The Textiles & Apparels Industry
Contributing to “Make in India”

A study on the textiles and apparels industry and its potential to contribute to the government's "Make in India" initiative

THE ASSOCIATED CHAMBERS OF COMMERCE AND INDUSTRY OF INDIA
The Textiles & Apparels Industry

Contributing to “Make in India”

October 2015
MESSAGE

The Textiles and Apparel Sector is one of the oldest sectors in the Indian Economy and a significant contributor to its growth. Its contribution to output, foreign earnings and employment has also been considerably large. The Industry is highly diverse, spreading across the spectrum from labour intensive handmade textiles to capital intensive sophisticated mills.

The Government of India is committed to supporting the growth of the Textiles and Apparels Industry to enable it to reach its potential. To this end, under the ‘Make in India’ initiative, the Government is in the process of approving a revised National Textile Policy. Support has been extended to modernization and upgradation of technology by providing credit at reduced rates and capital subsidies. Schemes for developing world class infrastructure and skills have been beneficial to the industry.

I compliment ASSOCHAM for bringing out this sectoral report covering an important segment of Indian manufacturing Sector in partnership with Thought Arbitrage Research Institute. I am confident that this report will be a useful contribution to national dialogue on ‘Make in India’ and add to the knowledge base for policy makers and academicians.

My best wishes to all the collaborators for success in this and future endeavors.

(SANTOSH KUMAR GANGWAR)
Key Message

The Indian textile industry, currently estimated at USD 108 billion, is poised to reach USD 223 billion by 2021. It is one of the largest contributors to India’s exports with approximately 11% of total exports worth USD 41.4 billion. Currently, the industry accounts for approximately 5% of India’s GDP and 14% of overall Index of Industrial Production (IIP), thereby emerging as the 2nd largest employer in the country.

With abundant availability of raw materials such as cotton, wool, silk, and jute as well as skilled workforce, India offers a favorable market for global retail brands. India, based on its cost-advantage, diverse traditions in textiles and robust supply chain, is capable of delivering high-quality packaged products across the world.

The Government has taken several strategic steps to promote entrepreneurship and investments into the sector, such as introducing export promotion policies, allowing 100% FDI in the sector under the automatic route and launching Technology Mission on Technical Textiles (TMTT) amongst others. Further, the proposed National Textiles Policy aims to create 35 million new jobs by augmenting investments by foreign companies.

However, in order to leverage the vast potential of this vibrant industry, it is critical for the Government and Industry to work towards addressing key challenges including obsolete machinery and technology, threats to handloom sector, power shortage, illicit markets, labor related concerns, excise duty on man-made fibers, raw materials shortage and lack of quality infrastructure in non-metropolitan cities.

Towards the foregoing, I am pleased to present the ASSOCHAM report on *The Textiles and Apparels Industry - Contributing to "Make in India"* which will provide valuable insights into one of the most labor intensive industries, contributing significantly to export and foreign exchange.

Rana Kapoor
President ASSOCHAM
Preface

This report is ASSOCHAM’s contribution to the national debate on the manufacturing-led growth model that the government has embarked upon through its ‘Make in India’ and other initiatives.

Different sectors have varying roles to play in contributing to this national effort and ASSOCHAM is pleased to present this sector report on the Textiles and Apparels sector. It offers new insights into how we can achieve high and sustainable growth in incomes and jobs to meet the demands of our young and growing population.

I thank the industry experts who have given their perspectives and helped in analyzing the factors involved in development of this sector.

My special thanks to Thought Arbitrage Research Institute for bringing out this excellent study.

D.S. Rawat
Secretary General ASSOCHAM
India is one of the fastest growing economies in the world, a significant exporter of services with a large and growing consumption demand. Recent policy initiatives and programmes have given a further impetus to growth, directing the world’s attention to India. Falling inflation, and rising GDP numbers are only reinforcing this optimism. Initiatives such as the ‘Make in India’ initiative are also sending the right signals of intent – that India means business!

The manufacturing sector of any economy is one of the key drivers of its employment and growth. The ‘Make in India’ initiative launched in 2014, is aimed at boosting manufacturing by facilitating investment, fostering innovation, enhancing skill development and protection of intellectual property rights. While referring to this initiative, the President of India, speaking at a SCOPE conference in November 2014, said – “We have one of the largest markets in the world and there is no dearth of demand for competitively priced, quality products. We should aim not only at catering to our huge domestic demand but also towards high quality product development and greater access to foreign markets.”

