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# Factors Affecting Sickness of Textile Industries

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## I. INTRODUCTION

In the world of "Roti Kapada aur Makaan", the importance of Textile Industry comes at highest importance after agriculture sector. It is the highest employer after agriculture sector. The followings are the contribution of this Industry towards Nation:

- 14% Contribution to India`s Total Industrial Production.
- 5% Contribution to India`s gross Domestic Production.
- Export % - 12.59
- Over all Export: Rs.1894181.95 Crore (2013-2014). (Source: Foreign trade statistics of India)
- Direct Employment of 45 million people and indirect Employment of 60 Million people contributing to 2nd largest employer.
- 27% earning of foreign Exchange.
  Despite above positive sides, there is declination of Organised Sectors which has great impact on the growth w.r.t. employment, Export and Export Business, quality product, special Product, Revenue earnings and social impact.

## II. HISTORY OF THE TEXTILE INDUSTRIES

The oldest way to earn livelihood is farming, Textiles and various types of small professions (like preparation of earthen pots, blacksmith jobs etc).The Textile Industries started taking its own shape gradually with growing population and it`s needs. The first modem cotton textile mill was set up in 1818 at Fort Gloster near Kolkata. But this mill could not survive and had to be closed down. The first successful modem cotton textile mill was established in Mumbai in 1854 by a local Parsi entrepreneur C.N. Dewar. Shahpur mill in 1861 and Calico mill in 1863 at Ahmedabad were other landmarks in the development of Indian cotton textile industry.

The real expansion of cotton textile industry took place in 1870's. By 1875-76 the number of mills rose to 47 of which over 60 per cent were in Mumbai city alone. The industry continued to progress till the outbreak of the First World War in 1914. The total number of mills reached 271 providing employment to about 2.6 lakh persons. In those days till 1950 – 60 it used to be known as Golden Industries.

Then this Industry started fallen sick because of cheaper cloths started produced by Power loom and Hand Loom sectors. Other lucrative Industries started business such as Iron & Steel, shipping, Cement, Hospitality, Transport, IT, automobiles, Housing developments and so many. Money started siphoning from Textiles to other Profit-making Industries.

The Organised sectors started suffering because of high power cost, high labour force, labour unrest, high cost of production, lack in modernisation (who modernised in time were the survivor, say Arvind, Raymond's, Bombay Dyeing etc), less fabric cost realisation and overall Govt policy.

## III. INDIAN ECONOMY AND TEXTILE INDUSTRIES

The Growth of any country depends on its economic growth. All that Economic growth on the other hand comes from Agriculture and Industrial growth. A sound level of economy leads the Nation to eradicate poverty, to generate more employment, Industrial growth, construction, Educations, Medical, roads, transportations and all. Economic growth means GDP. Those having higher GDP will result bad economy if it`s GDP ratio come down. Whereas those having low GDP the impact will be less if it falls down to a little extent.

Indian economy is classified in three sectors — Agriculture and allied, Industry and Services. Agriculture sector includes Agriculture (Agriculture proper & Livestock), Forestry & Logging, Fishing and related activities. Industry includes Manufacturing (Registered & Unregistered), Electricity, Gas, Water supply, and Construction. Services sector includes Trade, repair, hotels and restaurants, Transport, storage, communication & services related to broadcasting, Financial, real estate, Community, social welfare.

Services sector accounts for 52.97% of total India's GVA (gross value added). Industry sector contributes 30.02%. While, Agriculture and allied sector shares 17.01%. The employment opportunity is highest in Agriculture sector i.e.53% considering highest. Industry contributes about 22% and that of services are around 25%.

After Agriculture, Textile and Clothing Industry is the second highest employer in India with 4% GDP, 14% of the country`s Industrial Production and avg.13.1 % of the country`s foreign exchange earner. This is the one of the oldest Industry in India and is mainly divided into (i) Handloom sector, (ii) Power loom sector (iii) Organised sectors. This Industry is in general suffering because of improper Govt policy, unskilled labours, higher labour cost

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in organised sectors, lack in vision and mission, old machineries, more power cost, hunger for quick return, etc.

To save this Textile Industry, it needs to improve productivity, Quality, Export in comparison to China, Bangladesh with cost effectiveness and to create market in abroad. Modernisation, Skill improvements, effective Managements are need of the hour. Our Export is avg 38.9 Billion dollars among 296.4 Bn Dollar of whole Export of the country. We have 19% raw material available out of the whole world whereas China is having 21%. But our export is only 38.9 Billion dollars as against China`s 370 Billion Dollar.

The Textile Industry is a very labour intensive and the second largest employer after Agriculture sector. It provides job to 45 million people directly and 60 million people indirectly.

The Indian Textile Industry has the capacity to produce some wide verities of products suitable to different Market segments both within India and across the world. (ref: ministry of Textile, ITJ, Dept. of Industrial Policy & Promotion, press information Bureau).

This Industry is suffering in Export Market in competition mainly due to large scale quality product and Garments from China and even from Bangladesh. In domestic market the sufferings are mainly due to lack in modernisation, lack in profession, high labour and power cost, and poor Mission, Vision and strategic Planning by most of the Mills. Siphoning of money to other more profit-making Industry, stiff competition within the country with Handloom and Power loom sectors, unskilled labours are the root cause. In Organised sectors we must reduce the cost of Production by controlling the Units at every step by modernising, by improving skills and by adding value-added productions. The Govt. recent skill India movement is one right step in this direction.

India being Socio – economic country, we must encourage both Handlooms, Power looms, Khadi as well as Organised sectors in both ways. To sustain in long run for the Textile Industry Sustainable Textile Productions are being started which consists of Quality Management system, Environmental Management system, Environmental Performance, health & Safety. (expert study).

As per the Reports published in TOI, dated 29th May `16 that Khadi Fabric sales up by 29%, cross Rs.1500 CR for the first time which were mostly at back door and was a limited user by the limited people. The main steps were taken are inclusion of value added productions, various types of products which can be used by the common people in large scale.

Hence, Textile Industry can save the Nation w.r.t. employment, growth & GDP, can reduce Trade**&**Fiscal Deficit.

## IV. TODAY`S SCENARIO

Although there is marginal Growth of Textile Industry there are lots of shortfalls which have the great reasons for not investing by the Entrepreneurs. Let us see the shortfalls.

- The Export business in global market of India is only 3% as against 13.75% of China, 6% of Korea, 5.5% of Taiwan, and others are in fray are Turkey -2.9%, Thailand -2.3%, Indonesia – 2%. The reasons are low investment level, Technology, quality and Logistics.
- Even today, this Industry is one of the largest contributor to Indian Export with approximately 11% - 15% of total Exports.

| Year | Total Export | Textile Export | % (ref: Ministry of commerce) |
|---|---|---|---|
| 2012-13 | 300.4 Bn. Dollar | 34.9 Bn. Dollar | 11.62 |
| 2013-14 | 314.4 do | 39.3 do | 12.50 |
| 2014-15 | 309.6 do | 41.4 do | 13.37 |
| 2015- 16 | 261.1 do | 40.0 do | 15.32 |

- The total export has come down in the year 2015-16 because of world recession, but the Textile Export was good.
- The Textile strike was called on 8th January `82 by trade Union Leader Mr. Datta Samant and 80 mills in Central Mumbai was closed.
- Per Capita available of cloth is 43.96 Sq. Mtr.in 2010-11. (Source: foreign trade statistics of India, Principal commodities & countries).
- NTC was set up in April`68 for Managing Sick mills. There were Installed 119 mills but now only 23 are functioning.
- As on January 2009, there were 1,828 mills in the organised sector in India. Of these, 177 mills were composite mills and 1,651 mills were spinning mills. The cloth production in the organised mills sector has increased from 1,496 mn sq mtrs in 2002-03 to a projected 1,796 mn sq mtrs in 2008-09 (P). Despite the increase in the production, the organised sector contributes merely 3% to the total fabric production of the country. The remaining 97% of the fabric is produced in the unorganised sector.
- The competitiveness of composite mills has declined in comparison to power looms in the decentralised segment. Policy restrictions relating to labour laws and the fiscal advantages enjoyed by unorganised sectors are two of the major constraints that are responsible for the decline. The number of composite mills in India decreased from 285 in 1999-00 to 177 in January 2009.

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| Items | Units | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13(provision) |
|---|---|---|---|---|---|---|---|
| Spg. Mills (Non -SSI) | No | 1597 | 1653 | 1673 | 1757 | 1761 | 1762 |
| Composite Mills (Non- SSI) | No | 176 | 177 | 180 | 183 | 196 | 199 |
| Total | No | 1773 | 1830 | 1853 | 1940 | 1957 | 1961 |
| Exclusive Wvg. Mills,Non -SSI | No | 179 | 184 | 183 | 174 | 173 | 173 |
| Spg. Mills – SSI | No | 1219 | 1247 | 1260 | 1333 | 1336 | 1340 |
| Power Looms – Units | Lakh no | 4.69 | 4.94 | 5.05 | 5.18 | 5.20 | 3.12 |
| Looms (organised sectors) | Lakh No | 0.56 | 0.57 | 0.57 | 0.53 | 0.52 | 0.52 |
| Hand Looms | Lakh no. | 38.91 | 38.91 | 23.77 | 23.77 | 23.77 | 23.77 |

Table 1.Textile Industry – over view (source: Ministry of Textile)

| Year | No. Of power Looms | Growth % |
|---|---|---|
| 2009- 2010 | 22,46,474 | 1.90% |
| 2010-2011 | 22,82,744 | 1.61% |
| 2011-2012 | 22,98,377 | 0.68% |
| 2012-2013 | 23,47,249 | 2.08% |
| 2013- 2014 | 23,67,594 | 0.86% |
| 2014-2015(up to Nov – 2014) | 24,34,717 (inclusive of 2 lakhs shuttle less looms) | 2.74% |

Table 2. No of power looms in India (Resource: Ministry of Textile)

The no of power looms in India is increasing gradually because of easy investments. But how many of them are at comfort positions? How many of them can sustain for a long time.

| As On | No 0f Mills | | | No of Mills closed | | |
|---|---|---|---|---|---|---|
| | Spg. | Composite | Total | Spg | Composite | Total |
| 31.03.02 | 1579 | 281 | 1860 | 295 | 126 | 421 |
| 31.03.03 | 1599 | 276 | 1875 | 350 | 134 | 484 |
| 31.03.04 | 1564 | 223 | 1787 | 374 | 94 | 468 |
| 31.03.05 | 1566 | 223 | 1789 | 379 | 99 | 478 |
| 31.03.06 | 1570 | 210 | 1780 | 387 | 96 | 483 |
| 31.03.07 | 1608 | 200 | 1808 | 381 | 87 | 468 |
| 31.03.08 | 1597 | 176 | 1773 | 318 | 63 | 381 |
| 31.03.09 | 1653 | 177 | 1830 | 340 | 65 | 405 |
| 31.03.10 | 1673 | 180 | 1853 | 365 | 68 | 433 |
| 31.03.11 | 1757 | 183 | 1940 | 471 | 81 | 552 |
| 31.03.12 | 1761 | 196 | 1957 | 475 | 84 | 559 |
| 31.03.13 | 1771 | 198 | 1969 | 487 | 84 | 571 |
| 31.03.14 | 1757 | 197 | 1954 | 457 | 81 | 538 |
| 31.03.15 | 1776 | 200 | 1976 | 478 | 81 | 559 |

Table 3. No of Cotton / Man-Made Fibre Mills And Closure Position (Non –Ssi)

- During Mar., 2015, two spinning mills were closed and no composite mill was closed, no spinning mill was reopened or no composite mill was reopened, keeping the total closed mill to 559. The 559 closed textile mills had an installed capacity of 10.21 million spindles, 1.29 lakh rotors, 0.36 lakh looms and 2.86 lakh workers on roll as on 31.03.2015. (6.iii)
- Out of 559 closed mills, 39 mills are under Official Liquidator. (6.iii)

- From the above table, it is found that in one way, the number of Mills are increasing especially the Spinning Mills, other way about 28% mills are closed down.
- The looms in Organised sector is not much growing but the power looms are growing gradually.

## V. WHY TEXTILE INDUSTRY (ORGANISED SECTORS) IS SUFFERING

It is a fact that the Textile Industry has lost its glories. In earlier days, it was known as golden business and the Jute was known as the golden crops of Bengal. Gradually this Industry has come to such a condition that hardly any new composite mills are installed for last several years. The Industries who are running today because of their professional attitude. The cotton fabrics are taken by Polyester Industries and hence the Manmade Fibre Industry in zooming although not at per with Chemical & Fertilisers, Iron & Steel, Cement, Estate, Oil & Petroleum, Pharmaceuticals, Hospitality, Sugar, Shipping, Education, Transport, Telecommunication, Medical & Health care and IT Sectors etc. It is the poorest paid salary among all other Industries and hence the new generation of student`s are showing least interest in studying the Textile Engineering. Hence some Engineering colleges have stopped taking students in Textile course. The causes are.

