasing the products developed at Sandur Kushala Kala Kendra, Bellary district by utilising the services of renowned visual artist from France Ms. Isabella Arcerio and the tribal women based in Sandur. • An exclusive e-commerce portal, www.silkmark.gocooop.com to promote the products of silk clusters has been set up. In the first phase, five clusters namely Varanasi, Bhagalpur, Uppada, Pochampalli and Sualkuchi have been covered. A fairly good response is being received for the portal from the consumers.

Strengths of sericulture industry

Sericulture has been identified as an occupation of low investments, employment creating and income generating. It has been found that sericulture is highly profitable as compared to many other crops. Sericulture involves simple technologies, easy to understand and adopt even by illiterate farmers and it gives returns in quick succession yielding income in every two or three months. Sericulture does not involve hard labour and rearing of silkworms is generally attended to by women and old people. Sericulture does not require sophisticated machinery and it involves use of simple appliances. Mulberry plants can be grown in any type of soil even in forest fringes, hill slopes and watershed areas. Sericulture ideally suits even in rain fed conditions because of its low cost of production and higher returns than any other

crop. Mulberry plant withstands severe drought conditions and gives at least some income for sustenance while other agriculture crops wither away. Sericulture would be a more advantageous industry for improving the economy of retarded section of the society like scheduled caste and scheduled tribes. Non- mulberry sericulture is largely practiced by the tribals. Sericulture ideally suits small and marginal farmers.

In developing countries like India, agriculture and agro-based industries play a vital role in the improvement of rural economy. The limited availability of land, the limited cash returns, and agriculture being confined to one or two seasons in the year, have made villages to look for supporting rural industries, such as sericulture.

Agriculture and sericulture are adopted simultaneously by the agriculturists in regions where the ecological conditions are favourable. In India, over three million people are employed in various fields of sericulture. It is a cottage industry and provides ample work for the womenfolk in the rural areas in rearing silk worms, while the male members work in the fields. Recently the enforcing of new ideas by research institutions both in mulberry cultivation and silk-worm-handling among sericulturists, the industry is now practiced as a main profession and as a major cash crop of the country.

The strengths of silk industry can be summarized as follows:

Enormous production capacity
Efficient raw material manufacturing capacity
Large pool of skilled and cheap labor
Entrepreneurial skills
Enormous export potential
Large domestic market
Very low import content
Flexible silk manufacturing systems
The strength of this industry lies in its wide

base, the sustaining market demand pull especially from the Indian handloom weaving sector, the infrastructure created by the national sericulture project and the research and training capabilities.

Problems of Indian sericulture industry

Though sericulture is ideally suited for improving the rural economy of the country, as it is practiced as a subsidiary industry to agriculture, it is hindered by various factors like imports of cheap and alternative textiles from other Asian neighbours, use of outdated manufacturing technology, primitive and unscientific "reeling" and "weaving" techniques, use of poor quality seeds, low production of bivoltine seeds, use of non-graded and diseased seeds, poor knowledge of farm disease amongst farmers, poor supply chain management, huge unorganized and decentralized sector, high production cost, recurring droughts and increased import of silk from China and accompanied with the following problems like:

1. Price fluctuation
2. Absence of proper market
3. Long distance to market
4. Lack of transport facilities
5. Absence of storage facilities
6. Poor information on market trend.
7. Lack of finance

In conclusion, today the Indian silk industry is already a major player in the global scenario and the growth prospects for the industry seem to be buoyant. Favorable climatic conditions and participation of large number of women in sericulture industry will lead to the development of silk industry to a greater height.

Table.1 Performance of sericulture sector and achievement of silk industry during the plan period

	XI Plan (2011-12)	XII Plan (2012-17)	XII Plan Achievements			
	Achievement	Target	2012-13	2013-14	2014-15	2015-16* (p)
Mulberry Plantation (Lakh ha.)	1.81	2.40	1.86	2.03	2.20	2.20
RAW SILK PRODUCTION						
Mulberry(Bivoltine)	1,685	5,000	1984	2,559	3,870	1,696
Mulberry (Cross Breed)	16,587	18,000	16731	16,917	17,520	5,357
Sub Total (Mulberry)	18,272	23,000	18,715	19,476	21,390	7,053
V A N Y A						
Tasar	1,590	4,562	1729	2,619	2,434	221
Eri	3,072	4,238	3116	4,237	4,726	2,234
Muga	126	200	119	148	158	82
Sub Total (Vanya)	4,788	9,000	4964	7,004	7,318	2,537
GRAND TOTAL	23,060	32,000	23,679	26480	28,708	9,590
Cumulative Employment Generation (Lakh persons)	75.60	92.42	76.53	78.50	80.30	---

The State-wise production of Raw silk during 2012-13, 2013-14, 2014-15 & 2015-16 (up to Aug-2015) are given in Annexure-I.

