Modernisation in Textile Industry & The Textile Engineering Industry

Source: New Cloth Market

Image Courtesy: rediff.com

Modernisation of Indian Textile Industry
&
The Textile Engineering Industry of India

by
Mr. S. Chakrabarty, Secretary General*
Textile Machinery Manufacturers' Association (India)

MODERNISATION

Textile Industry

Modernisation is a continuous process and there should be concerted efforts to modernize both machinery and manufacturing processes regularly. It is general experience that units which maintained the process of modernisation systematically could manage to sustain their growth in the long run.

Modernisation in fact is needed to increase production, reduce the cost of production, rationalize labour, reduce maintenance and power cost per unit of production etc. Due to a number of factors, the vast majority of the textile units in India never tried to regularly modernize their units. As a result the Indian Textile Industry had been suffering from technological obsolescence since the beginning of the 20th century.

Backlog of modernisation

There was a census of machinery carried out by the Office of the Textile Commissioner during 1979-80. Based on this census, the modernization requirement was estimated as Rs. 1,500 crore. During the 1980s, the Government introduced a soft loan scheme for modernization with an outlay of Rs. 750 crore. It turned out the main beneficiary of the Scheme was the spinning sector. After the liberalization of the import policy in 1991 it is by and large only the spinning sector, which became very vibrant and there was huge capacity expansion in the decade of 90s. Here also all the spinning machinery discarded/replaced by the textile mill industry found a new home in small spinning units located in and around Coimbatore-Tamilnadu, Ahmedabad- Gujarat and some other places in the country. Still, by and large, the spinning sector got

modernized and large number of 100% Export Oriented Units came into existence.

The same thing did not happen in the Weaving Sector. There was total ban on expansion of weaving capacity in the composite mills sector/organised sector since the 1960s. This led to the mushrooming of the powerloom units all over the country during 1960s, 1970s and 1980s. The Government periodically "regularized" such units by issuing permits. Whatever looms were discarded by the organised industry as per the replacement policy in force, used to find their way to the decentralised sector. In the year 1985, the Textile Policy liberalized the decentralized weaving sector from the permit raj and all unauthorized powerlooms with old and obsolete technology (the looms discarded by the mill sector) were again regularized by way of registration.

With a view to modernize the Weaving Sector, under the pressure of the Industry, the Government liberalised import of old and outdated Sulzer looms which were available abroad at very cheap prices during 90s. At the same time the Government did not make any attempt to reduce the cost of manufacturing shuttleless looms in the country by reducing/rationalizing duties and taxes on imported components and creating a level playing field. The facilities of concessional rate of customs duty on actual user condition were removed during 1992 after liberalization of the trade and industrial policy in 1991. These policies for the user sectors (Textile Industry) were liberalised but the Textile Engineering Industry sector along with other Capital Goods sectors were left to fend for themselves without any level playing field. The foreign machinery manufacturers reaped full benefit at the cost of the domestic machinery manufacturing industry. The overall situation did not change.

The history of textile Processing and Finishing Sector was somewhat different. Due to the disintegration of the composite structure of the textile industry during 70s and 80s, the decentralized processing sector emerged. At present there are over 4,500 power processors and 9,000 hand processors in the country. Huge demand for processed fabrics in

short lots created the preference for old technology and batch process machinery in the processing sector.

Though there were number of foreign collaborations during 1970s and 1980s, the processing machinery manufacturers also moved according to the tide during this period. However, the trend changed to some extent during late 1980s and 1990s when many of the machine manufacturing companies took up development of hi-tech machines with or without foreign collaboration. This trend continued later.

It is of course worthwhile to mention that some reputed textile mills in the country continued their modernisation efforts during late 80s, 90s and further, by procuring hi-tech processing & finishing machinery from domestic as well as foreign sources.

Technology Upgradation Fund Scheme (TUFS)

The prevailing technological obsolescence in the textile industry forced the Government to reassess the requirement of modernization of the Textile industry and worked out the need for modernization assistance to the extent of Rs. 25,000 crore to the Textile Industry during late 1990s. Ultimately the Technology Upgradation Fund Scheme (TUFS) was introduced from April 1999 specifically with a view to modernize the Weaving and Processing sectors. However, there were almost no takers in the first three years of the Scheme. The effort of the Government was to see a homogeneously modernized Textile Industry in 2005 to counter the Free Trade Regime under WTO. However, this effort culminated into further modernisation of the spinning sector in a big way. In weaving sector it could see the installation of only 25,000-30,000 shuttleless looms during 1991 to 2004. Even after liberalization of import of outdated shuttleless looms, the modernization process remained incomplete.