- *Unprofessional Management*

From the very beginning this Industry is managed by unprofessional and the top Management people are mostly related to the CMD and his families. They preferred to recruit people from their own community, religion, from his native place, relatives rather than proper qualified professionals. Hence there was a limited growth for the professionals to come to a Top post. There is no transparency in promotion or increment policy nor any clarity in the system. Nepotism is always preferred keeping aside any positive contribution, hard work and constructive work. “Work Hard” system was gradually disappeared and taken by “Work smart”. Hence the real contributor prefers to leave and join another organisation. The Mission, Vision and Strategic planning’s were prepared within the periphery of 4walls. However, the Brand Imaged organisations like Arvind, Bombay Dyeing (only POY Div.), Mafatlal (only Denim), Century cotton (Shifted from Mumbai to Baroch), Raymonds(Thane division is closed), Madura Coats, Vardhaman etc are surviving (Fully or Partly) because of their professionalism and good Managerial Capacity. Other Organised sectors are suffering because of poor quality concept, feel burden on R&D, do not keep proper Employer /employee relationship, more siphoning of money rather than to invest. Although having ISO norms, but mostly they are manipulated. The ISO training is not implemented to the grass root level thinking it an unnecessary investment and hence a big lacuna always remains.

- *Quick Bucks:-* Most of the Textile Managements siphoned off the money from this Industry because of low profit abilities and invest to some other profit making organisation. Such as: DCM cloth to Sugar Industries, Raymond`s Textile (Till existing) but started Cement factories, Century cotton started Ultratech Cement, Reliance “Only Vimal” shifted to POY and Petro chemicals, Keshoram Cotton Mills, Kolkata shifted to Cement etc. Tata Textile is no more in Textile business although the Tata Managed Empress Mills, Nagpur was the oldest.Tata Group preferred in Software, Hospitality, Automobile, Heavy Engineering, Electric Supply, Communication, Chemicals etc.

- *About Tata Mills:-* During Swadeshi movements, the feelings were brought among the Indians to wear the cloths manufactured in India to support the Indian Textile Industries and create employment in Indian Sub-continent. Sir Jamshedji Tata, before Tata Steal (in 1907) established the largest Textile Mills at Nagpur known as Empress Mills, in the year 1874 with 4300 operatives. Then started Swadeshi Mills, Nagpur in the year 1892 with 900 operatives. They Introduced PF in 1886, pension fund 1887, accident compensation scheme in the year 1895. It started facing the problems due to the shortage of Skilled and semiskilled labour and huge absents of as high as 60 days in a year during festivals and harvesting seasons. The product range was just of coarse and Medium cotton count turned Adverse, the Mills losses began to mount. Then Ratan Tata wanted to modernise seeing large labour consignment (13000 force) but it was not sufficing. The Tata preferred to shift the Investments to Telco, Hospitality, IT, Steal Plant for the better and higher return than that of Textile. Both the Units of Nagpur were closed in the year 1986 and were taken by NTC. But they could sustain up to the year 1990 and were ultimately closed. Similar case was with Tata Textile, Dadar and Swadeshi Mills, Kurla. The Swadeshi, Kurla a unit of 115 years old and was closed in the year Nov `2000 with the labour force of 2800 workers. Later, taken by NTC, but now it is a golden area for the Land Mafia. The Tata Textile, Dadar was closed in the year 1985, taken by NTC but could not sustain.

- *Shifted Mills:* Almost all the organised sectors in Central Mumbai sold out the lands and the factories are either closed or shifted to some other places. Even NTC Mills were closed where the latest Sky Scrapers are found. In Thane area, the Mills like Modella, Castle Mills, Raymond’s were closed for the same reason. The table below lists the names and district locations of Mumbai's former mills, and the structures (if any) that stand on their land today. This list is not exhaustive.

| Name of former mill | Location | New development |
|---|---|---|
| Ambika Mills | Worli | Namaste Tower |
| Apollo Mills (South) | Mahalaxmi | LodhaBellissimo/Primero |
| Bharat Mills | Lower Parel | India Bulls Blu |
| Bombay Dyeing & Manufacturing Company | Worli | Hard Rock Café[3] / ICC Bombay Realty |
| Bombay Dyeing (Spring Mills) | Dadar | Spring Mills tower |
| Bradbury Mills | Jacob Circle | No development |
| Century Spinning & Weaving Mills | Worli | Century Bazaar |
| China Mill compound | Sewri | Dosti Flamingos[4] |
| Dawn Mills | Lower Parel | Peninsula/Piramal Project |
| Digvijay Mills | Kalachowkie | No development |
| Elphinstone Mills (South) | Elphinstone | Indiabulls Finance Centre and Indiabulls Sky Suites |
| GokuldasMorarjee Mills no.1 | Parel | Ashok Towers[5] |
| GokuldasMorarjee Mills no.2 | Lower Parel | Peninsula Corporate park |
| Gold Mohur Mills | Dadar | No development |
| Hindoostan Spinning & Weaving Mills No.1 | Jacob Circle | Raheja Vivarea |
| Hindoostan Spinning & Weaving Mills no.2 | Jacob Circle | Kalpataru Heights |
| Hindoostan Spinning & Weaving Mills no.3 (Crown Mills) | Prabhadevi | Orchid Crown |
| India United Dye Works no.6 (North) | Prabhadevi | India International Trade Centre |
| India United Mills no.1 (North) | Parel/Currey Road | No development |
| India United Mills no.2 | Kalachowkie | MCGM |
| India United Mills no.3 | Kalachowkie | MCGM |
| India United Mills no.4 | Kalachowkie | MHADA |
| India United Mills no.5 | Byculla | No development |
| India United Mills no.6 | Mahim | No development |
| Jam Mills | Lalbaug | MHADA |

From the above table, it is very clear that the Textile Mills were closed down and the Lucrative Business i.e. sky scrapers have come which are more profit oriented.

- *Family Dispute:* Some mills closed their shutters because of the dispute within the family. Hence the Business was closed or divided. For Example: Modern Group. Modi Spg &Wvg mills, Birla group etc. But elaborate facts not available.

- *Not willing to run the Industries:* Some Industries totally closed down their shutters, sold out the mill lands and invested somewhere at 'no risk zone' or enjoying retire life. Take the examples of all the organised sectors in Mumbai, Thane, and Kolkata area where the lands are sold out and sky scrapers are seen. Because the Industry is labour oriented, facing cut throat competition and gives less profit margin than other industries, some industrialists preferred not to run the business. They were not interested in putting money and the industries started suffering. In the year 1968, the NTC was formed to save the Industries and employments who took over 119 mills, but could not run because of mismanagements. Mostly

  Sufferers are Unorganised Sectors. So many of them closed down their shutters and shifted to their native places.

- *Mills situated at unsuitable place:* Some mills were closed down because of not suitable location. Such as Dhakeshwari Cotton Mills at Asansol (west Bengal) where the logistic cost was too high. The Asansol is a place of Coal Mine, Iron & Steel and Engineering sector rather than a Textile Sector. It was difficult to get the skilled labour, spare parts and raw materials. The same was with Prag Bosimi at North East (near Gwahati). It faced High Logistic cost as there was no market of Polyester yarn at N.E. They had to sale their products in western India at the similar cost of that of Reliance and Indorama, but could not cope up with the high

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Transportation cost. They even tried to transport by Railway Wagan but that also failed because of more material Handling, more time to reach at Silavassa / Surat area. Similarly, the Jute is mostly produced at Bangla Desh and the Looms are at West Bengal. Hence this Industry suffered in both countries.

- *Not conversed with latest Production/ Technology.* Some of the industries were strict with their traditional product only. Take the example of Khatau Mills. It was very famous for voiles but never shifted to other range of product even though the market of voiles came down.

The NTC Mills could not survive because of mass production of Janta cloth (a non-profitable product), not matching with the latest need of the Market and overall Mismanagement. Another thing is that hardly any R&D and quality aspect was taken care to converse with the latest technology.

- *Who Survived:-* Time to time there is change in fashion and those who followed the latest trends were survived. For example, Raymonds Group, Arvind Group, Century cotton, Tridents Groups, Vardhaman groups, Nahar Group who are good for Denim and value added special Products, RSWM Gr. Sangam India, Dinesh Suiting, Grasim Suiting, Aditya Birla Gr. (monopoly in Linen Products etc.). They have the proper Market strategy in domestic as well as in Export market. They have formed the collaborations in international Market such as Raymond`s Denim collaborated at Belgium. The profit margin increases if the mills take the theory of (i) Not to produce low demandedand unwanted materials. (ii) Look after Gross profit margin (iii) Less Manpower (iv) Consistent Quality and improvements through R&D (v) To maintain the Brand Image (vi) Advertisements, public awareness (vii) Cost cutting measures at all levels (viii) Continuous Technology upgradation (ix) Enhance skill of the employees through trainings and learning centres. (x) To increase the volume (xi) Good rapport with various private and Government Agencies (xii) Good back up with Raw materials such as agriculture to fabric stage.(Grasim is the example),(Reliance Industries from PTA to yarn) (xiii) Finished product to garments.(expert views)

- *Per capita Cloth Consumption:*

| Per capita Cloth Consumption ( Sq.Mtr) | | | | |
|---|---|---|---|---|
| | India | US | EU | China |
| year 2005 | 19 | 680 | 647 | 52 |
| year 2010 | 30 | 690 | 701 | 119 |
| Year 2015 | 44 | 727 | 729 | 209 |
| source ITMF | | | | |

Although the per capita consumption of cloth has increased in India which is mainly due to growth in Population and mainly fashion trends in urban areas but it is not sufficient. A country of densely populated, out per capita consumption of cloth should have been much higher. As on the year of 2016, the Indian Population is 133 CR and 22% (about 29 CR) population are Below poverty line (BPL). Hence the consumer population is 104 CR in India. (source: National commission of Population). In comparison to other leading Nations, our contribution is too low. That leads to excess stock pile up in Textile godowns forcing the entrepreneurs to curtail the production or closing down the units. Cheaper cloths with good margin (that is possible with high speed looms and with the conception of agriculture to fabric), good quality of fabrics with fashion, Garments manufacturing at rural areas will increase our cloth consumption.

- *Old and obsolete machineries:* Because of the old machineries and lack in modernisation, maximum number of Industries could not compete either in domestic or in Global market. As per the report from the Office of Textile Commissioner, in March 2015 there are 1, 20,000 shuttle less looms in comparison to world`s population of 20, 00000 Shuttle less looms contributing to 6% only. In spinning sector, 49 million rotors are in India comparison to 2500 million of Spindles of world which is 20%. It is including SSI &Non-SSI units. (Source, Textile commissioner office). In so many cases, New machines are purchased but not properly utilised because (i) the machines of previous process or the next process are not suitable in line-up of the new machines. (ii) The trend manpower not available nor the people were trained(iii) Labour dispute that the Concerned operators demanded higher wages (iv) The raw materials not suitable for such High-Speed Machine. The Concept of Man, Material, Machine, Method, and Management are not clear; hence the Project gets fail.

- *Raw material cost:* High and fluctuating Raw material cost, high Power tariff and power cuts, more labour oriented, high price of spares and stores, more maintenance cost and in comparison, less profit margin and poor return, high operation cost, steep competition forced most of the Organised and decentralised sectors had to close down the shutters. Some decentralised sectors prefer to purchase the spares and stores with local market of inferior quality but that lands up in mess. The NTC mills were forced to buy cotton from Cotton Corporation of India only which were costlier than normal Market value and hence production cost went high. The ISO marked organisations, in general, prefer to purchase from ISO marked companies only but because of higher price quoted by them, the manufacturing cost goes high. It should be a balanced Management decision that how best the production cost can be minimised with fluctuating Raw material cost and high cost of Power Tariff and spare &Lubricant cost.

- *Companies not conversed with latest Maintenance Policy.*

The most of the companies especially the un organic sectors are not aware of the Maintenance Management system. In the unorganised sectors, most of them feel that proper Maintenance Management is a waste of time, money

and production. They don`t have the clear vision and strategic planning. Most of them are having only breakdown Maintenance policy. Proper scheduled maintenance i.e. Preventive, Predictive, routine (daily, weekly, biweekly, Monthly, quarterly, half yearly, yearly maintenance) are must. It will give less power cost, high production, better quality and even less manpower requirements. A proper oiling and cleaning system is essential for getting smooth running of the machineries. All the Textile Research associations are having the Oiling and clearing schedule but most of the Organisations ignored. The decentralised sectors are not willing to accept the system in a fear of growing expenditure and hence they meshed up. Most of them tries to go for cheaper quality of spares but that effects other parts which are better enough.