This report, one of a series by Thought Arbitrage Research Institute (TARI), has been commissioned by ASSOCHAM to provide a focused analysis on the Textiles and Apparels industry which is covered under the ‘Make in India’ programme.

For the success of the ‘Make in India’ programme such an analysis would contribute a great deal in helping government and industry associations formulate appropriate policies and draft a road map for the growth of the industry and the economy. Insights and perspectives from industry experts and bodies have further added value to this report.

The Indian textiles and apparels industry is one of the oldest industries in India having evolved from a domestic small scale industry to one of the largest in the world with a massive raw material and textiles manufacturing base. It is also one of the largest and most important sectors of the Indian economy in terms of output, foreign exchange earnings and employment thus contributing greatly to the exchequer. Given its potential to boost manufacturing, this study focuses on the textiles and apparels industry and discusses how it can contribute to the government’s "Make in India" initiative.

I thank the dedicated team of researchers at TARI for putting together this report. I also thank all the industry experts and reviewers who have provided their invaluable insights and comments on this report. Last but not the least I thank ASSOCHAM for the patience and guidance through this process.

The perspectives provided in this report, I hope, will have an impact on the “Make in India” initiative contributing to sustainable growth and development.

**Kshama V Kaushik**
Director, Thought Arbitrage Research Institute
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Aims & Objectives of this Study

The manufacturing sector is one of the key drivers of employment and growth of an economy. The 'Make in India' initiative of the Government of India launched in 2014, is aimed at boosting manufacturing by facilitating investment, fostering innovation, enhancing skill development and protecting intellectual property rights.

This study focusses on the textiles and apparels industry, analyses where the potential exists for it to contribute to the dual objective of the Government’s "Make in India" initiative and meet increasing domestic and export demand. It provides detailed analysis of the following:

- Why should India focus on the textiles and apparels industry?
- How can the industry improve its manufacturing base - what are the enablers necessary to support growth?
- What is the multiplier effect of the growth of this sector?
- What are the challenges faced by the industry?
- What is the way forward?

In 2013\(^1\), the Indian textile industry contributed about 14% to the Index of Industrial Production, 4% to the country’s GDP and 17% to the country’s export earnings. Around 8% of the total excise revenue collection is contributed by the textile industry. The industry currently estimated at around US $108 billion, is expected to reach US $ 141 billion by 2021. Given these facts and the strong backward and forward linkages of the sector with other manufacturing industries, the industry is of high focus for the Government and Industry.

Growth Drivers & Quadrant Scenario Modelling

Growth drivers

Factors contributing to growth of the industry and analysed in this study are:

\(^{1}\) Annual Report, 2014-15, Ministry of Textiles, Government of India
Rising disposable incomes and evolving lifestyles of India's prospering urban consumer, are broadening their clothing needs. Today, Indians are more inclined to buy apparels for a specific purpose, than consumers in other markets. Family celebrations and weddings in India continue to eat up an enormous share of Indian consumers’ clothing budgets.

Rising urbanisation leads to increase in demand for new designs and fashions to match new lifestyles. The growing participation of women in the workforce is also contributing a great deal to this demand.

Backed by the enormous capacity to absorb labour, skilled human capital to meet the growing demand is one of the important factors that will drive growth of this industry.

India may be a major player in traditional textiles, but technical textiles as a segment is growing due to rising demand for specialised fabrics from various sectors of the economy.

India’s cotton and apparel exports are set to climb by around 10% in 2015 as higher wages, political instability and concerns about workplace conditions in other producing markets are likely to push international buyers towards Indian exporters. India has overtaken Germany and Italy to emerge as the world's second largest textile exporter but lags behind China, whose exports are nearly seven times higher.

The proliferation of digital internet technology in India coupled with wide scale ownership of devices such as smart phones, laptops and tablets that support internet usage, have resulted in an unprecedented growth of e-commerce. As incomes rise and lifestyles change, people have little time to spare. E-commerce has provided consumers with a wide range of apparels, with just a few simple clicks, making their shopping experience easier, faster and more convenient.

The textile industry, being one of the most significant sectors in the Indian economy, has been a key focus area for the Government of India. A number of initiatives have been taken by the Government to make the industry more competitive.

