CHAPTER - III

HISTORY OF TEXTILE INDUSTRY

3.1 Introduction

India has been well known for its textile goods since ancient times. The traditional textile industry of India had experienced signals of total decadence during the colonial regime. The colonial regime by virtue of its easy access to capital flow facilitated the genesis of modern textile industry in India when the first textile mills in the country were established at Fort Gloster, near Calcutta, in 1818. The cotton textile industry however, made its real beginning, in Bombay, in 1850s. The first cotton textile mill of Bombay was established in 1854, by a Parsi cotton merchant engaged in overseas and internal trade. Indeed, the vast majority of the early mills were the handwork of Parsi merchants engaged in yarn and cloth trade at home and Chinese markets. The first cotton mill in Ahmedabad (which was eventually to emerge as a rival centre to Bombay) was established in the year 1861. The spread of the textile industry to Ahmedabad was largely due to the Gujarat trading class.

3.2 History of Textile Industry in India

Indian textile industry, the leading industry in the world, was a predominantly an unorganized industry even a few years back, but the scenario started changing after the economic liberalization of Indian economy, in 1991. The opening up of the economy gave much-needed thrust to the Indian textile industry, which has now successfully become one of the largest in the world. Indian textile industry largely
depends upon the textile manufacturing and exports. It also plays a major role in the economy of the country. India earns about 30% of its total foreign exchange through textile exports. Further, the textile industry of India contributes nearly 14% of the total industrial production of the country. It also contributes around 3% to the GDP (Gross Domestic Product) of the country. The Indian textile industry is the largest in the country in terms of generating employment opportunities (currently, Indian textile industry generates employment opportunity for more than 35 million people). It has not only generated jobs in its own industry, but also opened up scope for other ancillary sectors. In Tamil Nadu, the textile industry is the oldest and the most deeply rooted manufacturing sector. It is equipped with productivity-enhancing, job-generating and innovative methodologies with many textile mills having pushed the organized mill sector to the wall due to global demand. The spinning sector in particular was suffering from recession, currency crisis and fiscal policies of the government of India. Despite the problems, some firms started performing better by adopting new product lines, reorganizing production, and absorbing new technologies to move up market into superior quality yarn. In order to improve the financial performance and to meet the global competition, firms have started concentrating on working capital management so as to utilize the funds in a manner thereby improving liquidity and profitability.

The cotton textile industry last made rapid progress in the second half of the nineteenth century. By the end of the century, there were 178 cotton textile mills. However, in the year 1900, the cotton textile industry was in a bad state due to the great famine and also a large number of mills in Bombay and Ahmedabad closed down for long periods.
The two World Wars and the Swadeshi movement provided great stimulus to the Indian cotton textile industry. However, during the period from 1922 to 1937, the industry was in doldrums. During this period, a number of Bombay mills changed hands. During the Second World War, textile import from Japan completely stopped and the consequent pressure on demand resulted in unprecedented growth of the 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. By 1945, there were 417 mills employing 5.10 lakh workers. The cotton textile industry is rightly described as a Swadeshi industry because it was developed with indigenous entrepreneurship and capital. It has been observed that in the pre-independence era, the Swadeshi movements stimulated demand for Indian textile in the country. At the time of independence, the Indian union got 409 out of 423 textile mills of undivided India. Only 14 mills and 22% land under cotton cultivation went to Pakistan. Some mills closed down for some time. For a number of years after independence, Indian mills had to import cotton from Pakistan and other countries. 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 well over 26 million by 1989-90. During the decade 1990-2000, textile industry grew at 4%, after having grown at a rapid 15% annually during the period 1985-90. The growth rate turned negative in 1998 and in 1999, following the East Asian crisis, but resumed to a robust growth of 7% in 2000. Clothing trade grew at a faster rate compared to textile, and clocked 6% annual average rate during the ten years from 1990-2000. It is noticeable, that on an average, trade grew at least as rapidly as textile trade in all years since 1980. It is therefore not
surprising that the share of clothing trade in total textile and clothing trade has been rising and now stands at 56%, higher than 50% in 1990. The trends in this segment of the industry during the year 2000-01 have been positive. Production of man-made fiber increased from 835 million kg in 1999-2000 to 904 million kg in the 2000-01, registering a growth of 8.26%. The production of spun yarn increased to 3160 million kg in the 2000-01 from 3046 million kg during 1999-2000, registering a growth of 3.7%. The production of man-made filament yarn registered a growth of 2.91% during the year 1999-2000, an increase from 894 million kg to 920 million kg. The exports of textile and garment increased from Rs 4,55,048 million to Rs 5,52,424 million, registering a growth of 21%. Production in the textile industry in the year 2003-2004 was Rs 1609 billion. And during 2004-05, production of fabrics touched a peak of 45,378 million square meters. In 2005-06, up to November, production of fabrics registered a further growth of 9% over the corresponding period of the previous year. And in terms of employment around 35 million people were directly employed in the textile manufacturing activities. Indirect employment including the manpower engaged in agricultural based raw material production like cotton and related trade and handling which can be stated to be around another 60 million in 2004-2005.