- Not aware of the minute steps for the energy saving process.

➢ *Energy Saving & Conservation in Textile Industries (excluding wet processing)*

Now -a -days the modern machineries are equipped with heavy duty motors for high speed and better production.

- In spinning department, the Ring frame consumes maximum energy and hence there should be energy efficient motors. To use light weight bobbins as far as possible.
- In Sizing department, maximum energy is wasted due to steam leakage. Hence the Transportation of steam can be minimised. Foam and solvent sizing can be used. Steam leakage should be controlled by regular audit.
- In Loom shed, instead of heavy duty motor, energy efficient motors can be used depending on Fabric quality. Compressed Air can be used in Air Jet looms. Regular greasing and maintenance of Motors are must.
- Now a days self-lubricated motors are available, that can be used.
- Apart from above, the following measures can be adopted for Energy conservation.
- CFL/LED bulbs can be used. The height of the lights can be lowered. "switch – off the lights when not required "should be the conception and to make awareness among all. Individual switch can be provided. To use Lamp shed.
- Heating by electricals can be replaced by steam.
- Air Conditioning Temperature can be 32 degrees instead of 30 degrees in Texturisation department. In winter and rainy season, 34degree temperature can be used. The modern and effective air conditioning system can be used. The conditioning can be on warp sheet at Loom shed.
- Regular Energy Audit is must.
- Solar heat, Wind Mills can be provided. Tree Plantation surrounding the Mills will cool the Factory premises. Roof top can be provided.
- To put energy efficient exhaust fans in the suction system should be lighter.
- Interior finish, colour effects the illuminations.
- All the motors must have regular maintenance for energy savings.
- Machine maintenance at periodic intervals (as per the suggestion from the Machinery manufacturers) will reduce energy consumption.
- In modern construction, the ceiling height must not be too high.

By taking appropriate measures and with proper innovations, the small sectors can save huge energy and can save production cost. Then they also can survive.

- *Misc Challenges:* Slack demand, delay in payments by 3rd party, Steep increase in Project cost, uneconomic pricing formula decided by Govt. Disturbed industrial relation , untrained workers and staffs, too much pressure on the staffs force to fulfil the results and targets , unsuitable working atmosphere , compel them to leave or become upset , long duty hours, poor facilities like canteen , leave , poor salary and wages, unnecessary harassment , lack in proper information, poor transparency and clarity in Promotion policy , less job security demoralise the work force. As they take least interest, the company suffers directly and indirectly. In several places, there are Political pressures are given in recruitment process, union pressure which affects inefficient and in disciplined workers to grow. Sometimes it becomes too difficult to run the production department in controlled way.

## VI. ABOUT THE TEXTILE MACHINERY MANUFACTURERS.IN INDIA

- As we know that the Natural Fibres i.e. Cotton, Jute, Silk, Hemp and their large-scale manufacturers suffered a lot that leads to the Closer of the Industries and then the question arises what about the Machinery Manufacturers? It all comes under Ministry of Textile under the Control of Commissioner of Textiles. Under the Ministry of Textiles, the followings are attributed (i) Hand Loom sectors (ii) Power Looms sectors (iii) Organised Sectors (Textile) (iv) Unorganised Sectors SSI. (v) Silk Industries (vi) Jute and allied Industries (vii) Manmade Textile / Art Silk Industries such as Viscose, Rayon, Cupronium etc. (viii) Textile Machinery Manufacturers and their selling Agents.
- As all the Textile Industry suffered in all sectors because of (i) poor Mission & Vision (ii) remain with old system and Technology (iii) Not updating the Market Requirements as it changes very often (Iv) with poor marketing strategy (v) High Production Cost (vi) More manpower (vii) Less skilled employees (viii) Want quick and high returns and hence siphoning the money and invest in more lucrative business (ix) Wrong Govt Policy matters and many more. (x) Unbalanced Technology, say for the high-speed Looms, it requires better yarn (Raw materials), better yarn preparation to meet the loom demand, and hence it requires overall upgradation. But in so many cases especially in NTC Mills and in some unorganised sectors sequence wise, vertical modernisation was not followed. Hence the

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Investment went wrong and the Industry suffered or faced closures. Accordingly, the Machinery suppliers also faces closure.

*A. The Machinery Manufacturers suffered or faced closer are*

- *Texmaco, Kolkata*, a Birla group and the oldest among all. It used to Manufacture Ring Frame and Cotton yarn manufacturing machines. It was closed in the year 1993. Now Texmaco is manufacturing Railway Wagons. They have absorbed the workers who were employable from Textile Machinery Section to Wagon Section.

- *Mafatlal Engineering at Thane*, Mumbai. It used to manufacture Spinning Machinery &Ruti-B shuttle looms. It was an automatic Pirn changing machine. After the entry of Shuttle less high speed looms, the demand of Ruti – B slackened because of (a) Speed limitation of the Shuttle Looms, (b) Lots of machine settings and tunings are required to get it proper running. (c) Shuttle less looms require less maintenance than that of Shuttle looms. (d) Shuttle less looms can produce almost zero defect fabrics whereas, Ruti – B shuttle loom could produce fabric defects of around 4-5%. (e) Shuttle less looms require less man power and hence it gives less production costs. There was slowdown in Textile Industry after the Great Mumbai Textile Mill strike in 1980 by Dr.Datta Samant and also Govt Policy of supporting Handloom & Power loom sector. Organised Mills in Mumbai & Gujrat faced Closures. Due to low demand & huge labour work force, unable to pay Salary & Wages, Mafatlal Engineering was closed down in the year 1989 with 2700 workers. The land is till disputed and the dues of the employees are not yet cleared.

- *MMC, Kolkata* used to manufacture Textile spinning back process Machineries and was closed in the year 1987. It`s second unit at Hosur, Karnataka also had to close down due to less demand, high interest payment for setting up the new factory at Hosur.The factory is surviving it converted in to manufacturing of OTIS elevators.

- *New Standard Engineering (NSE) at* Goregaon, Mumbai was also a manufacturer of Cotton spinning machines butclosed down in the year 1993. Now the land is given for Industrial Exhibition and Fairs.

- *CIMMCO, Gwalior* a Birla Group used to produce automatic Shuttle loom with Pirn Change mechanism. It was also closed down in the year 1998.

- *The Laxmi Automatic Loom works (LAL), Hosur*, Tamil Nadu also faced closure. They were pioneer of manufacturing Ruti-C automatic Pirn Changing Looms with High speed. But with the arrival of Shuttle less looms with higher speed and better fabric realisation, Ruti -C started suffering from the year 1996. The maintenance cost was higher even than that of Ruti – B and CIMMCO. The LAL was closed down completely in the year 2005. It started suffering from the year 1996 but did not pay any attention to convert in to shuttleless loom.

A photo copy of the statement of the Management is enclosed that why they suffered and found it was not Viable to for modernisation from Ruti – C to Shuttleless looms. A photo copy of the statement by the Management is affixed. Now they are in the business of selling only spare parts with limited workforce.

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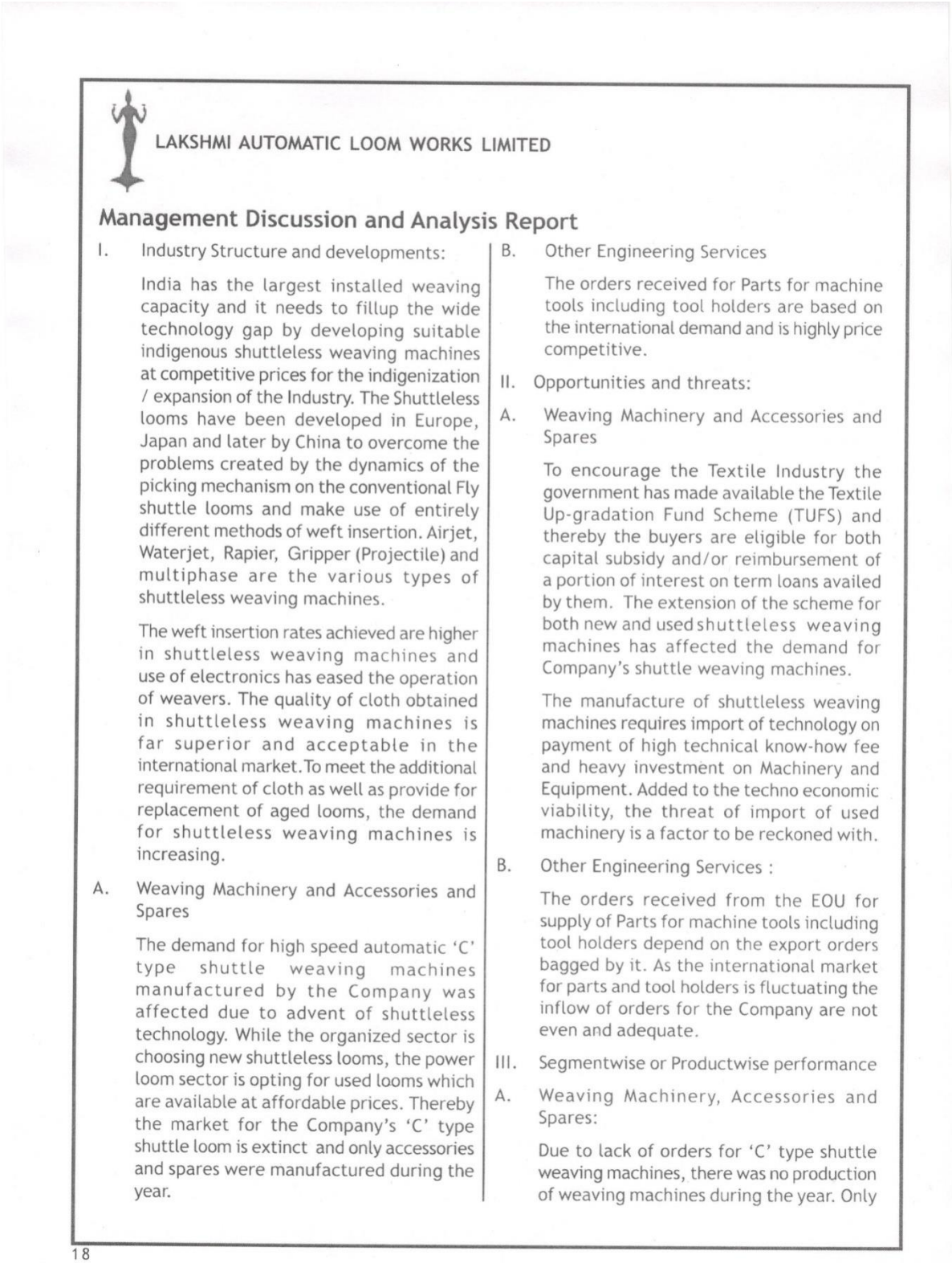

LAKSHMI AUTOMATIC LOOM WORKS LIMITED

## Management Discussion and Analysis Report

I. Industry Structure and developments:

India has the largest installed weaving capacity and it needs to fillup the wide technology gap by developing suitable indigenous shuttleless weaving machines at competitive prices for the indigenization / expansion of the Industry. The Shuttleless looms have been developed in Europe, Japan and later by China to overcome the problems created by the dynamics of the picking mechanism on the conventional Fly shuttle looms and make use of entirely different methods of weft insertion. Airjet, Waterjet, Rapier, Gripper (Projectile) and multiphase are the various types of shuttleless weaving machines.

The weft insertion rates achieved are higher in shuttleless weaving machines and use of electronics has eased the operation of weavers. The quality of cloth obtained in shuttleless weaving machines is far superior and acceptable in the international market. To meet the additional requirement of cloth as well as provide for replacement of aged looms, the demand for shuttleless weaving machines is increasing.

A. Weaving Machinery and Accessories and Spares

The demand for high speed automatic 'C' type shuttle weaving machines manufactured by the Company was affected due to advent of shuttleless technology. While the organized sector is choosing new shuttleless looms, the power loom sector is opting for used looms which are available at affordable prices. Thereby the market for the Company's 'C' type shuttle loom is extinct and only accessories and spares were manufactured during the year.

B. Other Engineering Services

The orders received for Parts for machine tools including tool holders are based on the international demand and is highly price competitive.

II. Opportunities and threats:

A. Weaving Machinery and Accessories and Spares

To encourage the Textile Industry the government has made available the Textile Up-gradation Fund Scheme (TUFS) and thereby the buyers are eligible for both capital subsidy and/or reimbursement of a portion of interest on term loans availed by them. The extension of the scheme for both new and used shuttleless weaving machines has affected the demand for Company's shuttle weaving machines.

The manufacture of shuttleless weaving machines requires import of technology on payment of high technical know-how fee and heavy investment on Machinery and Equipment. Added to the techno economic viability, the threat of import of used machinery is a factor to be reckoned with.