In the processing sector, the benefits of the TUFS were availed by few units while the technology level of the industry in general was very low. The demand for hi-tech machinery in processing and finishing was also

very limited due the presence of a large decentralised processing sector which had come into existence after disintegration of the composite textile sector. While the Government came with 20% credit Linked Capital Subsidy scheme for the Weaving sector, a special 10% upfront Capital Subsidy scheme over and above the interest subsidy was introduced for Processing sector to boost the modernisation process. This scheme helped some of the low tech units to go in for hi-tech as the cost of modernisation became substantially lower.

All these efforts of the Government encouraged textile units to invest over Rs. 74000 Cr on plant and machinery since 1999 under TUFS. The textile industry has increased their spindleage from 20 million (working & non working) in early 90s to almost 32 million (working) in 2010. The loomage also increased from 1.4 million to 2.5 million (approx).

Thus, it may be seen that the Government took several steps to improve the competitiveness of the textile industry whereas no steps were taken to modernise the textile engineering industry to become competitive and capable of developing hi-tech machinery in the country.

Textile Engineering Industry

History

The organised mill sector of India is almost two centuries old. However, almost all the machinery requirements of the mill industry used to be met through imports till the 1920s. In the 1920s, India's textile engineering industry took its first steps with the manufacture of some parts and accessories.

The prices of imported machinery started rising steeply after the Second World War. The Indian textile industry found it extremely difficult cope with the situation as the cost of replacement and purchase of machinery became uneconomical. This prompted the beginning of the Textile Engineering Industry (TEI) in India. The initiatives came from the textile industry to set up the textile machinery manufacturing units in the country.

TEXMACO, CIMMCO, Mafatlal Engineering and Lakshmi Machine Works are some of the examples which show the heavy investments made by the textile industry then to get their requirement of textile machinery at a reasonable cost as the imports were getting dearer and availability of foreign exchange became scarce during 1940s/50s/60s. Other players started coming into textile machinery from the 1970s onwards.

Present Status

The TEI in India is one of the five key sectors of the capital goods industry. Ever since its beginning during the 1940s, it created a strong engineering base capable of manufacturing almost the entire range of machinery for main three sectors of the textile industry, viz spinning, weaving and processing. Having supplied over 70% of the requirements of the textile industry from the 1960s to the 1990s, it has over the last five and a half decades, built up an annual estimated capacity of over Rs. 8000 crore of complete machinery and other equipment, right from opening up of the fibres to the production of finished fabrics with an investment of Rs. 6,900 crores. There are 1446 units, 598 units manufacturing complete machinery and 848 units making parts and accessories. More than 80% of the units are SMEs. It provides employment directly or indirectly to > 250,000 people.