3.3 History of Indian Textile Industry Post Independence

3.3.1 Pre-Planning Period

After independence, the Indian government had the responsibility of formulating a policy for this industry for ensuring its growth and development, for providing adequate clothing at reasonable prices to the citizens and for earning foreign exchange through exports. At the time of independence, the composite mill sector was the
dominant supplier of clothing to the country. But these machines were in a rundown state owing to the earlier compulsion to keep machines running to back the war efforts and the absence of time for maintenance and non-availability of spares during the war period. Firstly, the centre decided to become self-sufficient in textile and in forties manufacturing of machine started at home to move towards modernization and expansion. Even in such conditions, its noteworthy that the technical gap between the composite mills of India and its counterpart in west was not very wide. Due to partition, a large area under cotton cultivation went to Pakistan adding “fuel to fire”. India lost to Pakistan the prime irrigation area with left out rain fed tracts. Thus the composite mill sector was forced to rely on imports.

Textile industry holds a significant status in the Indian economy. It provides the most fundamental necessity of man namely “clothing”. It is an independent industry (from the basic requirement of raw materials to the final products) with huge value-addition at every stage of processing. Today, textile sector accounts for nearly 14% of the total industrial output and it contributes about 30% of the total exports. There is optimism and confidence prevailing in the industry and it is projected to grow at the rate of 16% in value, in the next five years. Investment has increased significantly in the textile sector and it is expected to touch Rs 1, 50,600 crore by 2012. Today, the industry is increasingly embracing modern technology and work process, becoming more globally competitive, building strong brand equity for its products, and consistently achieving higher growth rates than ever in its long history. It has been noticed that the government is committed to address domestic and international challenges confronting this sunrise sector, keeping in view the possibilities of quantitative transformation.
Structure of India’s Textile Industry

The textile industry can be divided into three segments:

1. Cotton Textiles
2. Synthetic Textiles
3. Other product like wool, jute, Sslk, etc.

All segments have their own place but even today cotton textile continues to dominate with a 73% share. The structure of the textile industry is extremely complex with modern, sophisticated and highly mechanized mill sector on one hand and hand spinning/weaving (handloom sector) on the other. Unlike other major textile-producing countries, Indian textile industry comprises small-scale, non-integrated spinning, weaving, finishing, and apparel-making enterprises. This unique industry structure is primarily a legacy of government policies that have promoted labour-intensive, small-scale operations and discriminated against larger scale firms. Relatively large-scale mills that integrate spinning, weaving and sometime fabric finishing are common in other major textile-producing countries. In India, however, these types of mills account only 3% of output in the textile sector. About 276 composite mills presently operating in India are owned by the public sector located mostly in Gujarat and Maharashtra.