B. Other Engineering Services :

The orders received from the EOU for supply of Parts for machine tools including tool holders depend on the export orders bagged by it. As the international market for parts and tool holders is fluctuating the inflow of orders for the Company are not even and adequate.

III. Segmentwise or Productwise performance

A. Weaving Machinery, Accessories and Spares:

Due to lack of orders for 'C' type shuttle weaving machines, there was no production of weaving machines during the year. Only

18

- The main reasons of the closing of the above Machinery Manufacturers are (i) Went for traditional and Old Technology (ii) High work force (iii) Not coping with latest Technology and new Market demand (iv) The Auto loom manufacturers remained with shuttle where there were big technical limitations such as speed, running cost, maintenance cost, and a weaver could handle max 12 looms. Whereas in case of Shuttle less looms with latest technology, a weaver can go for as high as 16 looms and higher production. (v) Similarly, with the Spinning machine manufacturers i.e. sophisticated Technology, auto doffing, auto stop motions, less running costs and less manpower were the requirements but they did not pay proper attentions on these aspects. Hence faced Marketing problems and ultimately faced closure.

- Today it is the survival of the fittest. Those Machinery Manufacturers are in the market with good business are

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(i) Lakshmi (LMW), Coimbatore (ii) Reiter India, Pune (iii) Kirloskar – Toyota, Bengaluru (iv) Schlafhorst, Baroda, manufacturer of Spinning machines and Auto Coner (v) Trutzschlerindia, Ahmedabad. They are all doing well because of the Technology and proper R&D. They have the proper Marketing Vision and strategy with trained staffs and manpower. At the manufacturing stage, they have the fully automated Plant with updated Technology.

- At Present the highest Textile Machinery Manufacturers are China (Blow Room to Fabric stage), India (Cotton Spinning machinery), Italy (mostly Looms), Japan ( Looms) , Taiwan ( looms and knitting machines) and India is a Potential Buyer . In one side, some are closing down because of poor strategy, but some are coming up/surviving especially in small sectors with China Looms.

- The organisations who are selling Agents of the Textile Machineries such as ATE (Associate Textile Engineers), Voltas, Engineering & Agencies are doing well as they have adopted a good marketing Strategy of serving the upcoming Industries with sophisticated technology.

- Hence it can be said that the closure of the Textile Machinery manufacturers was due to the use of Traditional Technology who did not pay timely attention to face the demand of latest technology by Textile Industry. Those who are doing well because of their strong Marketing strategy and offering latest technology.

## VII. WHY THE NATIONAL TEXTILE CORPORATION (NTC MILLS) CLOSED DOWN

It is a company owned by the Indian government. The company was incorporated in April 1968 in order to undertake the Sick mills and keep on employment as the Textile Sector is the highest employer next to Agriculture.

The National Textile Corporation Limited (NTC) is a Central Public Sector Enterprise under the Ministry of Textiles which was incorporated in April 1968 for managing the affairs of sick textile undertakings, in the private sector, taken over by the Government. Starting with 16 mills in 1968, this number gradually rose to 103 by 1972–73. In the year 1974 all these units were nationalised under the Sick Textile Undertakings (Nationalization) Act 1974. The number of units increased to 119 by 1995. These 119 mills were controlled by NTC(HC) Ltd with the help of 9 subsidiary Corporations.

*Vision :*

To be a World Class Eco-Friendly Integrated Textile Company, catering primarily to the clothing needs of the Nation.

*Mission :*

To be a Leading Textile Enterprise steadily improving capacity utilization, Economy of Operations, Productivity, Quality, Brand Images, Market Share and Export.

But all those remained unsuccessful!!

- Initially to run all the mills, Govt of India started investing the money. There was not proper Planning how to run the Mills. It was all haphazard. There was no Marketing network. There was no expert or professional in marketing nor any marketing strategy that what to produce, what to sale, where to sale. There were NTC Show rooms which could not be utilised nor could be attracted by the public. They used to produce grey cloths without any value addition.

- They could not create a competitive market although they had very good product like Rubea, sacha Hira (Finlay), check shirting for school uniform, and handkerchiefs.

The product cost was on higher side because of excessive labour force, fewer utilisation of the machineries and at most places old machineries. The quality standard of most of the products was not up to the mark. Because of globalisation, cloths started arriving from neighbouring countries and NTC could never compete with them. No proper Market Research was done to produce value added products. Though there were ample of retail outlets even at remote places, there was no proper field survey.

- To produce value added product, Technical Textile, Suiting, shirting's etc and to face the competition it required modernisation. Which was not done at proper time. If modernisation done it was not utilised for the right product at right place.

- No labour rationalization was done, it remained with excess labour force. Although VRS was implemented but there was no policy decision to whom to retain and to whom to leave. In western sectors, the labours were much cooperative, but in eastern sector, there were some unrest and Political interference. As a result, the modernisation was difficult. No proper Policy decision was taken in eastern sectors how to improve the efficiency. The work culture needed to improve all over India as most of the workers started thinking that they cannot be touched. Due to political interference, the Officers were under fear and they used to get transferred. Due to Socio economic problem no worker could be retrenched. There was no manpower planning or fore sightness that how many people will retire and to whom to place at proper position. How many to recruit year wise so that works should not effect. The Govt of India was just reimbursing the losses instead of modernising and making the units viable.

- Selection of Machineries was also wrong. It was not selected as per the Product mix. For example; Tata Mills purchased Sulzer looms and Beninzer Warping Machine to run dyed yarn shirting. But it never run. For such products, Airjet looms could have bought at lesser price with more production. For design shirting, Rapier loom was preferable. It can be said that it was (i) Untimed modernisation, (ii) Unplanned Modernisation (iii) Improper Modernisation (iv) Wrong modernisation.

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- Before purchasing any machine or to run a product mix, the Expert`s opinion should be taken and market survey should have done but NTC did not pay any heed in to it.
- To run any organisation it requires 10% - 20% Technical knowhow, the rest 90%-80% are required for proper strategic Planning, Marketing, Finance, Administration, HR Policy and over all Policy decision how to make the units viable. After NTC taking over, the new administrators could not visualise the same.
- The decision making process was slow. A machine is under breakdown but decision is coming late whether to purchase spare or to replace. For all other matters, the day to day works suffered because of late decision, who will decide in what matter and who is the deciding making right person.
- Forced to buy raw material from Cotton Corporation of India(CCI) whose price was at higher side than that of normal Market. NTC Mills were forced to manufacture Janta Cloth (control cloth with cheaper verities). In these verities, quality was not given prime importance and it spoiled work culture among the weavers. It was used to purchase by Govt only. When slowly subsidy was reduced, NTC had to adopt value added cloth to produce, but the weavers habit and culture deteriorated.
- Most of the Mills were composite i.e. Spinning, Weaving and Dyeing. To stop Air pollution, the Boilers were closed and hence the Dyeing units were closed down. It effected the profit margin. Further, because of high cost of NTC products, the other Govt organisations like Railways, Defence, hospitals, never preferred NTC products.
- To make it profitable, they would have declared every single unit as Profit making zone rather to have Centralised power at Delhi and zonal Headquarters. That created only heavy headed administration with political Interference.

*A. Steps taken by NTC to make it viable:*

- 18 units have to be modernised by NTC itself.
- 05 mills have been revived through Joint Venture with private players.
- Improvement in utilization, improvement in Productivity, production of value added products, improvement of quality, implementation of work load agreements, power purchase agreement, engagement of women workers etc.
- Sale of surplus Land and to purchase new Mills.
- Training to its staffs by experts and TRA`s
  But it all remains as more of show than practical.

*B. Today's Scenario*

- Today only 24 units are functioning all over India. Out of 4, rest are in South India.
- Only 4 are having weaving & Spinning Unit, rest are only Spinning units.
- Spindles- 7.09 lakhs Looms – 386
- Provisional Production during the year 2012-13 has been as under: -i) Yarn- 350.20 lakhs KG ii) Cloth- 120.25 lakh mtrs.
- Sale Value during the year 2011-12 is as under: -i) Yarn - Rs.548.41 Crores ii) Cloth Rs. 164.58 Crores iii) Waste Rs. 17.51 Crores Total Rs. 730.50 Crores
- In the first phase of modernization, NTC has already modernized its 18 units. Setting up 4 green field projects and modernizing another 2 units.
- As on 01.12.2012, NTC group has 8266 employees in its units, offices and Corporate Office.
- The total no. of Retail outlets is 86 and Region-wise detail is as under: -i) Southern - 33, ii) Western - 08 retail outlets and 09 (Exhibition-cum-Sales Centres), iii) Delhi - 27, iv) Calcutta – 18
- Out of 86 showrooms, 25 showrooms are in profit.
- ENTYCE', 'FINLAYS' & 'RAASA' are the popular Brands of NTC
- Cloth worth Rs.255 lakhs has been exported during the year 2008-09 and Rs. 631 lacs during 2009-10 and export worth Rs.16.98 Crores has been made during 2010-11 and Rs. 50.11 Crores 2011-12
- The Total proceeds from Sale of Assets (Land, Plant & Machinery, Building Structure) has been Rs.6551 crores. The total area of land sold is 1533.09 acres.
- In the first phase of revival, the cost of modernization is Rs.530 crores which has been increased to Rs.1155 crores and approved by BIFR in the second phase. The total cost of revival of the company is Rs.9102 crores, including MVRS, payment of old arrears of statutory dues etc.
- During the first phase of modernization NTC has spent R s.833.00 crores till date to modernize its 18 mills. The total Project cost for three Green field projects namely Finlay at Achalpur, New Minerva at Hassan and Rajnagar at Ahmedabad are under implementation at a total cost Rs.555.38 crores. Rs. 2.87 crores have been spent on Short Term modernisation of two mills taken out from JV list. Till date an amount of Rs. 1391.24 Crores has been spent on modernization including Green field projects.

In spite of all, NTC in unable to compete with the Brand Image Textiles. Because of Mismanagement like all other Govt bodies, it`s running cost is very high. As per the opinion of the Financial Experts, it is better to discontinue all the present mills, sale out the properties and donate to Nation rather than to make burden on Public money.

*C. Conclusions on NTC Mills.*

- To take over the Sick mills by Govt of India was not unjustified looking to the unemployment and social responsibilities,
- Although our President Mr. Pranab Mukharjee told in Teachers Day function that Nationalisation was wrong .
- The Mills were to be closed down because of Mismanagement by the Corporation.
- There was no foresightness, no market strategy, no professionalism, no proper planning, no proper modernisation at right time at right place for right product made the whole body in to mess.

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- Since 1942, Govt of India emphasised on Handloom industries for the employments of the poor's but that industry is also not in a good position.
- Today NTC has earned money by selling the lands but that could have to be invested for higher return.
- It is better not to waste public money and better to close down all the present Mills also as they are also not as per the expectations. (all the studies were conducted with the experts , present & past employees of the NTC Mills, Internet survey).

## VIII. CAUSES OF SICKNESS IN SMALL SCALE INDUSTRY

The different types of industrial sickness in Small Scale Industry (SSI) fall under two important categories. They are as follows.

*A. Internal causes for sickness:*

We can say pertaining to the factors which are within the control of management. This sickness arises due to internal disorder in the areas justified as following.

- *Lack of Finance:* This including weak equity base, poor utilization of assets, inefficient working capital management, absence of costing & pricing, absence of planning and budgeting and inappropriate utilization or diversion of funds.
- *Bad Production Policies* : The another very important reason for sickness is wrong selection of site which is related to production, inappropriate plant & machinery, bad maintenance of Plant & Machinery, lack of quality control, lack of standard research & development and so on.
- *Marketing and Sickness:* This is another part which always affects the health of any sector as well as SSI. This including wrong demand forecasting, selection of inappropriate product mix, absence of product planning, wrong market research methods, and bad sales promotions.
- *Inappropriate Personnel Management:* The another internal reason for the sickness of SSIs is in appropriate personnel policies which includes bad wages and salary administration, bad labour relations, lack of behavioural approach causes dissatisfaction among the employees and workers.
- *Ineffective Corporate Management:* Another reason for the sickness of SSIs is ineffective or bad corporate management which includes improper corporate planning, lack of integrity in top management, lack of coordination and control etc.