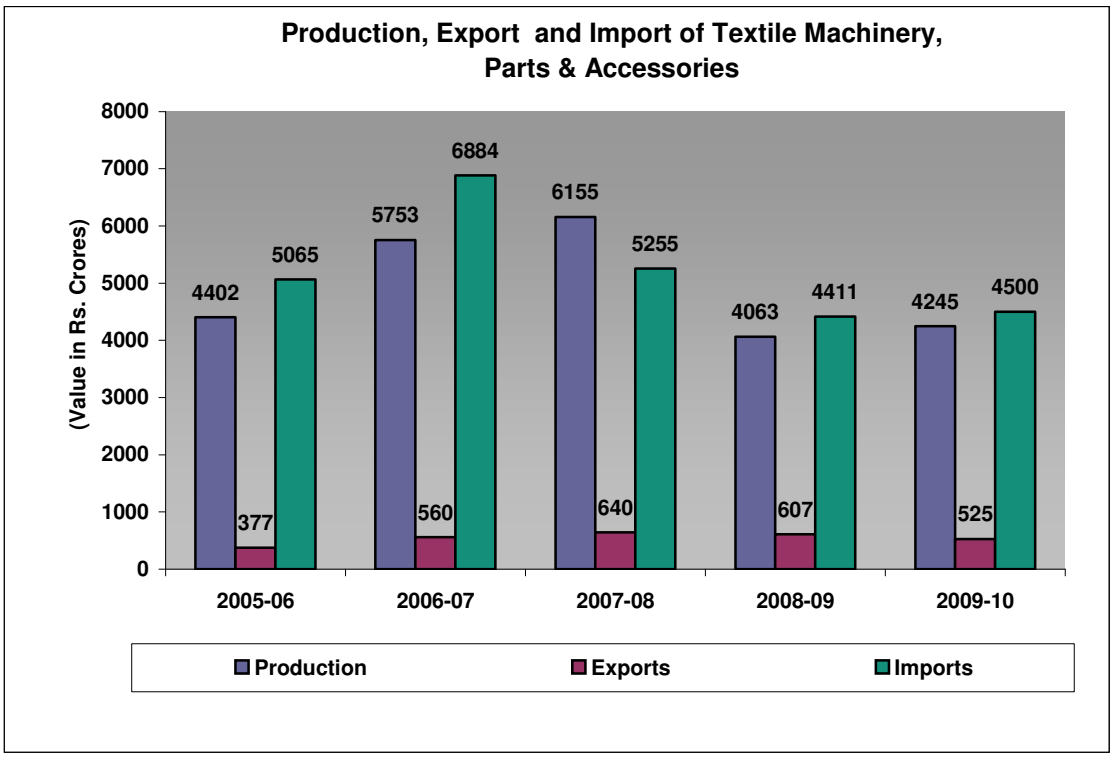
It is needless to mention that the TEI has been contributing greatly to the competitiveness of the Indian Textile Industry (TI) since inception and at present meets 45-50% of the overall demand of the Indian textile industry whose main constituent is ginning, spinning, weaving and processing. Though garment and knitting sector made their progress during 1980s onwards, due to the SSI reservation policy of the Government the machinery manufacturing for the same by the domestic companies did not take place and it was limited to the domestic sewing machine, etc for garment tailoring and low tech knitting machines for hosiery items like banyans and undergarments.

Production

(Value in Rs. crore)

CATEGORIES	2004- 05	2005-06	2006-07	2007-08	2008-09	2009-10
Spinning & Allied Machines	2204.63	2618.86	3423.12	3662.22	2417.44	2105.00
Synthetic fibre/yarn machines	376.42	447.20	584.48	625.30	412.79	830.00
Weaving & allied machines	374.23	444.49	580.95	621.64	410.35	495.00
Processing machines	382.36	454.11	593.85	635.19	419.29	460.00
Miscellaneous (spinning, weaving & processing) machines	111.52	132.42	172.99	185.26	122.00	120.00
Textile testing / monitoring / controlling equipment / systems	73.34	87.14	114.01	121.86	80.43	30.00
Hosiery needles & machines	30.36	36.04	47.00	50.46	33.31	35.00
Textile machinery parts & accessories	152.41	181.32	237.04	253.07	167.39	170.00
Total	3705.27	4401.58	5753.44	6155.00	4063.00	4245.00
Percentage Increase (Decrease) over previous year		+20%	+31%	+7%	-34%	+4%

Source: Office of Textile Commissioner & TEI



The production of textile machinery has been steadily increasing over the last few years. However, the acute demand recession during 2008-2009 & 2009-2010, has adversely affected the growth of the TEI significantly. The capacity utilization of the industry which increased during 2004-05 to 2007-08 fallen in the subsequent years due to demand recession. A turnaround is expected during 2010-11 with a positive growth of 25% over 2009-10.

Capability

There are a large number of SMEs manufacturing complete machinery as well as all types of components/parts and accessories, testing and monitoring equipments and auxiliaries.
A good number of firms are of international standard in terms of product design, capacities and technology. The SMEs developed their products by indigenising technology through foreign collaborations/joint ventures and/or obtaining technical know how from R&D Centres and Technical Institutes within the country or by their own developments.

Spinning

The entire range of spinning machinery is manufactured in India, including blowroom machinery, cards, draw frame, combers, speed frame, ring frame, ancillary machinery, open-end spinning, two for one twisting and auto-cone winding machines and parts and accessories of international standard.
Capacity:- Rs. 4561 Cr.