3.3.2 Technical Textiles Industry in India

Technical textiles have attracted considerable attention in the high use of yarns and fabric for application other than clothing and finishing which is not a new concept. Nor it is entirely linked to the appearance of modern artificial fibres and textiles. The historical background of technical textiles is as old as general textiles (Mangat,
These facilities is one of the simplest form of traditional textiles and encouraged due to the use of ropes and is in use past centuries. These ropes were used to meet some functional requirements like sailing or for giving a strong grip to the tents. There are other number of other usages of technical textiles in history. “There is evidence of woven fabrics and meshes being used in Roman times and before that to stabilize marshy ground for road building - early examples of what would now be termed geotextiles and geogrids” (Horrocks and Anand, 2000). Moreover, majority of technical textiles had been developed with the non-woven techniques. But in current era, there are various other methods available for producing technical textiles like, knitting, weaving, braiding, and tufting. In spite of its increasing importance, the technical textile in Indian market have historically been very poorly documented but the information regarding certain past events of technical textiles in India have been gathered from different sources which are given as follows:

(Yogesh Kusumgar, 2010) realized the potential of technical textiles manufacturing in India”. He started a business to fulfil the ever-changing requirements of a flourishing technical textiles industry and established Kusumgar corporate. After this initiative taken by him, SRF limited came into existence in 1973, headquartered in Gurgaon. Now, this company has a capital of $ 450 million and operates in technical textiles, packaging films and chemical engineering plastics across India, Thailand, UAE and South Africa (Human factor, 2010). By 1980, the textile industries were struggling for survival because of low cost of import and almost stagnant consumer markets. It was then, the Indian textile industries felt that non-conventional sector can become not only a growth tool of the textile industry but also can provide potential remunerative market for its development. "The term Technical textile coined in the
1980s to describe the growing variety of products and manufacturing techniques being developed primarily for their technical characteristics and function rather than their appearance or other decorative properties. It largely superseded an earlier term 'industrial textiles' which had become too restrictive in its meaning to describe the full complexity and richness of this fast growing area" (Chaudhary, 2007)\(^{17}\).

In 1985, Shri K S Trivedi promoted a company named 'Neo Corp. International Ltd', as a private limited company, on July 4, 1985 (Business Standard, 2010). Currently, this company is engaged in manufacturing Packtech, Agrotech and Geotech products of technical textiles. In 1993, a Kanpur based integrated textile company named Shri Lakshmi Cotsyn Ltd. began its operation with the wide range of Technical Defense Textiles and now it is one of the fastest growing sector in the Indian Home and Technical Textile segments (Shri Lakshmi Cotsyn, 2011). After a gap of five years, "Obeeete Textiles Pvt. Ltd." came into existence, in the year 1998. This company is wholly owned subsidiary of Obeeete group which is engaged in producing technical textiles and high quality non-woven fabrics in India (Obeeete Textiles Pvt. Ltd, n.d.).

In 1999, the Union textile ministry planned to launch an integrated project for assessing the progress of the growth of industrial and technical textiles in the country.

In the year 1958, a company under section 25 of the Companies' Act 1956, named Indian Cotton Mills Federation (ICMF), was established for manufacturing home furnishings, cotton yarn, blended and man-made spun yarn (Confederation of Indian Textile industry, N.D.). However, it initiated the process of establishing an umbrella organization for the textile industry in August 2000, broad basing the coverage of its
member associations to include independent weavers and processors. The new name of ICMF formed in May 2005, as Confederation of Indian Textile Industry (CITI).

In 2002, SASMIRA undertook two R&D projects on technical textiles for its development in the country. The first project was on the development of insulating material from textile substrates and the second one was on products from recycled Polyethylene Terephthalate (PET) bottles. (Mittal, 2002) the Ministry of Textiles, on July 4, 2002, formed an Expert Committee on Technical Textiles (ECTT) to draw an action plan for the growth of Technical textiles. The committee has recognized six major technical textile products for promoting growth namely spun bonded geo-textiles, needle punched geo-textiles, woven geo-textiles, geogrids, narrow fabric woven on needle looms and non-woven fabric for disposable health care textiles. Speaking to Express Textile, Mr Nagesh N Mugadur, Director, ROTC, Coimbatore, said: "Technical textile is a vast area and includes more than 100 products based on their application" (Swaminathan, 2003).

In 2005, it was estimated that 90% of India's demand was being met through imports and few companies were engaged in the production of technical textiles. During this year, consumption of technical textiles in India was valued at 20,000 tons per annum. Thus, it was expected that growth of this sector would gear rapidly in future (Economic Times, 2005). Gradually, the government realized the potential of technical textiles and suggested to follow the recommendations given by Expert Committee on Technical Textiles (ECTT). With the passage of time, as the demands and needs of technical textiles growing in the Indian market, industry players were being motivated towards the venture into these new product categories (India: BCH,
2006). This increasing importance of the industry compelled the industry players to come up in this sector and to solve these problems. Department of Textile Technology, IIT Delhi, organized a two-day international conference on Technical textiles in the year 2006. The conference brought together the industry, research organizations and academia involved in the field of Technical textiles.