*B. External causes for sickness*

- *Personnel Constraint:* The first for most important reason for the sickness of small scale industries are non-availability of skilled labour or manpower wages disparity in similar industry and general labour invested in the area.
- *Although Ministry of Textile started ISDS* (Integrated Skill development Scheme) , but it remained ineffective. It was not taken seriously by any organisations but they took it as money making process.
- *Marketing Constraints:* The second cause for the sickness is related to marketing. The sickness arrives due to liberal licensing policies, restrain of purchase by bulk purchasers, changes in global marketing scenario, excessive tax policies by govt. and market recession.
- *Production Constraints:* This is another reason for the sickness which comes under external cause of sickness. This arises due to shortage of raw material, shortage of power, fuel and high prices, import-export restrictions.
- *Finance Constraints:* The external cause for the sickness of SSIs is lack of finance. This arises due to credit restrains policy, delay in disbursement of loan by govt., unfavourable investments, fear of nationalization.
- *The Facts about Bhiwandi Power loom sector:* The Bhiwandi is situated at Dist: Thane, Maharashtra State. Today it has got highest Power loom in India i.e. about 6.5 lakhs. The unofficial Figure says it is 8 lakh inclusive of 12000 shuttles less looms (source: Market survey).About 70% of them are manufacturing synthetics Fabric. Most of them are suffering because of the various reasons. A survey was conducted with Swayam Sidhhi College of Management &Research, Bhiwandi and the findings are given below.

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| Sr.no | Factors affecting | % of yes | %no |
|---|---|---|---|
| 1 | High Cost of Production | 82% | 18% |
| 2 | High Cost of Raw Material | 70% | 30% |
| 3. | Facing Market Competition | 41% | 59% |
| 4. | Management not willing to Run the Industries and like to Convert in more lucrative Industry | 53% | 47% |
| 5. | Labour Unrest | 59% | 41% |
| 6. | Financial Crisis | 94% | 6% |
| 7. | Not getting Proper Support From Textile Ministry, Bank. | 88% | 12% |
| 8. | Not Modernised | 70% | 30% |
| 9. | No new Product Developments | 53% | 47% |
| 10 | No R&D | 82% | 18% |
| 11. | Unprofessional Management | 76% | 24% |
| 12. | Unskilled / Untrained workforce | 65% | 53% |
| 13. | Factory situated at unsuitable Place, where raw material, labour, Water, electricity, are not available Very easily. Need to spend money On transportation. | 82% | 18% |
| 14. | High power cost | 88% | 12% |
| 15. | Poor Marketing Strategy | 76% | 24% |
| 16. | Poor mission/vision/strategic Planning | 82% | 18% |

Some suggestions are received from the Power loom owners that (i) Union is too rigid (ii) Bad road condition damage the raw material and finished goods (iii) Torrent Power is charging high and no proper services / facilities are provided. (iv) Labours demand high salaries time to time (v) Needs to produce quality materials. (vi) There should be more export (vii) Some feels that salary of the labours are to be increased.

The financial crisis, no proper guidance from the Textile Ministry, High production cost (high power cost is one of them), poor infrastructures, the lack in vision, inferior quality product are the main causes of the sufferings.

## IX. THE THREAT FROM THE SYNTHETICS INDUSTRY

The cotton, Jute, are the fibres that grow naturally in the earth requiring adequate water, supplements like fertilisers and pesticides etc.The silk is harvested from cocoons that are grown in their adopted homes and fed with mulberry leaves as food supplement while they are grown. Wool is collected from the grown hair of sheep. The world population is growing and all require more Food, Clothes and shelters. The space on earth is limited! Hence to supply more clothes, cotton,wool and Silk could fall short. The Jute fibre, in general, till today is good for baggage Industry, Carpet, coir, Handicraft, packing Industry but unsuitable for apparel or dress material because of its natural limitations.

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Hence the Scientists in the world started searching alternate to the Natural Resource. The first regenerated fibre i.e. Viscose (manmade fibre) was discovered in the year 1884. The properties and feelings were nearly like Cellulosic fibre. It was also called as Art Silk (Artificial Silk) because of the brightness. Later, the name was adopted as Rayon in the year 1924. The people like Natural fibres because of the comfort and that comes due the moisture content. The moisture content of the Cotton fibre is 8.5% and the same is *11-12% in Viscose fibre. The strength (CSPValue) of a good cotton yarn is 300 +/- 200 but it is lesser than 15-20% in the case of Viscose. In the water the strength of Cotton increases by 10-12% whereas in the case of Viscose it goes down by 8-10%. Hence the fabric made from 100% Viscose yarn / fibre does not long last. The drape value of Fabric made from 100% Viscose is too poor and it becomes loose and unconstructive after one or two wash. The fabrics made from 100% cotton always have good drape and do not lose its inherent physical properties after repeated washing and cleaning. But the fabrics made of 100% cotton need to be starched before ironing to maintain the crease resistance and aesthetic appeal. Hence some yarn manufacturers mix both Cotton and Viscose for some better look and higher life. (*resource – BTRA)

Then, appeared Nylon yarn as an alternate to the Natural Fibres. It has got numerous advantage over Cotton w.r.t. higher life, more stronger yarn and fabric, wrinkle resistance, wash and wear, and good for apparel, dress material, Industrial yarn (tyre cord, fishing nets, wall ropes etc ) , Industrial Fabric like Parachute , umbrella, roof cover, Tent , Bags , transmission belts, tapes and so many. It became a big threat to the natural Fibres although the moisture content in Nylon is mere .04%. Now the product is cheaper than that of Cotton and good for the common people.

The Nylon yarn was invented by Wallace Carothers at Dupont Experimental Station in the year 28th February 1935. The first fabrics was shown in New York`s world fare in the year 1939. The production of Nylon is growing in each year all over the world. The total Nylon yarn (yarn and fibre, yarn to fibre ration is 80:20) production in the world was 4,719,000ton in the year 1999 and it was highest in USA. In the year, December 2000, the capacity was 63, 000 ton. In India, the first Nylon manufacturer were (i) JK Syn, Kota, Rajasthan, (ii) Modi Pon, Modinagar, UP, (iii) Century Enka, Pune, Maharashtra, (iv) Nirlon, Mumbai.V) Shree synthetics, Ujjain.The production in these units started around late 1970 with 15 to 20 denier yarns used in manufacture of Sari in power loom sectors clustered around Surat. Nylon sari became very popular in those eras because of the cost, affordability & easy maintenance over material made with cotton yarn. The production was semi batch Process and later on converted to VK reactors. Additionally, the above units started producing sparkling Nylon (with trilobal spinnerets) as alternate for Jari yarn (metallic yarn).

In India and all over world, the usage of Nylon is declining in apparel sectors because of being not comfortable in hot weather. However, the Nylon yarn is still by and large preferred in Industrial products.

At Present, not many players are in the production of Caprolactam, the monomer for Nylon6, while PTA production is increasing every year.

Comfort and moisture regain of PET is better as well as cost is low Nylon is still preferred for tyre cord over PET as dipping cost before tyre making is less for Nylon. Texturising and staple process has increased versatility of polyester for easy blending with cotton and wool.

After bypassing the Nylon, the polyester yarn has captured the market because of its inherent physical and Chemical Properties. The Polyester yarn giving better comfort. The gradual Research in Polyester sectors has produced numerous types of Products i.e. micro, full dull, CD yarn which are the biggest threat for the natural fibre.

For the Polyester yarn the Research started during the Year 1939 – 41 in DuPont and created Polyester Fibre known as “Terylene”. In the year 1946 Dupont conducted some further Research work and in the year 1951 marketing of the fibre was started as “Dacron”.

In the year 2008 the Polyester production was 59 million Tonnes/ year. The capacity for the Polyester yarn in December 2001 was 13,064,000 tons. The highest was in China - 3,459, 000 tons, South Korea – 1,750,000 tons, Taiwan – 2,229,000 tons. The fibre production was 9,927,000 tons by December 2001, followed by China - 2,200,000 tons, USA– 1336,000 tons and Taiwan – 1200,000 tons.

The first Polyester manufacturer in India was by (i) JK Synthetics Kota, (ii) Century Enka, Pune, (iii) Orkay Polyester in the late 1970. Initially it was started with Low Oriented Yarn, then Medium Oriented Yarn and now it is Partially Oriented yarn (POY) depending on the spinning speed adopted. They were all produced by using polyester chips produced in Batch process with extruder spinning. But with the now popular CP Lines (Continuous Polymerisation) started in mid-1980, the spinning was changed to direct melt spinning there by giving better quality with reduced energy and utility consumption. Initially the POY was started with denier of 30 – 50 but today it had gone up to 1800 Denier as per the market demand.

Today Polyester yarn is found at every aspect of life i.e.in apparel, furnishing, upholstery, car decoration, Air Space, Carpet, Baggage, Fishing nets, tyre cords, and in many areas. All of them are due to its physical strength (dry and wet), longer life at affordable cost.

The advent of texturising process made polyester filament close to the feel of cotton and polyester staple spinning process made mixing of polyester fiber with cotton easy at any desired mixing proportion depending on the end use.

Similarly, the wool was replaced by acrylic Fibres because of its cost and natural limitations.

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Today the manmade fibre and yarns are growing and capturing the world. The table below is explaining the figure. (Mn KG) (Ministry of Textile).

| Type of Yarn | year 2004-5 | % growth (than previous year) |
|---|---|---|
| Viscose Staple | 142.52 | 20.16 |
| Polyester Staple | 347.81 | 13.82 |
| Acrylic Staple | 75.53 | 13.93 |
| Poly Propylene Staple | 1.75 | 15.13 |
| Viscose Filament Yarn | 30.81 | -- |
| Nylon Filament Yarn | 22.76 | 39.39 |
| Polyester Filament yarn | 607.82 | 7.02 |
| Polypropylene Fila yarn | ---- | (-) 21.45 |

## X. ABOUT THE POLYESTER INDUSTRY

As it been discussed that the Introduction of Synthetic fibre was done by the scientists to fulfil the Clothing needs of the growing population in the world. The capacity of the earth is not just sufficient to grow cotton and Natural fibres because of the so many limitations in Agriculture and Cultivations. Moreover, the Natural fibres are not just sufficient to face the challenge to Produce (1) Technical Textile, (2) Medical Textile, (3) Industrial Products etc.

Hence The polyester fibre industry appeared in the year 1935 i.e. Nylon and in the year 1946 the Polyester yarn appeared not only for the apparel, dress materials, but to fulfil the needs of the Industrial Products and in Technical and Medical Textiles.

That`s why the synthetic polyester Industry is in Growing spree now.

Although this Industry comes under the Ministry of Petroleum and Petro Chemicals, but the whole product i.e. Polyester Texturised yarn, Nylon and all Technical, Medical and Industrial Textiles are consumed by the Textile Industries which comes under Ministry of Textile.

*A. Polyester Texturised Industries Manufacturers:*

The POY (Partially oriented yarn, which is the Raw materials for the Texturised yarn and from this Texturised yarn Fabrics are produced) is produced about 34,400 tonnes per day including of 10,000 tonnes of FDY (Fully Drawn Yarn). There are about 32-33 leaders in manufacturing Pty (polyester Texturised yarn) and FDY in India. Some are having CP Lines (Continuous Polymerisation), some are having Batch Process and some are having both.

The Pioneer in this field are Reliance Industries, Indo Rama Synthetics, Alok Industries, Bhilosa, JBF, Filatex, Shubhalaxmi, Sanathan, Unify, Wellknown, Wellspun, Beekaylon, Microsynth, RajRayon, Gupta Filaments, Platinum, Jiwarajka , Perfect etc .( Market survey) . Except a few who are suffering because of their internal Problems i.e. excess Bank loans, unable to Pay (*Alok Industries), Old Machineries (Extruder type) i.e. Gupta Synthetic, Ramakrishna, no new product developed, Unprofessional Managements, the overall situations are encouraging.

The leaders ( Such as Reliance Industries , Indo Rama, Bhilosa, JBF, Well known, well spun etc) are doing well because of the following steps adopted by them (i) Latest Machineries & Technology (ii) Latest production with new varieties (iii) Diversifications from the traditional products (iv) Sound Export and domestic Market (v) Employing Professionals with result Oriented (vi) Keeping right man at Right place (vii) Sound R&D (vii) Adopting International Quality standard with ISO, (VIII) Keeping the door open for any newer product (ix) Continuous expansion programme (x) Not confined at one place . (expert view).