Table.2 Import of raw silk

Value in Rs.Million

Year	Quantity in tonnes	Value (Rs.)
1997-98	1876	2183.31
1998-99	1984	2593.64
1999-00	5018	4127.44
2000-01	4713	4732.61
2001-02	6808	6247.30
2002-03	9054	6471.50
2003-04	9258	6291.7
2004-05	7948	6374.3
2005-06	8383	7797.1
2006-07	5565	6733.7
2007-08	7922	7344.4
2008-09	8392	9030.6
2009-10	7338	9337.0

Source: Ministry of Textiles in India

Table.3

Year	Quantity (MT)	Value (Rs. in Crores)
XI Plan 2011-12	5683	1111.53
XII Plan 2012-13	4959	1238.56
2013-14	3260	896.44
2014-15	3489	970.82
2015-16* (p)	1443	412.47

Source: DGCIS, Kolkata.

* Upto August-2015, (p)provisional

Table.4 Export of silk from India (Rs in Crore)

Year	Exports (Rs)	Trend value (Rs)
1997-98	1006.43	1422.85
1998-99	999.45	1593.74
1999-00	1755.55	1764.64
2000-01	2421.98	1935.53
2001-02	2359.56	2106.43
2002-03	2294.05	2277.32
2003-04	2779.19	2448.22
2004-05	2879.56	2619.11
2005-06	3194.20	2790.01
2006-07	3338.35	2960.90
2007-08	2727.87	3131.80
2008-09	3178.19	3302.69
2009-10	2892.44	3473.59
2010-11	-----	3644.48

Source: CSB, Bangalore

Table.5

Items	XI Plan (2011-12)	2012-13	2013-14	2014-15 (p)	2015-16* (p)
Natural Silk Yarn	19.68	21.96	36.25	25.38	5.51
Silk Fabrics	1497.97	1410.31	1455.63	1465.40	255.30
Readymade Garments	765.83	787.15	874.00	1214.01	850.58
Silk Carpet	20.08	21.14	15.71	15.97	6.52
Silk Waste	49.77	62.97	99.30	109.12	38.19
Total	2353.33	2,303.53	2480.89	2829.88	1156.10

Source: FTSI & MSFTI, DGCIS, Kolkata

*upto August-2015, P: provisional

Note: Final Data is based

on ITC (HS) codes details received from source data

Table.6 Import of silk yarn and fabrics

Year	Value in rs. Million	
	Silk yarn & fabrics	% of import
1999-00	619.75	1.62
2000-01	910.21	2.38
2001-02	1729.94	4.53
2002-03	2930.4	7.68
2003-04	5298.9	13.88
2004-05	8030.6	21.04
2005-06	9645.8	25.27
2006-07	9004.9	23.59

Source: Ministry of Textiles in India

Table No.6 shows an increase in the import of silk yarn and fabrics from the year 1999-00 to 2006-07. The import of silk yarn and fabrics was 1.62 in the year 1999-00 and it rose to 23.59% in the year 2006-07

Table.7 State wise Raw Silk production during 2012-13 to 2015-16 (in MT)

S.No	State	Achievement			
		2012-13	2013-14	2014-15	2015-16 (P) (upto Aug 2015)
1	Karnataka	8219	8574	9645	3576
2	Andhra Pradesh	6550	6912	6485	1558
3	Telangana	-	-	101	27
4	Tamil Nadu	1185	1120	1602	776
5	Kerala	6	4	7	3
6	Maharashtra	97	122	221	74
7	Uttar Pradesh	157	188	236	36
8	Madhya Pradesh	190	195	248	24**
9	Chhattisgarh	391	391	234	37
10	West Bengal	2070	2079	2500	687
11	Bihar	22	52	53	1.34*
12	Jharkhand	1090	2003	1946	180*
13	Odisha	104	53	98	1.74
14	Jammu & Kashmir	145	136	138	131
15	Himachal Pradesh	23	25	30	25
16	Uttarakhand	17	22	29	16
17	Haryana	0.13	0.13	0.3	0.37
18	Punjab	5	4	4	1.02
19	Assam & Bodoland	2068	2766	3222	1859**
20	Ar.Pradesh	22	15	12	8*
21	Manipur	418	487	516	147*
22	Meghalaya	517	644	656	155*
23	Mizoram	40	44	50	30
24	Nagaland	324	606	619	218*
25	Sikkim	3	0.20	8	3*
26	Tripura	15	40	48	15*
	Total	23,679	26,480	28,708	9590

Measures like the encouragement of additional technological and economic research in the various aspects of sericulture, standardization and quality control of silk and silk products, provision of quality seeds, imparting knowledge among the farmers regarding farm disease and rationalization of marketing and stabilization of prices of silk cocoons and raw silk, it could expand rapidly than ever before. Though, this sector has been identified as a sector of the Indian economy with strong potential to create jobs and able to contribute to foreign trade, it is not even nearer to the production of china. With Japanese technology and cooperation, Central Silk Board has recently been able to evolve and popularize Bivoltine silkworm races which can yield raw silk of international standards thereby increasing production. With these races, we can expect reforms in the marketing and processing of cocoons, India can hope to develop its sale of domestic raw silk beyond its own borders. In conclusion, it can be said that India can take up the challenge of production of high quality silk in required quantity to meet the domestic requirement as well as to earn valuable foreign exchange. The textile sector is also developed to support the agro system so that optimum value addition is possible.

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