Consequently, the Center of Excellence (COE) established by the Union Ministry of Textiles in various sectors of Technical textiles for facilitating convenient manufacturing and infrastructure support (The Financial Express, 2008)\textsuperscript{142}. Moreover, the government took various measures to increase the investment in the textile sector during the year 2008. The measures were 5% concessional customs duty for machines used in technical textiles, 10% capital subsidy for technical textile machinery and 5% interest reimbursement.

In 2009, due to increasing usage of technical textile products, various big companies felt necessary to go ahead and diversify their products into technical textiles. Therefore, Rentex-Indian textiles companies expanded their business in the construction, automobiles and health care sectors to tap new customers. At that time, SKumars, (SKMK.BO), Alok Industries and SRF (SRP.BO) were eager to enlarge their business in this promising field (Reutars, 2009)\textsuperscript{115}.

In 2010, "Associated Chambers of Commerce and Industry of India (ASSOCHAM), estimated the market for Technical textiles at an average annual rate of 14% to touch $ 19.76 billion by 2014-15" (Market for Technical Textiles, 2010)\textsuperscript{74}. Realizing the rising market and the lack of proper data for technical textiles, the baseline survey was conducted by ICRA Management Consultancy Services Ltd. The importance of
Technical textile has gradually increased which has led to an increase in market opportunities. "The domestic technical textiles market is projected to grow at an average yearly rate of over 10-12% in the next four to five years because of high demand, said the president of the trade body, Ms. Swati Piramal" (Technical Textiles 2010). The Government of India has taken many initiatives to promote the Technical textiles but more efforts are needed to move the industry forward successfully. If the government takes right action at the right time and do more work in the field of research and development then it can be expected that Indian Technical textile industry will have bright future in the coming years.

The technical textile is an extension of traditional textiles which combines both performance and decorative properties and functions in equal measure. For instance, traditional fabrics, such as knits, can also be considered as Technical Textiles if they have some advanced quality i.e. UV resistance or reduced flammability by adding some chemicals or synthetic fibres. Basically, the textile materials which have technical characteristics are called as technical textiles for example tarpaulins, canvases, tents, awnings, filters, automotive carpets, facial wipes, synthetic leather, wadding interlinings, etc. The other terms used for defining 'Technical Textiles' are Industrial textiles, functional textiles, performance textiles, Engineering textiles, Invisible textiles and Hi-tech textiles.

3.4 Textile Research Institutes in India

Even the Rig Veda mentions about the weaving procedure during that time. Apart from this, much more is represented by the Indian mythology specifically about the ancient textile division of the country. Some of the instances for the fabric of that era
are well documented in the Mahabharata and the Ramayana where aristocrat dresses depicting richness and aesthetic appeal.

The traditional garments and clothes were exported to different countries. An important position was given to the textile industry during the era in which India secured its position.

The Ministry of Textiles, Government of India, has nominated some TRAs (Textiles Research Associations) to set up Centre of Excellence for specific segments of technical textiles. The various testing facilities for technical textiles available at the TRAs in the country which are given below.

3. 4.1 Synthetic & Art Silk Mills' Research Association (SASMIRA)

The Synthetic & Art Silk Mills' Research Association (SASMIRA) was established on January 12, 1950. This cooperative venture was set up by man-made textile industry of India after independence as a multi-functional institute in order to provide its scientific and technological needs (Synthetic & Art Silk Mills Research Association, N.D.)\(^{136}\). SASMIRA provides scientific and technical assistance to textile and allied industries. Some of the activities carried out are the development of technical textiles, product development, effluent treatment, water recycling and waste reutilization and development of energy conservation processes. It provides facilities for technical textiles such as testing, evaluation and investigation of fibre, polymer, garment, yarn and other textile related products.
3.4.2 Man-Made Textile Research Association (MANTRA)

The Man-Made Textile Research Association (MANTRA), Surat, is a textile research association registered under the Societies Act of Gujarat. This is one of the textile research associations which is fulfilling diverse needs of the textile and allied industries. The main aim of MANTRA is to ensure healthy growth of the decentralized textile industry (Synthetic & Art Silk Mills Research Association, N.D.)\textsuperscript{141}. The COE for Agro textiles has been assigned to Man-Made Textiles Research Association (MANTRA), jointly with (SASMIRA) as the lead agency and Navsari Agricultural University (NAU), Navsari.