*B. About Reliance Industries:*

Let us see the case of Reliance Industries its financial Condition year wise: (internet survey). (Profit after Paying Tax).

| Year | Rs. In Cr. | Turn Over |
|---|---|---|
| 2010-2011 | 19,294 | 2,76,372 |
| 2011-12 | 19,724 | 3,68,571 |
| 2012-13 | 20,879 | 4,08,392 |
| 2013-14 | 22,493 | 4,46,339 |
| 2014-15 | 23,566 | 3,88,494. |

- *The Product range of Reliance to day is given here.*

Staple Fibre Filament Yarn Texturised Yarn Twisted / Dyed Yarn, Flat Yarn, Anti-microbial fibres & yarns, stretch yarns for comfortable fit and freedom of movement, Cotton Look, Cotton Feel Yarns, can dye at boiling water temperature with high colour fastness, Dope dyed black with high consistency in shade, Moisture management yarns, Hollow fibres with high bounce and resilience, Fibrefill with Unique 3D spring like crimps. Highly resilient sleep & comfort products, Bi-component filament yarns, Hi-bulk fibres for soft-feel & warmth, Eco-friendly fibres made from 100% post-consumer polyester waste, Polyester fibres with increased abrasion resistance for better water-proof, tear-proof and fade-proof qualities, Structurally modified polyester fibre with anti-microbial and anti-fungal properties surgical dressings, Polyester Tow & Staple Fibre with unique low pill properties, Secondary Reinforcement Products, Quality Certified Sleep Products, Flame Retardant Fibres & Yarns, yarns for a Silken Shimmer and Swathes of Colours, Polyethylene Terephthalate (PET), Polypropylene (PP), Polypropylene(HDPE, LLDPE & LDPE), Ethylene Vinyl Acetate Copolymer (EVA), Ultra High Molecular Weight Polyethylene, Polyvinyl Chloride (PVC), High Density Polyethylene (HDPE) Pipes, Polypropylene Random (PPR) Pipes, Linear Alkyl Benzene (LAB), Reliance Elastomers, Poly Butadiene Rubber, Styrene Butadiene Rubber, Transportation Fuels, Highway

Hospitality Services, Vehicle Care Services, Convenience Shopping, Foods, Auto LPG, Petroleum Retail, Lubricants, Jet/Aviation Turbine Fuel, Fleet Management Services, Liquefied Petroleum Gas (LPG).

Hence it is the burning example for anyone how to be the best in the Market and how to increase profit margins year wise.

- *About Indo Rama Synthetic:* The financial condition after paying Tax (Net search).

| | | |
|---|---|---|
| Year | 2011 | 1394 Million |
| | 2012 | 320 Million |
| | 2013 | 413 Million |
| | 2014 | 82 Million |
| | 2015 | 215 Million |
| | 2016 | 560 Million. |

*The Product Range:* Polyester Filament Yarns and Fibres (productsranging from 50 to 600 denier yarns and 0.9 to 1.4 denier fibres including a variety of differentiated products viz. differential shrinkage, micro filament, cationic dyeable, stretch, bi-component and many other tailor-made products. Polyester Yarns and Fibres produced by Indorama are suitable for many diverse applications in fashion apparel, sports and performance wear, home furnishings, automotive, tapes and belts, medical and hygiene applications, luggage and sewing threads.)

PET Resin, Polyolefins, Phosphoric Acid & Fertilizers, Ammonia & Urea, Spun Yarns Fabrics, Power Generation.

(10.2.3)Similarly, Bhilosa Industries earned profit under Tax of Rs.172 CR in the year 2015 (10.2.4) *The Alok Industries suffered as told in former paragraph that there was Profit after Tax was Rs.920.16 CR in the year 2013 and 346.76 CR in the year 2015.

Hence it is proved that Latest Technology with proper Mission, Vision and strategic planning, newer product as per the Market demand (sometimes it is also necessary to create new market) the Organisations can survive.

- *Another big support for these Synthetic Industries are the creations of (1) Technical, (2) Medical and(3) Industrial Textiles. (Everything comes under the Ministry of Textile). Here are the Descriptions.*

➢ *Technical textiles:-* can be divided into many categories, depending on their end use.It has got 12 application areas: Agrotech, Buildtech, Clothtech, Geotech, Hometech, Indutech, Medtech, Mobiltech, Oekotech, Packtech, Protech, and Sporttech.[1] These are sometimes spelled Agrotex, Buildtex, Clothtex, Geotex, Hometex, Indutex, Medtex, Mobiltex, Oekotex (Ecotex), Packtex, Protex and Sportex.

✓ *Agrotech (Agro-textiles)*

Textiles used in Agriculture are termed as agro textiles. They are used for crop protection, fertilisation, the essential properties required are strength, elongation, stiffness, and bio-degradation, resistance to sunlight and resistance to toxic environment. All these properties help with the growth and harvesting of crops and other foodstuffs. There is a growing interest in using materials which gradually degrade.

Some of the examples of agro textiles are:

- Preventing erosion and paving way for afforestation in greenhouse cover and fishing nets.
- For Layer separation in fields, nets for plants, rootless plants & protecting grassy areas.
- As sun screens (since they have adjustable screening) and wind shields.
- As packing material and in bags for storing grass (that has been mowed).
- Controlling stretch in knitted nets.
- Anti-birds nets.
- Fabrics for sifting and separation, for the phases of enlargement of the larvae.
- Materials for ground and plant water management at the time of scarcity and abundance of water.

✓ *Buildtech (Construction Textiles)*

- Textiles used in construction

Concrete reinforcement, façade foundation systems, interior construction, insulations, proofing materials, air conditioning, noise prevention, visual protection, protection against the sun, building safety.

- An interesting and astethic appealing application is the use of textile membranes for roof construction. This area is also referred to as textile architecture. PVC coated high tenacity PES, teflon coated glass fibre fabrics or silicone coated PES are used for their low creep properties. Splendid examples of such construction are found in football stadia, airports and hotels.

✓ *Clothtech (Clothing Textiles)*

Technical textiles for clothing applications. Especially in the finishing process where fabric is treated under pressure and high temperature the technical textile supports the fabric for smooth processing. This is usually the blend of polyester, modal, viscose, nylon, etc.

✓ *Geotech (Geo-textiles)*

These are used in reinforcement of embankments or in constructional work. (a) The fabrics in geo textiles are permeable fabrics and are used with soils having ability to separate, filter, protect or drain. (b) The application areas include civil engineering, earth and road construction, dam engineering, soil sealing and in drainage systems. (c) The fabric used in it must have good strength, durability, low moisture absorption and thickness. Mostly nonwoven and woven fabrics are used in it. (d) Synthetic fibers like glass, polypropylene and acrylic fibers are used to prevent cracking of the concrete, plastic and other building

materials. (e)Polypropylene and polyester are used in geo textiles and dry/liquid filtration due to their compatibility.

✓ *Hometech (Domestic Textiles)*

- Textiles used in a domestic environment

Interior decoration and furniture, carpeting, protection against the sun, cushion materials, fireproofing, floor and wall coverings, textile reinforced structures/fittings.

- In the contract market, such as for large area buildings, ships, caravans, busses, fire retardant materials are used. Fire retardant properties are obtained either through the use of inherent fire retardant fibres such as modacryl or through the application of a coating with fire retardant additives (bromide of phosphorus compounds).

✓ *Indutech (Industrial Textiles)*

Textiles used for chemical and electrical applications and textiles related to mechanical engineering. Silk-screen printing, filtration, plasma screens, propulsion technology, lifting/conveying equipment, sound-proofing elements, melting processes, roller covers, grinding technology, insulations, seals, fuel cell.

✓ *Lifting textiles*

Technical textiles for Lifting applications. Used in process of lifting heavy goods. The textile produced is strongly woven with High tenacity yarns and the fabric is treated with heat and high temperature controlling its elongations. This is usually made of High tenacity polyester and Nylon however HMPE yarns as Dyneema are also used.

✓ *Mobiltech (Textiles used in transport; automotive and aerospace)*

- These textiles are used in the construction of automobiles, railways, ships, aircraft and spacecraft. Examples are Truck covers (PVC coated PES fabrics), car trunk coverings (often needle felts), lashing belts for cargo tie downs, seat covers (knitted materials), seat belts, non-wovens for cabin air filtration (also covered in indutech), airbags, parachutes, boats (inflatable), air balloons.
- These textiles are used in automobiles, ships and aircraft. Many coated and reinforced textiles are used in materials for engines such as air ducts, timing belts, air filters, non-wovens for engine sound isolation.
- Several materials are also used in the interior of cars. The most obvious are seat covers, safety belts and airbags but one can find textiles also for the sealing. Nylon gives strength and its bursting strength being high is used as air bags in cars.
- Carbon composites are mostly used in the manufacture of aeroplane parts while carbon fibre is used for making higher end tyres. High tensile polyester is used for making air balloons.

✓ *Oekotech or Ecotech (Ecological Protection Textile)*

New applications for textiles in environmental protection applications - floor sealing, erosion protection, air cleaning, prevention of water pollution, water cleaning, waste treatment/recycling, depositing area construction, product extraction, domestic water sewerage plants.

✓ *Packtech (Packaging textiles)*

Packaging, silos, containers, bags, lashing straps, canvas covers, marquee tents.

✓ *Protech (protective textiles)*

*A.* The main target of the technical protective fabrics is to improve people safety in their workplaces. A technical protective fabric can save a worker's life, that's why, most of them are mainly used to manufacture PPE (personal protective equipment). The demand of these fabrics is growing around the world thanks to the sensibilitization of the society, requiring more safety at work. There are some organizations around the world (ASTM and ISO) which describe the requirements and regulations, to fulfil by a fabric, to be considered as a technical protective fabric. The aim of a technical protective fabric isn't fashion, they are designed to have extra values in protection, against some hazards.

*B. Nowadays it can be found in the market, technical fabrics which protect of:*

- High temperatures (insulating, firefighters)
- Burns (flame, convective and radiant heat, firefighters, ATEX area)
- Electric arc flash discharge (plasma explosion, Electric companies)
- Molten metal impacts (foundries)
- Metal sparks (welding)
- Acid environment (petrochemical, gas, refineries, chemical)
- Bullet impact (military, security)
- Cut resistant (gloves, glass industry)
- Astronaut's suits
- These fabrics are made of different kind of fibers, because every blend rapports different technical characteristics to the fabric:
- Meta-Para aramides – Nomex: high resistance, tear, tensile strength, expensive,
- Wool viscoses polyamide – marlan : repelency of molten metal, heat insulation, transparency.
- Glass fiber - High resistance, insulating.
- Modacrylic cotton – Marko wiki: Marko : electric arc flash protection, comfort, flame-resistant, multiform, efficient, skin friendly, antistatic.
- Polyamide – Kevlar : extreme resistance, low aging.

✓ *Sportech (Sports textiles)*

Shoes, sports equipment, flying and sailing sports, climbing, angling, cycling, winter and summer sports, indoor sport it can vary from anything including sports bags.

✓ *Specific areas of application*

- *Conveyor belts*

For industrial applications and in power transmission, technical textiles are used in conveyor belts. Carcass is a fabric inside the conveyor belt, which is responsible for the strength and stretch properties of the belt. This carcass is made with layers of woven fabrics bonded together.

- *Electronics in textiles*

It has been heard that soon textiles will be merged with electronics in all areas. In future wearable computers, would be launched, these will not be like advance wrist watches etc., they will contain IC s in fabric to develop fabric keyboards and other wearable computer devices. These types of products are known as Interactive electronic textiles (IET). Research to support IET development is being conducted in many universities. Growing consumer interest in mobile, electronic devices will initiate the demand for IET products.

➢ *The Medical Textiles*

The use of textile materials for medical and healthcare products can be classified into following main areas.

- Barrier material (for infection control)
- Bandaging & pressure garment
- Wound care material
- Hygiene material
- Implantable material (sutures, art. Joints etc)
- Extra Corporal devices (like art. Kidney etc)

Requirements of textile material for medical applications.

- Biocompatible
- Good resistance to alkalis, acids and micro-organisms
- Good dimensional stability
- Elasticity Free from contamination or impurities
- Absorption / Repellencey

✓ *Air permeability*

- *Application:* Artificial-kidney, Artificial liver. *Function:* Remove waste products from the patient s blood
  *Hollow viscose*
- *Application:* Artificial liver *Function:* Separate and dispose of patients' plasma and supply fresh plasma
- Hollow polypropylene fiber, hollow silicone membrane *Application:* Mechanicallung
  *Function*: Remove carbon dioxide from patients' blood and supply fresh oxygen.

✓ *Uses of Medical Textiles*

Medical Textiles are the products and constructions used for medical and biological applications and are used primarily for first aid, clinical and -hygienic purposes. It consists of all those textile materials used in health and hygienic applications in both consumer and medical markets. As such it comprises a group of products with considerable variations in terms of product performance and unite value. Because of the nature of their application many medical products are disposable items. The increased use of textiles in composite applications will provide major growth fibre consumption in terms of volume.

➢ *Traditional applications*

Include wound care products, diapers, braces, prostheses and orthoses, wipes, breathing masks, bedding and covers, ropes and belts etc.