Year	Production (Rs. Cr.)	Export Rs. (Rs. Cr.)	Import (Rs. Cr.)
2007-08	3662	125	2629
2008-09	2417	99	1857
2009-10	2105	75	1273
2010-11*	3500	80	1200

* provisional

There are import of cheap spinning machinery from China of 15% (approx),, second hand machinery of 15% (approx), and components of

20% (approx), the balance is hi-tech items from Europe.

The technology gap is minimal.

Weaving

The weaving industry in India is mainly concentrated in the states of Tamil Nadu, Maharashtra and Gujarat. India became self-sufficient in weaving preparatory machinery i.e. high speed sectional warping, direct warping and sizing by and large matching up with world class technology. The machines produced in the pre-weaving segments such as winding, twisting, rewinding, warping and sizing, are of international standards and are exported to several countries. The TEI in India has developed shuttleless rapier looms, airjet looms and waterjet looms. Majority of parts and accessories for weaving preparatory machinery and weaving machinery are manufactured in India. India is the largest manufacturer of plain and automatic looms. Shuttleless rapier looms, airjet looms and waterjet looms are also being manufactured. There is still a technology gap in the main looms used for weaving.

Capacity:- Rs. 703 Cr.

Year	Production (Rs. Cr.)	Export Rs. (Rs. Cr.)	Import (Rs. Cr.)
2007-08	622	21	1106
2008-09	410	20	804
2009-10	495	17	1069
2010-11*	600	20	1000

*provisional

There are large scale imports of second-hand machine 45%(approx), spares and accessories of 20% (approx), the balance is of new shuttleless looms out of which majority are low tech/medium tech looms from China.

Processing

Almost the entire range of processing machinery is now being manufactured in the country, with continuous scouring, bleaching, mercerising, washing,

dyeing plants, preshrinking ranges and more, being produced by domestic manufacturers. The indigenous machinery available now competes on an even footing with their European counterparts with low liquor to material ratio, and is capable of processing fabric with comparable results at a very reasonable cost. Many critical electronic components and equipments are still imported. All other types of parts and accessories are also made in India.

Capacity:-Rs. 886 Cr.

Year	Production (Rs. Cr.)	Export Rs. (Rs. Cr.)	Import (Rs. Cr.)
2007-08	635	39	650
2008-09	419	60	600
2009-10	460	29	489
2010-11*	700	40	500

- provisional

There is technology gap in finishing machinery for woolen and cotton and in special purpose continuous processing machinery. Slowly and steadily the gap is being minimized.

Testing & Monitoring Equipments

The Indian textile engineering industry started developing testing and monitoring equipment in the 60s and today a wide range of high quality latest generation testing and monitoring equipment is being manufactured in the country. Almost 80% of the requirement is met by the domestic manufacturers. The total Capacity is 220.17 crores.
In this segment critical components and electronic controls are imported.

Synthetic Machinery
The Textile Engineering Industry located mainly in and around Surat & other parts of Gujarat, developed synthetic yarn and fabric processing machinery viz. draw texturising machines, draw twisters, two-for-one twisters for filament yarn, zero-twist filament sizing machines, rewinders and precision cone winding machines. With the development of such machinery indigenously, the industry is not only catering to domestic demand but is also exporting the same. Here the percentage share of demand is 80-90%.

Capacity:- Rs. 1000 Cr.(approx)

Year	Production (Rs. Cr.)	Export Rs. (Rs. Cr.)	Import (Rs. Cr.)
2007-08	625	9.00	59
2008-09	413	6.00	154
2009-10	830	14.00	167
2010-11	900	15.00	200

Most of the components of the synthetic fibre/filament mechanical processing machinery are made in India. Surat, Rajkot, Surendranagar are the main centers for the manufacture of spindles, spindle pots, spindle inserts, etc. Only critical electronic equipment like PLC controls, servo motors etc. are imported.

There is practically no technology gap. There is no manufacturer of fibre/filament producing machinery except PP production line.

Jute Machinery

Even in jute machinery the percentage share of demand met by local manufacturers is over 60%. There are half a dozen good manufacturer of jute machinery in the eastern sector. Many items of jute machinery are being manufactured in the country. The total capacity may not exceed Rs. 70 crores.

Lagan Engineering Co.Ltd., Kolkata is the major manufacturer of jute machinery and its parts, components and accessories. There are some small engineering units also manufacturing jute machinery parts and accessories in Kolkata, West Bengal.