**Quadrant Scenario Model**

Using the Quadrant Scenario Development Tool the growth drivers identified were segregated based on their relative importance and arranged in different quadrants on a matrix of relative importance and time continuum. Admittedly, arranging the drivers in various quadrants is a somewhat subjective exercise and prone to different interpretations by different readers.
**The Textiles and Apparels Industry – Contributing to “Make in India”**

**“Government support” has been identified a growth driver for this industry- However for the purpose of the quadrant representation, the various policy measures undertaken have been placed in different quadrants based on their relative importance in the long run or short run. These are:**

- New National Textile Policy
- Technology Up-gradation Fund Scheme
- Scheme of Integrated Textile Parks
- Foreign Direct Investment (FDI) Policy
- Integrated Skill Development Scheme

**The Multiplier Effect**

This study has estimated the multiplier effect of the textiles and apparels industry for all the variables of interest. The results tabulated below, show why it has been identified as a priority sector by policy makers.

**Multipliers: TARI Estimates**

<table>
<thead>
<tr>
<th>Multiplier</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>2.58</td>
</tr>
<tr>
<td>Value Added / Income</td>
<td>3.92</td>
</tr>
<tr>
<td>Employment</td>
<td>5.17</td>
</tr>
<tr>
<td>Tax</td>
<td>-61.45</td>
</tr>
</tbody>
</table>

The output multiplier shows that increase in demand of the textiles and apparels sector can lead to an increase in overall output of the economy by approximately 3 times. This shows the strong backward linkages of the sector with others i.e. ancillary industries.

In terms of value addition and job generation, the textiles and apparels industry and its future looks promising. Rise in employment across the economy because of a rise of ₹ 1 of demand is more than 5 times the rise in
employment within the sector. Similarly, rising demand can lead to increase in value addition of the economy by approximately four times the value addition within the sector.

The negative 61.45 tax multiplier shows that a ₹1 increase in the demand of textiles and apparels industry will negatively affect tax collections in the entire economy by more than 61 times. Due to the structural changes in the industry from big textile mills to smaller export oriented ones, the industry receives tax exemptions and other incentives to make the end products competitive. Tax exemptions and subsidies also exist for services at both the backward and forward ends. (eg: tax exemption for transportation services associated with cotton textile products.) High subsidy allocations compared to tax collections shows the government’s intentions to promote the sector. Therefore, due to these tax incentives which are aimed at promoting the industry, the proportion of change in tax is low. It is not surprising then that the combined effect derived from both direct and indirect effect in the estimation of the tax multiplier for this industry, gives a high negative figure.

The estimates of the multiplier effect in this study show that the industry has great potential and the linkages with other industries can facilitate achievement of the government’s “Make in India” initiative to revive Indian manufacturing, overall economic growth and prosperity.

Challenges Faced by the Industry

The Indian textiles and apparels industry plays a crucial role in contributing to employment generation, industrial output and export earnings. However, in its race towards becoming the second largest producer of textiles and apparels in the world, it has faced several challenges and continues to battle them to not only retain its position in the globalmap but also to improve it.

Some of the major challenges faced by the industry in India that could potentially come in the way of its contribution to the Government’s ‘Make in India’ programme, including:

- Paucity of domestic producers of shuttle-less looms and spindles greatly affects the industry with the waiting time per order being as much as 2 to 3 years. Obsolete machinery leads to low efficiency and poor quality products. Lack of investment and research in the area of textile machinery, is forcing imports to compete with other textile producing countries.
- Stiff competition from mechanised mills, changing consumer preferences and the pursuit of less demanding means of livelihood have threatened the vibrancy of the handloom industry. Traditional hand woven products are in danger of becoming obsolete and weaving skills face threat of dilution. The lack of credit facilities extended to the handloom sector adds to its woes.
• Textile mills face acute powershortage. Frequent electricity cuts and load shedding lead to loss of man hours and low production in the mills. Textile SMEs are severely affected by power shortage and are forced to use manual machines, which produce lower quality products and are more costly to maintain.

• Manufacturers of original products face enormous losses due to counterfeit products which are often sold at prices, usually 40% to 45% lower than original value. Anti-counterfeiting measures in India are not effectively implemented, further aggravating the problem.