3.4.3 Bombay Textile Research Association (BTRA)

The Bombay Textile Research Association (BTRA) was established in 1954, as an autonomous cooperative research association. Since 1980, BTRA has been involved with technical textiles and worked especially on geotextiles in 1985 (Office of the Textile Commissioner, 2009)\textsuperscript{93}. The various geotextiles products tested at BTRA (as per international standards) are Geotextiles-woven and non-woven, Geocells, Geocomposites, Gabions, Geonets, Geomembranes, Geosynthetics clay liners, prefabricated vertical drains, coated fabrics (woven and nonwoven) – Rubber coated, Polyurethane (PU) foam coated and Aluminum coated, laminated fabrics (woven and nonwoven), PVC laminated and HDPE laminated and Low-Density Polyethylene (LDPE) laminated. Other technical textile products tested are protective clothing, automotive carpet (moulded), interlining / cover stock, wadding (high loft), floor mats / rugs / carpets, medical textiles / pads, P.U. foam and felts (woollen).
3.4.4 South India Textile Research Association (SITRA)

The South India Textile Research Association was registered in May 1951, as an autonomous scientific research organization under the Societies Registration Act (XXI) of 1860. It is one of the best laboratories in the country, which is supported by the Ministry of Textiles, Government of India, and sponsored by the textile industry (The South India Textile Research Association, N.D.)\textsuperscript{137}. The Government of India has designated SITRA as a centre of excellence for medical textiles.

3.4.5 Northern India Textile Research Organization (NITRA)

The Northern India Textile Research Organization was jointly established by the textile industry and Ministry of Textiles, Government of India, in 1974. The purpose behind the foundation to carry out scientific research and provide support services to Indian textiles industry (Northern India Textile Research Organization, N.D.)\textsuperscript{91}. In the year 2009, a Centre of Excellence (Protech) for protective textiles was established at NITRA with support from Ministry of Textiles. The COE offers the activities for technical textiles which are product development, preparation of standards/specifications, testing, training manpower, organizing workshops and seminars, and information dissemination as a resource center.

3.4.6 Ahmedabad Textile Industry's Research Association (ATIRA)

The Ahmedabad Textile Industry's Research Association was established on December 13, 1947, and started work in the year 1949, as an autonomous non-profit association for textile research after due recognition by the Council of Scientific and Industrial Research under the Ministry of Science and Technology, Government of India. Now, it is linked to the Ministry of Textiles, Government of India (Ahmedabad
Textile Industry's Research Association, N.D.)\(^2\). ATIRA offers testing services for technical textiles, fibres, fabrics, garments, solid fuels, yarns, effluents, chemicals, drinking water (both chemical and biological), biological parameters of textiles and traces analysis of toxic substances. ATIRA has been recognized as a Centre of Excellence for Geotextiles.

**3.4.7 Indian Jute Industries' Research Association (IJIRA)**

The Indian Jute Industries' Research Association was established in the year 1937, by the Jute Industry. In 1952, it had its own campus whose foundation was laid by the first Prime Minister of India, Pandit Jawaharlal Nehru (Indian Jute Industries Research Association, N.D.)\(^5\). IJIRA provides product development, technology transfer supports and testing services to the Indian Jute Industry. It has been actively involved in the development of Jute Geotextiles and Jute Agro textiles.