Other Parts and Accessories

Several other spares and accessories are also play major role in manufacturing and maintenance of textile machineries these are :Bearings, Beams, Bobbins, Bobbin Holders, Bushes, Card Gauges, Ceramic Guides, Cone and Tubes, Cops-Aluminum/Steel, Drums, Filters, Flat Tops, Motors, Needles, Pins, Pirns, Belts, Rollers, Humidifiers, Over Head Traveling Cleaners, Shuttles, Spindle Tapes, Trolleys, etc.

Items not manufactured

Hi-tech garment making machinery and knitting machinery are not made in India. There is of course no shortage of ordinary domestic sewing machines and low tech knitting machines. The decentralized character of the hosiery and garment sector was not conducive for indigenous development.

The capacity of domestic hosiery and garment making machinery is approx. Rs. 70 crores.

Similar is the case of nonwoven and technical textiles machinery. There was very little demand in the past. However there are many technical textile items which are being manufactured in indigenous machines eg. Glass fiber fabrics, fish nets, mosquito nets, filter fabrics etc etc.

A Robust TEI -Catalyst for an All-round Growth

Investments to the tune of Rs. 3,20,000 crores (US$ 68 Bn) would be required to be made by Indian textile industry by 2020. (Source: Technopak). This presents a huge potential for the TEI and a win-win for all stake-holders.

High-tech machines and so also accessories manufactured from India are generally found to be 15-30% cheaper than comparable imported machines, thus offering huge savings. It would also accrue considerable savings to the Indian textile industry in terms of total cost of ownership due to the availability of faster and cheaper service, spares, etc., locally.

This would create tremendous economic benefits to India due to saving in foreign exchange outgo, creation of more employment, and bolster the tax income of the government. The close proximity between TEI and the Indian textile industry would help in product development, process improvement, etc. through much closer interactions. It would also enable the TEI to become much more self-reliant and vibrant, setting off a multiplier effect adding to the dynamism of the textile engineering industry, textile industry and the country.

Potential of the TEI

The Indian Textile Engineering Industry has played a significant role in the growth and development of the textile industry in the country over the past 50 years. There are a number of factors that will play a key role

in developing a global brand and in shaping the future of the Indian TEI. The TEI will need to embark upon a well planned path of investing to create both short term and long term capabilities to create a sustainable competitive advantage through innovation and operational efficiencies.

There is an imperative need to incentivise and support such activities of the TEI through Government's initiatives. Creation of a suitable policy framework by the Government would be able to generate an atmosphere conducive for such growth oriented innovations.

Industry-academic collaborations are needed to foster applied R&D and relevant academic programs, and create a talent pool. Focused R&D programs and Centres of Excellence in the Indian Institutes of Technology and other Regional Engineering Colleges as well as Textile Research Institutes may create much needed channels to attract graduate students to the textile engineering discipline. More focus may be given to diploma engineers who are likely to remain in the industry after being trained.

For a long term and sustainable growth, it would be necessary to adopt a public private partnership model in most of such programmes to make it viable. Export of technical and engineering services to the third world countries should be thought of to avoid demand recession along with vigorous efforts for exports.

Conclusion

A cursory look at the developments in the Indian textile industry and textile engineering industry also reveal that the government policies were squarely responsible for the imbalanced growth the textile industry, which has now proved to be our greatest disadvantage in competing with some of the textile power houses like China. There is a tremendous scope for the Indian textile industry and textile engineering industry to grow hand in hand. The need of the hour is to have a holistic vision for a sustained and long-term development and growth of these industries and the country. There is a need to discourage

outdated technology, specifically under the banner of modernization. There is also need to encourage the development and manufacture of high technology machine by the domestic industry. This can propel the Indian textile and textile engineering industry flourish on the global arena, and make India truly shine.

The Textile Engineering Industry's vision is to build up a strong TEI that can grow, compete, and export; which would provide strong support to the Indian textile industry, to make it vibrant, and competitive. It would acquire technological strength in all sectors, as we already have in spinning, and meet 70-75% of the demand of Indian textile industry for high tech machinery, from the current position of 45-50% with continuous capacity scale-up commensurate with increased demand. India would become a manufacturing hub for textile machinery, parts/components and accessories, contributing further to employment generation & GDP.

The Textile Engineering Industry hopes to get wholehearted support from all stakeholders and the Government in their endeavour.

**This article reflects the personal views of the author*