• Labour related issues such as threat to safety and health of workers, poor working environment, and exploitation of children, strict labour laws and skills gap pose a major challenge to the industry.

• India has differential tax treatments for cotton and man-made fibres, thus creating needless distortions within the industry. While excise duty on natural fibres like cotton, wool and flax is nil, manmade fibre, filament and yarn attract duty as high as 12.5%.

• The Indian textiles industry faces acute shortage of raw materials in the form of cotton and raw silk. Fluctuating prices and uncertainties in the availability of raw materials leads to low production and sickness of mills.

• The manufacturing activities of the textiles and apparels industry greatly impact the environment in the form of air and water emissions. Alternative process solutions that are eco-friendly and cost effective are therefore necessary, to meet increasing demands of the ever-growing and competitive market, in a sustainable manner.

The Way Forward

Some of the measures and recommendations which would give a fillip to the industry and the economy as a whole are:

The contribution of the textiles and apparels sector to the country’s economy has been enormous. Riding on the back of changing demographics in India, the sector has a huge potential to absorb the surplus labour available in the country. Changing lifestyles, rising urbanisation and growing fashion consciousness among people are set to give a boost to the sector in the coming decades.
At a time when the government has initiated the 'Make in India' programme to revive Indian manufacturing, planned and systematic efforts by the government and industry bodies to support Indian textiles and apparels will give the necessary stimulus to the industry and help it to address the various barriers to growth, ultimately leading to economic prosperity.

This study has further corroborated the potential that this industry holds. It has identified several growth drivers which, if tapped appropriately, can further boost growth. The multiplier effect demonstrates the effect of increasing demand in the industry on output, employment, value addition and indirect tax collections, on the sector itself as well as its ancillary industries. However, despite the huge potential, the sector is faced with several roadblocks that this study has identified and suggests ways to overcome them in a sustainable manner. Coordinated efforts of the government and industry in addressing these challenges and focussing on the identified growth drivers will help the industry in achieving its rightful position in the global textiles market.
Aims & Objectives of this Study

The manufacturing sector is one of the key drivers of employment and growth of an economy. The ‘Make in India’ initiative of the Government of India, launched in 2014, is aimed at boosting manufacturing by facilitating investment, fostering innovation, enhancing skill development and protecting intellectual property rights. It identifies 25 sectors for special attention. The key objectives of the initiative are:

✓ To increase the share of manufacturing in GDP from 16% to 25%;
✓ To increase quantum and proportion of exports of manufactured goods;
✓ To reverse the jobless growth syndrome by increasing employment in the formal sector;
✓ To increase the taxes collected from gainful economic activity; and
✓ To increase the efficiency and viability of SME businesses.

The Indian textiles and apparels industry is one of the oldest industries in India having evolved impressively from a domestic small scale industry to one of the largest in the world with a massive raw material and textiles manufacturing base. It is also one of the largest and most important sectors of the Indian economy in terms of output, foreign exchange earnings and employment thus contributing greatly to the exchequer. The sector has a unique position as a self-reliant industry, from the production of raw materials to the delivery of finished products, with substantial value-addition at each stage of processing. Its vast potential for creation of employment opportunities in the agricultural, industrial, organised and decentralised sectors & rural and urban areas, particularly for women and the disadvantaged is noteworthy. Thus, the growth and all round development of this sector has a direct bearing on the development of the economy.

This study will therefore focus on the textiles and apparels industry, analyse where its potential lies, for it to contribute to the dual objective of the Government’s “Make in India” initiative and meeting increasing domestic and export demand.

Such an analysis would be essential for the success of the ‘Make in India’ initiative as it would help government and industry associations to formulate suitable policies and draft a road map for the overall growth of this industry.
The Textiles and Apparels Industry – Contributing to “Make in India”

This study will provide detailed analysis of the following:

The Textiles and Apparels Industry: Overview

The history of textiles in India dates back to around 3000 BC where the use of mordant dyes and printing blocks was prevalent. The diversity of fibres found in India, intricate weaving on its state-of-the-art manual looms and its organic dyes attracted buyers from all over the world for centuries. However, the industry faced a setback during British colonisation, when the industrial policies destroyed the innovative eco-system and left it technologically impoverished. Independent India saw the building up of textile capabilities, diversification of the product base, and the emergence of the industry, once again, as an important global player.