**3.4.8 Wool Research Association (WRA)**

The Wool Research Association was established in 1963, by the Woollen & Worsted industry as a textile research association. WRA is continuously engaged in the development of technical textiles since last two decades and it has also carried out few sponsored projects regarding Mobiltech, Sportech, Indutech, etc., (Wool Research Association, N.D.)\(^1\). WRA has been selected as a centre of excellence in Sportech and has also undertaken research initiatives in the area of technical textiles such as design and development of heat resistant and flame retardant interior textiles with special emphasis on automobiles. "The Ministry of Textiles has upgraded existing and established new Centers of Excellence (COEs) for technical textiles under the Technology Mission on Technical Textiles (TMTT) launched by the Ministry of
Textiles, in 2010, to cover six product-focused COEs and two process-oriented COEs." These centers of excellence are ingenious for the industries which are willing to diversify into and in the Indian technical textiles sector with ongoing collaborations with foreign institutes and laboratories, and wealth of experience and knowledge in the technical textile industry. Thus, centers of excellence play a major role in facilitating Indian industries to recognize their potential in dealing with demand and scaling attractive opportunities in each segment of technical textiles (Wazir Advisors & EYPL, 2013, p. 24).

3.5 Textile and Relevant Associations in India

The technical Textile sector is one of the most ground-breaking branches of the industry in the world. It is one out of the five high tech sectors with the greatest potential for development. The technical textiles are successful because of the innovation, creativity and flexibility in fibres, yarns, knitted, woven and non-woven fabrics with applications spanning an immense variety of uses. Technical textiles are able to combine with others and with each other to generate new functional products and has a limitless prospect of growth. In India, technical textile is one of the fastest rising sectors in the economy. "It has registered compounded annual rate of growth of 11% during 11th Five Year Plan and the working group report for the 12th Five Year Plan has projected growth of 20% for technical textiles. This translates into market size increasing from US$ 13 billion to US$ 36 billion by 2016-17. The industry is expanding and developing mainly due to the entrepreneurial inventiveness, creativity and skills of the Indian industry which is supplemented by the scheme of the Government of the India incentivizing the investment in the sector. The government
of India also recognizes the necessity for active participation of the industry to carry out the concerns, issues and suggest policy framework that would put down the foundation for this sector (Indian Technical Textile Association, N.D.)

### 3.5.1 Indian Technical Textile Association (ITTA)

Indian Technical Textile Association was registered in 2010, under section 25 of the Company’s Act 1956, by the office of the Textile Commissioner, Ministry of Textiles, Government of India. As on November 6, 2012, it is the only association of the technical textile industry in the country with 158 members. Indian Technical Textile Association membership signifies the whole technical textile value chain from raw materials to finished goods producers, consultants, machinery and research and development institutes (Indian Technical Textile Association, N.D.).

Indian Technical Textile Association aims to promote, support, develop and increase consumption, production, and export of technical textile to make India a powerhouse of technical textiles in the coming days. With the fact that government policy has played a critical role in the progress of technical textiles, the association is keeping close interaction with Government of India in formulation of various policies focusing on removing the vagueness in the system which will help to encourage usage in India and has suggested fiscal and non-fiscal norms which would assist the industry to achieve its true potential. The objective of ITTA is to become the lead organization for representing industry's interests and for creating a policy environment that brings together and addresses the concerns of stakeholders in the technical textile sector.
3.5.2 The Cotton Textiles Export Promotion Council of India (TEXPROCIL)

The Cotton Textiles Export Promotion Council of India was established as an autonomous, non-profit export promotion body, in 1954. Now, this association effectively facilitates exports and has become the international face of Indian Cotton Textiles. Moreover, it has opened a complete variety of Indian cotton fabrics, yarn, and made-up for the foreign buyers becoming the only source for them. At the same time, it has also fetched within reach opportunities afforded by the global market for the discerning Indian sellers (Office of the Textile Commissioner, N.D.)\(^9\). The Council encourages exports of cotton yarns, raw cotton, and blended yarn, grey and processed cotton and blended woven and knitted fabrics, grey and processed home textiles such as kitchen linen, bed linen, bath towels and other linen, technical textiles such as protective, performance, medical and geo textiles.