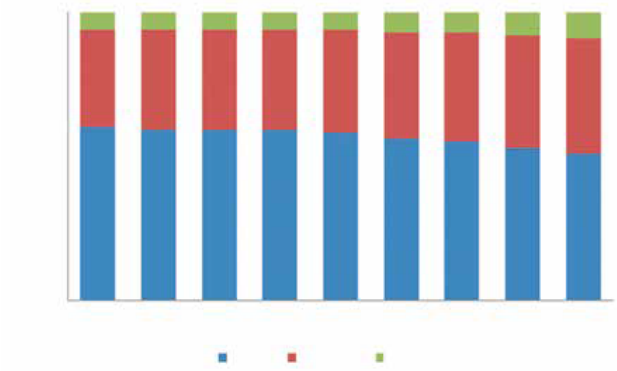
Innovative textile products can both add significantly to effectiveness of medical treatments as well as patient comfort at the same time, new medical textiles, may contribute to cost containment.

Surgeons wear, wound dressings, bandages, artificial ligaments, sutures, artificial liver/kidney/lungs, nappies, sanitary towels, vascular grafts/heart valves, artificial joints/bones, eye contact lenses and artificial cornea and the like are some of the examples of medical textiles. Medical textiles are textile products and constructions for medical applications. They are used for first aid, clinical or hygienic purposes and rehabilitation.

- *The Consumption:*

The consumption of Medical Textiles worldwide was 1.5 million tons in 2000 and is growing at an annual rate of 4.6%. The Indian market size of medical textiles was estimated to be INR 14.8 billion in 2003-04 and is expected to grow to INR 23.3 billion by 2007-08. Market is expected to grow by 8% p.a.

## XI. INDIAN TEXTILES SECTOR SET TO CONSUME MORE POLYESTERTHAN COTTON IN FIVE YEARS



The x-axis shows the pattern of polyester yarn consumption year wise. The 1st Column starts with the year 2000 then 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014.

The blue shade denotes cotton yarn, Red denotes Polyester and green denotes others. The Y axis shows the following.

| year | Cotton Consumption % | Polyester % | Others% |
|---|---|---|---|
| 2000 | 60 | 34 | 6 |
| 2007 | 59 | 35 | 6 |
| 2008 | 59 | 35 | 6 |
| 2009 | 59 | 35 | 6 |
| 2010 | 58 | 36 | 6 |
| 2011 | 56 | 37 | 7 |
| 2012 | 55 | 38 | 7 |
| 2013 | 53 | 39 | 8 |
| 2014 | 51 | 40 | 9 |

Fibre Consumption pattern in India. Data source: Fibre Policy, Wazir Analysis. Published in India Polyester 2016.

The cotton-focussed Indian textiles industry is set to rapidly shift to polyester in the coming years, according to Mr. Prashant Agarwal, Joint Managing Director and co-Founder, Wazir Advisors. He wasspeaking at the inaugural session of the 'Indian Polyester 2016' conference organised by Elite Conferences in Mumbai recently.

The Indian textiles industry is predominantly cotton focussed at present with the natural fibre accounting fornearly 51% of total fibre consumption in 2014. "The Indian textiles industry will consume more polyester than cotton within next five years," predicted Mr.Agarwal.

## XII. THE TEXTILE POLICY – 1ST JULY `15 (MINISTRY OF TEXTILE)

- Creation of 35 million jobs by attracting foreign investments.
- Rs. 12000 CR. To be spend on Technical Upgradation Fund (2012-2017)
- To establish one modern apparel garment manufacturing Centre in every NE state for Rs. 20 CR.
- Export Promotion Schemes Available For Textile Sector Firms In India. Merchandize Exports from India (MEIS) Scheme Launched in April 2015, the MEIS provides duty reward to eligible textile and apparel categories to an extent of 2-5% of FOB value in the countries categorized as per the criteria prescribed.
- *Technical Textile Scheme:* Technical textiles are functional fabrics that have applications across various industries including automobiles, civil engineering and construction, agriculture, healthcare, industrial safety, personal protection etc. Based on usage, there are 12 technical textile segments; Agrotech, Meditech, Buildtech, Mobiltech, Clothtech, Oekotech, Geotech, Packtech, Hometech, Protech, Indutech and Sportech.

(i) Globally, the technical textiles contribute to about 27 percent of textile industry, in some of the western countries its share is even 50 percent while in India it is a meagre 11 percent.

(ii) Government of India has allowed up to 100% FDI under automatic route for the technical textiles segment.

(iii) Investment promotion schemes by Government Investors establishing technical textile unit in India can avail several benefits from central government schemes:

- Technology Upgradation Fund Scheme (TUFS).
- Scheme for Integrated Textile Parks (SITP).
- Coverage of major machinery for technical textile manufacturing under concessional customs duty list of 5% .
- Certain technical textile products are covered under Focus Product Scheme, under which exports of such products carry duty credit scrip equivalent to 2% of FOB value of exports.
- Technology Mission on Technical Textiles (TMTT) o Focus Incubation Centres (FIC) o Scheme for promoting usage of Agro-textiles in India (excluding North East Region).
- Scheme for promoting usage of Agro-textiles in North East Region.
- Scheme for promoting usage of Geotechnical textiles in North East Region.

(iv) Setting up of four Centres of Excellence (COEs).

- *Scheme Guidelines for Pilot Phase to set up Incubation Centres in Apparel Manufacturing.* The size of the Indian apparel is estimated to be $45 billion and it is expected to grow up to $200 billion by 2025. The Government of India have taken necessary measures to strengthen the apparel Industry. For every Rs.1 Lakh investment in the Industry, an average of 7 additional jobs is created. Therefore, there is need to promote apparel manufacturing sector for creation of employment, increasing export earnings and provide fill up to the national economy.
- *Scheme Guidelines for Pilot Phase of Textile Industry Workers' Hostel.* To attract the manpower from different areas and to retain them, this scheme is floated near the Textile parks.
- *Guidelines for Centrally Sponsored Scheme for Integrated Processing Development Scheme (IPDS):* The Textile Processing Units are known as 'hazardous 'with stringent regulations. It needs highly pollution control with effluent plants. The Ministry had in the 11th Five-year plan launched a scheme for Integrated Textile Parks (ITP). Based on the experience of the above scheme as well as the peculiar challenges faced by the textile processing sector the Ministry has decided to formulate a new program called as Scheme for Integrated Textile Processing Development (IPDS).

- *Development of Mega Cluster Scheme:* (i) Comprehensive Handloom Cluster Development scheme (CHCDS) (II) Comprehensive Handicraft Cluster Development Scheme (CHCDS).

The prospects of this sector lie in infrastructural Upgradation, modernization of the machinery and product diversification. Innovative manufacturing as well as designing know-how, furthered by brand building of the native products hold the key to creating a niche market for the products manufactured by the clusters. The proposed programme is expected to support the Upgradation of infrastructural facilities coupled with market linkages and product diversification.

Since the years of 1942, 1948,1954, 1955, 1964, 1974, 1978, 1981, 1985, 1990, 2000 in the Textile Policies more importance was given to Handloom and Power Loom sectors for the employment generation keeping aside the Organised sectors. All India Handloom Board was formed in the year 1945. Then National Handloom Development

Corporation Limited (NHDC) was set up in February 1983 as a Public Sector Undertaking by the Government of India as an autonomous body under the Companies Act 1956 in pursuance of the imperative need for a National Level Agency to assist the speedy development of the Handloom Sector by coordinating all action covering the procurement and supply of inputs at reasonable prices augmenting the marketing efforts of State upgrading the technology in the Handloom Sector & improving productivity.(4)

The Hand loom sector, despite support, could not spread so much in Textile market because of

- Incompetent Administration/ Management.
- Almost zero creativity.
- No upgradation of Technical Knowledge, no diversification.
- Products made not coping up with market, no orientation.
- Q.C was not proper.
- Cost of Fabric production was higher than Power loom.

Not adopted any new technology.

But according to TOI, 29th May `16 there is 29% in sale in KVIC and Rs.1500 CR was earned for the 1st time because of (i) Diversification (ii) new & new product developments as per the choice of the common people.

## XIII. THE OTHER POLICIES BY MINISTRY OF TEXTILES

- *Setting up Integrated Textile Parks:*

The Scheme of Integrated Textile Parks is one of the flagship schemes of the Ministry of Textiles. It aims to assist small and medium entrepreneurs in the textile industry to clustered investments in textile parks by providing financial support for world class infrastructure in the parks.

- *National Textile Policy 2000*

Faced with new challenges and opportunities in a changing global trade environment, the GOI unveiled its National Textile Policy 2000 (NTP 2000) on November 2, 2000. The NTP 2000 aims to improve the competitiveness of the Indian textile industry in order to attain $50 billion per year in textile and apparel exports by 2010.86 The NTP 2000 opens the country's apparel sector to large Firms and allows up to 100 percent FDI in the sector without any export obligation.

- *Export Promotion Capital Goods (EPCG) scheme.*

To promote modernization of Indian industry, the GOI set up the Export Promotion Capital Goods (EPCG) scheme, which permits a firm importing new or Secondh and capital goods for production of articles for export to enter the capital goods at preferential tariffs, provided that the firm exports at least six times the c.i.f. value of the imported capital goods within 6 years.

- *Export-Import Policy*

The GOI's EXIM policy provides for a variety of largely export-related assistance to firms engaged in the manufacture and trade of textile products. This policy includes fiscal and other trade and investment incentives contained in various programs

- *Duty Entitlement Passbook Scheme (DEPS)*

DEPS is available to Indian export companies and traders on a pre- and post-export basis.

- *Technology Up Gradation Fund Scheme (TUFS)*

It provides for reimbursing 5% interest on the loans/finance raised from designated financial institutions for bench marked projects of modernisation. But it remains not so effective.

- *Power loom development and export promotion council* set up by the ministry of textiles government of India. PDEXCIL provide some export assistance as follows Exploration of overseas market. Identification of items with export potential.

Market survey and up-to-date market intelligence Contact with protective buyers to interest them in your products.

Providing your company's profile to overseas buyers and vice-versa.

Advice on international marketing.
Display of selected product groups.

## XIV. THE ROAD AHEAD

As per the Experts opinion the profit margin can be enhanced by manufacturing value added product. We have to utilise our Raw Materials in such a way that maximum output can be achieved. In our country 19% raw materials are available but we export only 40 Billion Dollar whereas China is having 21% raw material but exporting 370 Billion Dollar because (i) In China 100% raw materials are converted in to Garments (ii) Raw materials can be imported from different countries and to convert them in to absolute value added product and to export them (iii) In Bangladesh, the raw materials are imported from Consortium of Soviets (CIS), African countries and India mostly of 30 cotton count and export 100%. (iv) Even Shri Lanka who was once the King of Garments, used to import grey fabrics, used to Dye / Print and used to export after making Garments.

India Exports Yarn and Grey fabrics which are no value added production. If we convert all the Raw Materials in to Garments, we can have 500 billion dollar sales value. It will fetch (i) additional employments. (ii) additional VAT earnings (iii) Minimise fiscal deficit (iv) from export, we can minimise Trade deficit.

To make the Garment Industry more viable, (i) they can be shifted to the villages (ii) More female workers can be recruited which is only 28% now(iii) Whatever the Governments are giving 100 days' salaries can be adjusted. (iv) The villages will develop and less pressure will come on cities (v) The village house wives can also work and with

growing employment in villages, other indirect industries will grow (vi) Economy will grow.

Presently most of the Garment industries are city based where (i) Male workers are at higher side but the stitching is better done by the females which are only 35% (ii) Need to pay higher wages (iii) Need to arrange transportations (iv) Because of higher cost of production Export value is less.

In Bangladesh (i) There are 100% female workers at village side with lesser wages, hence cost of production is less, in Sri Lanka it is 71%. (ii) Hence total export of Garments is 81% in Bangladesh.

In our Textile Policy, it is all under scheme and yet to implement.

*A. The Mega Park Concept. (From Fibre To Garment):*

- Our manufacturers spend numerous expenditures for both purchase and sale towards Marketing, travelling, in search of customers at National and International level, employing people and advertisements which goes about 31.60% of the retail value (Expert opinion). These costs can be substantially reducing with Textile park/hub concept in the village area. This is a big way to make our product competitive at International level.
- Instead of selling fibre/yarn, if we can sell Garments, the value addition will be 20 times higher in the present system. For example, if the fibre / yarn price is considered as Rs.2.50/- per kg, the Garment price will be Rs.50/-. (market survey).
- But in Hub culture these 20 times higher value can minimise our trade deficit and due to VAT earning it can reduce fiscal deficiencies. In addition to this the Textile Village culture can reduce selling expenses and other logistic expenditures reasonably by around 8-12% of the Garment sales value.
- There will be product display at each hub and the buyers can choose to purchase or to place the order.
- Now for example if the retail sale price is Rs. 100/- for a product, the sale price of the Finish Garment is Rs.50/-, finished fabric is Rs.24.6/-, grey fabric is Rs.8.30/-, cotton yarn is Rs.4.20/-, Fibre is Rs.2.30/- (or say in terms of percentage). (Market research). So from the fibre cost of Rs.2.30/- to retail price it goes to Rs.100/-. But with the Textile Park concept, the manufacturing cost can be brought down to a largest extent by reducing Transport, Travelling and overhead Cost.