Apart from providing one of the basic necessities of life, the textile industry contributes enormously to industrial output, employment generation and export earnings of the country.

As per the Ministry of Textiles, in 2013 the Indian textile industry contributed about 14% to the Index of Industrial Production, 4% to the country’s GDP and 17% to the country’s export earnings. Around 8% of the total excise revenue collection is contributed by the textile industry. The industry currently estimated at around US $108 billion, is expected to reach US $ 141 billion by 2021.

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1 Annual Report, 2014-15, Ministry of Textiles, GoI
Indian textiles and apparels sector enjoys export subsidies which fall under certain heads such as the Focus Market Scheme, Focus Product Scheme (FPS), market-linked FPS, Export Promotion Capital Goods Scheme, interest subvention on pre- and post-shipment export credit as well as tax breaks for special economic zones. Several other production-based subsidies such as Technology Mission on Cotton and Technology Upgradation Fund Scheme which ultimately incentivise production are applicable to the sector. The subsidies in fact are far more in value terms than the revenue earned by the exchequer through tax collections. However, export subsidies having come under the World Trade Organisation’s (WTO) scanner for a possible breach of the WTO’s Agreement on Subsidies and Countervailing Measures, may soon have to be phased out as reported by the media in January 2015. Production-based subsidies are not going to be affected by the decision.

As a major contributor to employment generation, the textile industry accounts for 21% of the total employment generated in the economy, employing around 35 million people directly in textile manufacturing activities. A study on the Indian textiles and apparels industry estimates the indirect employment including the manpower engaged in agricultural based raw-material production like cotton and related trade and handling to reach around 60 million.

**Structure of India’s Textile Industry**

The Indian textile industry mostly comprises small-scale, non-integrated spinning, weaving and knitting, fabric finishing, and apparel-making enterprises. Other textile-producing countries mainly have large scale mills with modern technology and machinery, that integrate spinning, weaving and, sometimes, fabric finishing. This unique industry structure in India is primarily a result of government policies on tax, labour and other regulations that have promoted labour-intensive, small-scale operations often discriminating against larger scale firms.

**Composite Mills:** Relatively large-scale mills that integrate spinning, weaving and, sometimes, fabric finishing now account for about only 3 percent of output in the textile sector in India. About 276 composite mills are now operating in India, most owned by the public sector and many deemed financially “sick.”

**Spinning:** Spinning is the process of converting cotton or manmade fibre into yarn to be used for weaving and knitting. Largely due to deregulation that began in the mid-1980s, spinning is to date considered the most consolidated and technically efficient segment of the industry. However average plant sizes remain small and technology is outdated, relative to other major producers.

**Weaving and Knitting:** Weaving and knitting converts cotton, manmade, or blended yarns into woven or knitted fabrics. This segment is highly unorganised with mostly small-scale and labour-intensive enterprises. The organised sector contributes only 5% of the total production. The segment has about 3.9 million hand looms and 1.8 million power-looms in India.

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4 India textile export subsidy under WTO scanner, The Indian Express, January 3, 2015
5 Indian textile industry - An overview, Dr.M.Dhanabhakyam, A.Santhi, Fibre2Fashion.com
6 Indian textile industry - An overview, Dr.M.Dhanabhakyam, A.Santhi, Fibre2Fashion.com
**Fabric Finishing:** Fabric finishing also called processing includes dyeing, printing, and other cloth preparation prior to the manufacture of apparels. This segment is dominated by a large number of independent, small scale enterprises. Overall, about 2,300 processors are operating in India, including about 2,100 independent units and 200 units that are integrated with spinning, weaving, or knitting units.7

**Apparels:** Apparels are produced by about 77,000 small-scale units classified as domestic manufacturers, manufacturer exporters, and fabricators (subcontractors). According to a report by Wazir Advisors,8 the size of the Indian apparel market in 2012 was $45 billion. The report estimates India and China to be the fastest growing markets, growing in double digits and becoming the biggest consumer market with a mammoth share of 27% in the world's apparel market.

**Segments by Utility**

The textiles and apparels industry is broadly classified into the following segments:

![Segments by Utility Diagram](image)

**Cotton and Cotton textiles**

The Indian textile industry which has a diverse range of fibres and yarn is predominantly cotton based. Hence, growth and all around development of cotton and cotton industry has a vital bearing on the development of the sector and the economy as a whole. According to the Ministry of Textiles,9 the consumption of cotton is more than 400 lakh bales (of 170 kg each) per year. The Cotton Corporation of India reports that the total production in 2013-14 rose to 375 lakh bales from 365 lakh bales in 2012-13.