3.5.3 Federation of Indian Chambers of Commerce and Industry (FICCI)

Federation of Indian Chambers of Commerce and Industry was established in 1927, and now it is the largest and oldest apex business organization in India. Its historical background is intimately interlinked with India's struggle for independence. Its background includes its industrialization and emergence as one of the fastest rising global economies which has been collected through debates, articulated views of private sectors and influencing policies contributed by FICCI. FICCI is a non-government, not-for-profit organization, it is the voice of businesses and industries of India. FICCI represents its membership from the corporate sector, both private and public, together with small and medium enterprises and multinational corporations and as well as benefit from indirect membership of over 250,000 companies from a range of regional chambers of commerce (Office of the Textile Commissioner,
FICCI organizes buyer and seller meetings on technical textiles jointly with Ministry of Textiles for assessing the industry about the requirements of institutional buyers as well as overcoming the knowledge gap between them. The association has already organized buyer and seller meets with institutional buyers in the past like Navy, Air Force, Border Security Force, Army Delhi Police, Central Reserve Police Force (CRPF), Central Industrial Security Force (CISF), Armed Forces Medical Services (AFMS), Dr R M L Hospital, National Highway Authority of India (NHAI), Border Roads Organization (BRO), Central Road Research Institute (CRRI), Indian Roads Congress (IRC), Ministry of Road Transport and Highways, Railways and Research Design and Standards Organization (RDSO), Central Public Works Department & Public Works Department (PWD), Haryana Agriculture University and Indian Council of Agricultural Research (ICAR), National Committee on Plasticulture Applications in Horticulture (NCPAH), etc. (FICCI, N.D.).

3.5.4 Bureau of Indian Standards (BIS)

The Bureau of Indian Standards was established in the year 1986, by the Bureau of Indian Standards Act, which came into effect, on December 23, 1986. A national standards body which works under the guidance of Food and Public Distribution, Ministry of Consumer Affairs, Government of India. The Minister in charge of the Ministry or Department is ex-officio President Emaad Amin of the BIS who has administrative control of BIS. The organization was set up under the Resolution of the then Department of Industries and Supplies No. 1 Std.(4)/45, dated September 3, 1946 which was previously known as the Indian Standards Institution (ISI). The ISI was registered under the Societies Registration Act, 1860. The bureau aims at recognition,
formulation and promotion of the Indian Standards which is also operating on the standards for Technical Textiles with the support of Ministry of Textiles (Office of the Textile Commissioner, N.D.)\textsuperscript{95}.

3.5.5 Synthetic & Rayon Textiles Export Promotion Council (SRTEPC)

The Synthetic & Rayon Textiles Export Promotion Council was established by the Government of India, Ministry of Textiles, in 1954. The head office is in Mumbai and regional offices in Delhi and Surat. It has a membership of over 3500. The items that come under the purview of this council are fabrics, fibres, etc. The council provides aid to Indian exporters and manufacturers for competing successfully in the world markets such as "identify markets for their products, introduce them to appropriate overseas importers, assist them financially or otherwise in their efforts, advise them on situations in the different overseas markets by conducting studies and surveys, provide opportunities to give them and their products exposure in the overseas markets by sponsoring their delegations and items, advise them on import-export policy and procedures, resolve their problems about shipping and transport, liaison with the authorities to convey to them the requirements of industry and trade and arrange adaptation of policy framework accordingly (Office of the Textile Commissioner, N.D.)\textsuperscript{96}.

3.6 Overview of the Global Textile Market

“The end of the quota regime, which marks the phasing out of the MFA from January 1, 2005, has ushered a new phase of global opportunity for the textile and clothing sector. The removal of quotas could witness the World Trade in Textiles which is at
the present US $ 395 billion to surging to over US$ 650 billion, by 2010. The expected future CAGR is expected to be 8% with textiles accounting for 5.8% and clothing being the real driver of growth with an expected CAGR of 9.6%. Hence, there lie distinct opportunities for countries possessing competitive advantages like labour, technology and raw materials rather than for those arising from favourable trade agreements.

3.6.1 Globalization of the Textiles and Clothing Value Chain

The textile industry occupies a place of eminence in the economy of all the developing economies. The case is no different for India. The textile industry in India is one of the oldest and biggest industries that caters to the essential demands of the people. Next to food, clothing is a necessity and it meets the needs of all the sections of the society belonging to all age groups, sexes, religions, social customs and civilization.

The study of textile industry is important for at least two reasons:

1. In the first place, in a number of industrialized countries, the textile industry was among of the earliest to be established since it satisfied the basic human needs.