*B. Textile Industry, vehicle to job creation.*

- Demand for apparel from the top five importers (the United States, the United Kingdom, Japan, Germany, and France) has been stable relative to per capita incomes between 2004 and 2013.
- Continued expansion in global demand as incomes increase in countries like Brazil, China, the Russian Federation, and South Africa.
- However, the number of jobs created per Rupee of output in the domestic sector has been declining.
- From a high of 40 workers being employed, it has now declined to 25 workers per Rs. 1 crore.
- As per a World Bank report, 69% of jobs in India are at a higher risk of being replaced by automation.
- Synthetic filament consumption has overtaken cotton filament consumption in India.
- The spun yarn segment is more labour intensive compared to synthetic filament segment. Hence there is lower job creation in the domestic T&A sector.
- India needs to actively promote industries that create “good for development jobs” - poverty reduction, economy-wide productivity growth, and social cohesion.
- Textile & Apparel Industry can serve as a vehicle of job creation for inclusive growth without any additional cost to the Government.
- Non-migratory employment model in T&A industry offers immense potential to enhance employment with social inclusion and justice.
- Apparel sector offers light and very easy to handle jobs under very comfortable working conditions – working under light and fan. Alternatively, informal sector jobs may involve hazardous working conditions; Agriculture and core manufacturing jobs typically involve hard labour.
- Hub and spoke employment model is a powerful instrument of promoting inclusive growth without any additional cost to the Government.

## XV. THE FUTURE TRENDS

The Hopes India is the second largest producer of fibre in the world and the major fibre produced is cotton. Other fibres produced in India include silk, jute, wool, and man-made fibers. 60% of the Indian textile Industry is cotton based till today. The strong domestic demand and the revival of the Economic markets by 2009 has led to huge growth of the Indian textile industry. In December 2010, the domestic cotton price was up by 50% as compared to the December 2009 prices. The causes behind high cotton price are due to the floods in Pakistan and China. India projected a high production of textile (325 lakh bales for 2010 -11). There has been increase in India's share of global textile trading to seven percent in five years. The rising prices are the major concern of the domestic producers of the country.

- *Man Made Fibres:* This includes manufacturing of clothes using fibre or filament synthetic yarns. It is produced in the large power loom factories. They account for the largest sector of the textile production in India.This sector has a share of 62% of the India's total production and provides employment to about 4.8 million people.
- The Cotton Sector: It is the second most developed sector in the Indian Textile industries. It provides employment to huge amount of people but its productions and employment is seasonal depending upon the seasonal nature of the production.
- The Handloom Sector: It is well developed and is mainly dependent on the SHGs for their funds. Its market share is 13% of the total cloth produced in India.
- The Woollen Sector: India is the 7th largest producerof the wool in the world. India also produces 1.8% of the world's total wool.

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- The Jute Sector: The jute or the golden fiber in India is mainly produced in the Eastern states of India like Assam and West Bengal. India is the largest producer of jute in the world.
- The Sericulture and Silk Sector: India is the 2nd largest producer of silk in the world. India produces 18% of the world's total silk. Mulberry, Eri, Tasar, and Muga are the main types of silk produced in the country. It is a labour-intensive sector.

### *A. Indian Apparel sector: Govt Policies Drive Growth.*

- The global apparel market majorly comprises the world's large economies of United States of America (USA), European Union (EU), Japan and China. USA and EU are the world's largest apparel importers, accounting for 60% of the total global imports, followed by Japan with a share of 7-10%. Countries such as China, Bangladesh, Vietnam, India and Cambodia dominate the exports market, with China accounting for over 40% of the total apparel exports backed by favourable government policies towards the textile sector coupled with economies of scale.

➢ *Indian apparel sector*

- The Indian apparel sector is the largest segment of the Indian textile and clothing industry (IT&C); accounting for 60-65% of the total industry. Furthermore, it is one of the largest sources of foreign exchange flows into the country. As per the data published by Ministry of Textiles, in its annual report 2015-16, India is ranked as the sixth largest exporter of apparel in the world, after China, Bangladesh, Vietnam, Germany and Italy.

- In CY15 (Jan-Dec), the global apparel trade de-grew by nearly 5%, partly due to lower realization of textile products on the back of lower fibre prices and partly due to weak demand from EU and Japan. Despite the weak global apparel trade, Indian apparel exports grew by 1% in FY16 (April 1 to March 31) in dollar terms, as compared with FY15. This growth must be viewed in accordance with the fall in cotton and polyester yarn prices, along with depreciation of the Indian rupee vis-à-vis US Dollar. Average cotton and polyester yarn prices declined by nearly 6% and 9%, respectively, during FY16, compared to FY15.Hence, the positive growth of nearly 1% indicates volume growth in apparel export. The growth in Indian apparel export is supported by steady recovery in the US economy. The Indian rupee depreciated by nearly 6-7% during FY16 over FY15; hence, the growth in rupee term at 7.7% is much higher than the growth in US Dollar terms. Despite increase in the export of Indian apparels in value terms, its market share has remained stable due to higher growth rates of competing nations like Bangladesh and Vietnam led by favourable government policies in terms of incentivizing the sector through trade agreements with world's largest apparel importing nations like US and EU. Continued thrust from Governments through favorable policies; scope for betterment. In developing countries like India, it is important to explore ways to boost the standard of living and reduce poverty. Government of India (GoI) is increasingly focusing on policies to create that are good for development. Export oriented apparel industry provides significant opportunity for employment creation due to relatively low skill requirement. Furthermore, it also has a unique ability to attract female workers. GoI, in its budget for 2016-17, allocated a sum of Rs. 1,480-crore towards the Amended Technology.

- Upgraded Fund Scheme (A-TUFS) and Rs. 100-crore under the Scheme for Integrated Textile Parks (SITP). Furthermore, to encourage export of value-added products, GoI also provides higher capital subsidy under A-TUFS to weaving and garment units, as compared with the subsidy to spinning units. Furthermore, in the Union Budget 2016-17, the customs duty of 5% on specified fibres and yarns used in the production of apparel was reduced to 2.5%. Moreover, the export incentive under the duty drawback scheme has been increased to 10.5% from previous 7.2%, along with 3% interest subvention on pre-and post-shipment rupee export credit facility availed by apparel exporters. Furthermore, GoI recently announced a Rs. 6,000-crore package for textile and apparel sector, which includes additional incentives for duty drawback scheme for apparels, flexibility in labour laws and tax and production incentives to garment manufacturing units. This would also fuel growth in the Indian garment sector. Moreover, GoI is actively considering Free Trade Agreement with EU, which will allow duty-free access of Indian garment in EU, which is the world's second largest export destination for readymade garments. These attempts are also in line with government's vision to maximize employment generation and value creation within the country under 'Make in India' campaign. However, India needs to adopt more favourable policies to increase market access, ease import barriers, improve export logistics, labour reforms and facilitate foreign investment.

- Increase in Chinese apparel prices could provide higher demand for Indian Garments
- During recent years, China has seen a sustained rise in its wage costs, which may lead to a potential increase in its apparel prices. As a result, China is shifting its production base to higher value-added industries like electronics and curtailing low value-added production like textile and apparel. This presents a huge opportunity for South Asian countries, including India, to increase their share of exports. As per a recent study conducted by

World Bank, a 10% increase in Chinese export prices would result in the US increasing its imports from India by 14.62% and from Bangladesh by 13.58%. Countries such as Vietnam and Cambodia would benefit even more, as exports would increase by 37.71% and 51.25%, respectively. With expected reduction in China's cost competitiveness and reduced focus on textiles, India has the chance of increasing its share in global apparel exports. Although India is expected to gain market share, Southeast Asian countries like Cambodia, Indonesia and Vietnam are expected to benefit more in overall export performance. Traditionally, India has been a net exporter of cotton yarn, accounting for 30-35% of the production. This can be diverted to produce cotton-based apparel, leading to more value-creation within the country. The Government's continued thrust on export of value-added products like garments, provides an opportunity for Indian textile industry to increase its share of garment exports. This would also provide higher foreign exchange earnings and create higher employment.

- Increasing opportunity in domestic market
- The growth in the organized retail market in India has led to increase in the sale of branded apparel in the domestic market. The organized retail apparel market is growing rapidly due to increased consumer spending, high brand consciousness, rising income and purchasing power, increasing number of dual income nuclear families, changing lifestyle and consumer behaviour. Organized retail in India is one of the most dynamic industries and represents a huge opportunity for domestic markets. As per the report published by the World Bank, the apparel industry is sizeable and growing, particularly in large Asian economies such as China and India. Bangladesh and Vietnam are strong performers in terms of export growth, yet neither has a formal retail apparel industry. As per the data published by World Bank in its report, 'Stitches to Riches' in March 2016, the apparel retail market in these two countries combined is less than $3-bn, whereas India's market is valued at $40-bn, which is almost entirely produced within the country. If production for the domestic and export markets are combined, India's value jumps to $57-bn, compared with $24-bn and $20-bn in Bangladesh.

- And Vietnam, respectively.
- Hence it can be said that
- With increasing competition from increasing competition from Bangladesh and Vietnam and with the passage of TPP, (Trans -Pacific Partnership) export demand for Indian apparel is expected to moderate. Furthermore, with recent depreciation of pound vis-à-vis the various currencies including US Dollar and Indian Rupee, prices of apparel are expected to go up in the region, which may lead to decline in exports of Indian apparel to UK, which is among the top export destinations. However, given the continuous efforts by the Government of India to respond to the increasing competition from Vietnam and Bangladesh, India is in a sweet spot to increase its market share in world apparel trade given the declining competitiveness of China which is the largest apparel exporter in the world. CARE Ratings strongly believes that the role of the government is very crucial for the overall growth of the Indian Apparel sector.

- Moreover, the growth in the organized retail industry is expected to pick up in next two years with increasing GDP per capita and the Indian apparel demand is at the cusp of significant growth, as the economy crosses US$ 2,000 per capita. As per the data published by Boston Consulting Group, India's retail market is projected to double from $600-bn in 2015 to $1 trillion by 2020. Also, the increasing percentage of the youth in the country together with rising urbanization, rising mall culture, changing fashion trends and retail penetration would continue to support the growth of Indian apparel sector. (care rating, Chemical Weekly, Nov-22.2016).

## XVI. CONCLUSIONS

- The oldest and the second largest employer must be survived to reduce unemployment and to earn GDP and Export money.
- Emphasis can be given to Hand loom and Power loom sectors for the better employment as our country is socio economic. But the Organised sectors which is just 3% must be given due importance so that the steady growth in Textile sector persists.
- This Industry in India has got all the potentialities to face the global Challenge, but proper policy matters are to be framed.
- Our Export Market is suffering because of the threat from China and Bangladesh, but huge potentialities are there. The main emphasis is to be given on quality and price.
- The KVIC is zooming because of the Governments strong decision at right direction.
- The Organised sectors are suffering because of the Management`s problems and lack in proper views like modernisation, excess man power, poor Govt policy and lack in support. The excess greediness, quick bucks were also responsible and money shifted to other lucrative business.
- Similarly, power loom Industries are suffering because of financial crisis, no proper Guidance and support from the Textile Ministry and Banks, lack in views, poor in frastructure, and traditional way to run the business .
- The Industries who survived because of the Professional Managements, continuous Quality Improvements, regular R&D, new Product Developments, pay attention to every smallest aspect such as energy savings, cost cutting, skill improvements, perfect Maintenance Management and strong views.
- Textile Machinery Manufacturers are surviving who are sensitive towards latest Technology, service to the customers, to keep pace with World`s advancement and Market requirement.
- National Textile Corporation is closed due to totally mismanagement and for the lack in mission and vision. Today they are sound in financial aspect after selling the lands but it is suggested not to waste any more public money.

- Synthetic Industry is capturing because of its positive sides. The survivals are those who are volume manufacturers, more diverted towards Technical, Medical and Industrial Textile Market. Today it is 40:60 (syn: cot) in India but it is 60:40 in the global Market.
- The Handloom sectors are standing only with the financial Support by the Govt. of India otherwise it is a non-profitable organisation. The lethargic and poor knowledge Govt. Officials are unable to develop this sector.
- The present Textile policy is expected to be very much encouraging and can bring better future in Textile and Garment sectors.
- There is vast scope to improve Garment Sectors which can earn export money, reduce unemployment, increase GDP.
- The role of TRA`s are to be more active and the Research works must be helping to the Industries.
- The Ministry of Textile and the office of the commissioner of Textile must play important role to upgrade this labour oriented Industry. The Planning's are to be more down to the earth and result oriented. The involvements of the Technical Experts who burnt their figures in this Industry are must.
- The power related problems and the unit cost are to be brought down to help this vast industry.

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