**Jute and Jute Textiles**

Jute, the golden fibre, is considered to be a natural, renewable, biodegradable and eco-friendly product. According to the Ministry of Textiles, the jute industry provides direct employment to about 0.37 million workers in organised mills and in diversified units including the tertiary sector and supports the livelihoods of around 4 million farm families. There are 89 composite jute mills in India and about 49,500 looms installed in the jute industry including Hessian looms, sacking looms, C.B.C looms and others. The maximum installed capacity in jute mills is estimated to be more than 2.64 million tonnes per annum.

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7 ibid
8 The Road to 2025, S Market, Trade And Investment Trends That Will Define The Course Of Textile And Apparel Industry, Wazir Advisors and PCI Xylenes and Polyester
9 Annual report 2014-15, Ministry of Textiles, GoI
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**Silk and Silk Textiles**

India is the second largest producer of silk in the world. According to the Central Silk Board,\(^\text{10}\) 26,480 MT of raw silk was produced in India in 2013-14, 74% of which (or 19,476 MT) was mulberry raw silk. The remaining 26% was wild silk (vanyasilk). Mulberry sericulture is mainly practiced in five states namely, Karnataka, Andhra Pradesh, West Bengal, Tamil Nadu and Jammu & Kashmir which jointly account for about 96% of the total mulberry silk production in the country. As the consumption of raw silk (around 29,740 MT) exceeds production, the additional requirement (particularly bivoltine mulberry silk of international quality) is imported mainly from China.

**Wool and Woollen Textiles**

The woollen industry is small and widely scattered. It is basically located in the states of Punjab, Haryana, Rajasthan, U.P., Maharashtra and Gujarat. 40% of the woollen units are located in Punjab, 27% in Haryana, 10% in Rajasthan, while the rest of the states account for the remaining 23%\(^\text{11}\).

**Hand crafted Textiles**

The tradition of weaving by hand is one of the richest and most vibrant aspects of Indian cultural heritage. The level of artistry and intricacy achieved in handloom fabrics is unparalleled and beyond the scope of modern machines. The strength of the sector lies in its uniqueness, flexibility of production, openness to innovations, adaptability to the suppliers' requirements and the wealth of its tradition. Indian handlooms have been famous throughout the world for centuries and have been exported across the world.

**Technical textiles**

Technical textiles are defined as textile material and products manufactured primarily for their technical performance and functional properties rather than aesthetic and decorative characteristics. It has applications across various industries including automobiles, civil engineering and construction, agriculture, healthcare, industrial safety, personal protection etc. The technical textiles segment is a high technology segment which is steadily gaining importance in India. Some of the properties of technical textiles that may be attributed to its increasing popularity are cost effectiveness, durability, lightweight, high strength and user and eco friendliness. Based on usage, there are 12 technical textile segments, viz., Agrotech, Buildtech, Clothtech, Geotech, Hometech, Meditech, Mobiltech, Oekotech, Protech, Packtech, Indutech, Sporttech.

In India the sector registered a compounded annual growth rate of 11% during 11th Five Year Plan. According to the Planning Commission's Working Subgroup on Technical Textiles, its market size is estimated to grow at a CAGR of 20% to reach ₹ 1,58,540 crores by 2016-17 from ₹ 70,151 crores in 2012-13. The market for 2014-15 is projected to be ₹ 1,09,659 crores.

**Readymade garments**

Readymade garments (RMG) manufacturing being the least capital intensive segment of the textile value chain is characterised by low entry barriers and is hence highly fragmented. It is also labour-intensive and requires skilled, unskilled and semi-skilled manpower. A study by CARE Research\(^\text{12}\) says the domestic apparel industry in India grew at a CAGR of 9% from ₹ 1,360 billion in FY08 to ₹ 2,115 billion in FY13 and is expected to continue this growth trend to FY16. In 2012, apparels had a 69% share of the overall market; textiles contributed the remaining 31%. At the inauguration of the 55th India International Garment Fair, 2015 the Textiles Minister,

\(^{10}\) Ministry of Textiles, GoI

\(^{11}\) Annual report 2014-15 Ministry of Textiles, GoI

\(^{12}\) Indian Apparel Industry, CARE Research
supporting the apparel industry said that it plays a significant role in realising the 'Make in India' vision, given its employment and export intensity.