2. Secondly, apart from the fact that industrial revolution began with the mechanization of textile production and that some of the highly industrialized countries owe much of their initial growth to the rapid expansion of this textile manufacturing industries and the vigorous growth of this sector has contributed in a major way. Textile is the second largest sector in the Indian economy in providing direct employment after
agriculture even today. As compared to other manufacturing sectors, it requires comparatively less capital and employs more labour.

This is the only industry in India which is self-reliant and complete in its value chain. India has inherent strengths in terms of multiform raw material base (i.e. cotton, jute, silk, wool, synthetic and man-made fibers), low-cost labour, intellectual capital and dynamic vibrant entrepreneurship. Indian textile industry still remains predominantly cotton based.

The research study carried by (Dicken, 1988)\(^{27}\) reveals various facets of globalization for the production of manufactured components which further supplements as key input mechanism thereby resulting in the final product. (Kaplinsky, 2005)\(^{56}\) has emphasized on the pattern of sales occurring in the developed and developing economies as part of the globalization. The perfectly competitive markets have encountered weak sales in comparison to global value chains of the world, which are regulated by predominantly external global firms. (Gibbon, 2003)\(^{34}\) argues that the global giants of the textile industry have characterized the phenomena of “network of production, distribution and marketing of particular products or group of product”. Further (Gereffi and Memedovic, 2003)\(^{33}\) are of opinion that the process of industrialization has paved traditions for many developing economic to mend their ways for succeeding in the textile business. The entry in the industry has been easy for the players and the capital requirements are also not very arduous. The industry is typified being production oriented, is characterized as labour-intensive, different knowledge levels, easy trading of goods, etc. Thereby, making this industry the foundation of the rapid export-led industry globally.
Strengths of the Textile Industry

(1) It is an independent industry.

(2) The textile industry is diversified and has potential in the domestic and international market.

(3) Versatility is terms of cotton fibre used in textile industry and a fast growing synthetic fibre industry.

(4) Self sustainable

Weakness of the Textile Industry

1.) The Indian textile industry is highly dependent on cotton.

2.) Unorganized structure of textile industry

3.) Lower Productivity in various segments.

4.) Lack of technical development.

5.) Unfavourable labour laws.

3.7 Textile Research in Group G7 Countries

India has a vast history of textiles and large textile database. As India has produced best weaves, but where this study’s textile innovations are concerned, much more research activities have been done in G7 countries. USA designs and produces yarn, cloth, clothing and has become the biggest fashion market in textile. Germany has contributed lots in development of synthetic dyes. France’s textile industry’s development is very impressive. Italy is considered the fashion capital in the fashion field. Japan is known for its weaving. Canada is hub of textile development of research. United Kingdom is the biggest fashion market especially in synthetic fabric and wool textile. Thus I have choosen India and G7 Countries for my study.
The Group of Seven (G7) was set in motion, in 1975, to hold a series of annual summit (meetings at the level of head of state or government). G7 countries include Canada, France, Germany, Italy, Japan, United Kingdom and United States. It was evident that G7 superseded G5 as the major policy coordination group during 1986-87, following the Louvre Accord of February 1987, which was agreed upon by the G5 plus Canada and subsequently endorsed by the G7. Since 1987, to observe progress in the world economy and evaluate economic policies, the G7 finance ministers and Central Bank Governors have met at least semi-annually. The director of the International Monetary Fund (IMF) is invited to participate in the scrutiny discussions held by G7 finance ministers and central bank governors.

Being a global and the largest industry, the textile industry has opened quite a few buoyant avenues for the countries engaged in exports and looking for labour-intensive industry options (Gereffi 2002). This creates newer avenues for entry level jobs for various unskilled labour in the developing nations of the world such as Bangladesh, Sri Lanka, Vietnam and Mauritius, and have shown growth in their economic development.

Brenton, et al. (2007) highlighted various reasons in their study showing the vital role of the clothing sector in the economic development. The sector has a strong potential for employing numerous unskilled labourers, having agricultural setup in rural locations. Regardless of the stumpy opening capital, development of the sector seems to be promising stronger base, building and capitalizing for the ever-changing technological environment of the other industries as a whole. Augmentation of the sector promises investment into higher technologies and support to other industries.