**India’s Exports and Imports**

India’s textiles and apparels industry is one of the mainstays of the national economy. It is also one of the largest contributing sectors to India’s exports. The report of the working group constituted by the Planning Commission on boosting India’s manufacturing exports during 12th Five Year Plan (2012-17) envisages India’s exports of textiles and apparels at US$ 64.41 billion by the end of March, 2017. As per the UN Comtrade database, the top 5 textile and apparel exporting nations in 2013 were China, India, Italy, Germany and Turkey. China was the largest exporter with 67% share while India stood at a distant second place with 10% share in world’s textiles and apparels exports.

Projected exports and imports of textiles & clothing (T&C) during April- December 2014-15 as per the Ministry of Textiles is presented below:

<table>
<thead>
<tr>
<th>Exports</th>
<th>2013-14</th>
<th>2014-15(Apr-Dec) (P*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textile and clothing</td>
<td>2,14,918.45</td>
<td>1,65,821.35</td>
</tr>
<tr>
<td>Handicrafts</td>
<td>23,504.42</td>
<td>6,346.53</td>
</tr>
<tr>
<td>Total</td>
<td>2,38,422.87</td>
<td>1,72,167.88</td>
</tr>
<tr>
<td>India’s overall exports</td>
<td>18,94,181.95</td>
<td>11,22,499.75</td>
</tr>
<tr>
<td>%Textiles exports to overall exports</td>
<td>12.59%</td>
<td>15.34%</td>
</tr>
</tbody>
</table>

*Source: DGCIS and Ministry of Textiles, GoI. (*Projected)*

<table>
<thead>
<tr>
<th>Imports</th>
<th>April-Oct 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total T&amp;C including handicrafts</td>
<td>3,334.58 US$ Mn.</td>
</tr>
</tbody>
</table>

*Source: DGCIS, Ministry of Textiles, Department of Commerce, GoI*

According to data from the Ministry of Textiles, during the first three quarters of 2014-15, a majority of the segments in the sector registered growth in exports, while cotton textiles, jute and handloom products recorded a decrease. Readymade garments, which account for 41% of all textile exports, grew by 16%, while exports of cotton textiles decreased by 8%. Carpets recorded maximum growth of 25%.

In the case of imports, during April to December 2014-15, the maximum growth was recorded for man-made textiles (68%) which also had the largest contribution to total textiles and apparels import with a share of ₹5,030 crores. Handloom products, and coir and coir manufacturers registered a decrease of 56% and 50 % respectively in imports, for this period. Imports of T&C during 2014-15 (April-Oct) are estimated to be ₹20,812 crores.

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14 http://comtrade.un.org/
The Textiles and Apparels Industry – Contributing to “Make in India”

The following graphs depict the shares of various segments in total textiles and apparels exports and imports.

**Percentage Share of Various Segments in Total Textiles Exports and Imports**

![Graphs depicting the percentage share of various segments in total textiles exports and imports.](image)

Others includes wool and woolen textiles, silk, handloom products, jute and coir and coir manufacturers. Others includes handloom product, carpets, jute and coir and coir manufacturers.

**Major Textiles and Apparels Zones in India**

- **North:** Kashmir, Ludhiana and Panipat account for 80% of woolenens in India. Delhi and Gurgaon for readymade garments (RMG).
- **East:** Bihar for jute, parts of Uttar Pradesh for woolens and Bengal for cotton, woolens and jute.
- **West:** Ahmedabad, Mumbai, Surat, Rajkot, Indore and Vadodara are known for cotton, Mumbai and Nagpur for RMG.
- **South:** Tirupur, Coimbatore and Madurai for hosiery, Bengaluru, Mysuru and Chennai for silk, Madurai and Salem for RMG.

Source: Author’s representation, Information from Ministry of Textiles, Ministry of Skill Development and Entrepreneurship

**Employment**

One of the important aspects of the textiles and apparels industry is its contribution to employment. It employs 15.23 million people, of which 2.3 million are factory workers. However, with the increased focus on yarn and

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15 Ministry of Skill Development and Entrepreneurship
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fabric to final products such as garments, home textiles and technical textiles, there is expected to be a change in the skills and characteristics of potential candidates.

According to Annual Survey of Industries, 2010-11 data, Tamil Nadu employs the largest workforce in the textiles and apparels industry accounting for 27% of the total workforce in the sector, followed by Gujarat, Karnataka, Maharashtra, West Bengal and Punjab.

According to the 22nd Quarterly Quick Employment Survey, for the period April-June 2014, the highest jump in employment was observed in the textiles and apparel sector, where it increased by 69,000 during June 2014 over March 2014. The lowest increase was recorded in the automobiles sector. The following graph shows the increase in six sectors of the economy including the textiles and apparels.

As the statistics suggest, the textiles and apparels industry has significant potential to contribute to India’s dream of becoming the manufacturing hub of the world. With changing demographics, rising disposable incomes and changing preferences, the Indian textiles and apparels industry appears to have a promising future at the domestic and global level. Given its employment potential, contribution to exports, foreign exchange and GDP, the government would do well to focus on this industry, to revive manufacturing in the country. Data will further show how the growth of this industry has a multiplier effect on the rest of the economy.

Source: Economic Survey 2014-15
Growth Drivers & Quadrant
Scenario Modelling

Growth Drivers
The Indian textiles and apparels industry has grown significantly in the last few years having emerged as one of the important industries in the economy. It contributes enormously to industrial output, employment generation and export earnings of the country. It is set for strong growth, buoyed by strong domestic consumption as well as export demand. Research firm Technopak in its study on textiles and apparels, states that in terms of both the domestic market and exports, the size of the industry is projected to grow at a compounded annual growth rate of 9.5 per cent to reach $223 billion by 2021 from $89 billion in 2011.

Government support for modernisation of the industry with a particular focus on closing the gaps in the textile value chain appears to be promising for the industry. Factors such as changing lifestyles, growing disposable incomes and the growth of the e-commerce industry, have added to the growth prospects of the industry.

This section describes the factors that drive the growth of the Indian textiles and apparels industry.

Figure 1: Drivers of Growth of Indian Textiles and Apparels Industry

1. Rising Incomes and Changing Lifestyles
A study by the McKinsey Global Institute suggests that if India continues on its current high-growth path, over the next two decades the Indian market will undergo a major transformation. Average household

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17 Global & Indian T&A sector and Opportunities in the Domestic Market, Tecnopak, July 2012
18 The ‘bird of gold’: The rise of India’s consumer market, McKinsey Global Institute, May 2007
incomes will triple over the next 20 years and India will become the fifth largest consumer economy in the world by 2025.

As disposable incomes are growing, lifestyles of India's prospering urban consumers is evolving, in turn, broadening their clothing needs. This is reflected through increase in demand for special clothing or 'occasionalised' clothing. For men, clothing once meant clothes for home, work and special occasions. Now, with changing lifestyles, men are buying different clothes for occasions such as parties, sports, clubbing, meetings with business associates etc. Today, Indians are more inclined to buy apparels for a specific purpose, than consumers in other markets. This is substantiated by a McKinsey study\(^{19}\) which recorded 38 percent of respondents in India to be highly likely to buy apparel for a special event - a proportion significantly higher than in Brazil, Russia and China which stood at 5 per cent, 3 per cent and 6 per cent respectively.

Noteworthy of mention are family celebrations and weddings in India which continue to eat up an enormous share of Indian consumers' clothing budgets.

Further, increase in disposable income has resulted in greater exposure to television, movies, advertising and the internet. The Indian consumer is being bombarded with new ideas about style and clothing, thereby accentuating demand for special clothing. An analysis of monthly consumption expenditures of rural and urban Indians available in NSS's 68th round data published by the Ministry of Statistics and Programme Implementation (MoSPI), Government of India, indicates the importance of clothing and footwear for people living in both rural and urban areas. As the graph below shows, approximately 7% of an average rural Indian's overall monthly expenditure is incurred on clothing and footwear while an urban Indian spends 6.40%.

![Monthly Consumption Expenditure](image)

**Source:** Author's representation, NSS 68th Round, MoSPI, Government of India

2. Increasing Urbanisation and Growing Female Participation in the Workforce

India is witnessing an increasing rate of urbanisation with a large number of people shifting to the cities and towns for better livelihoods. According to Census 2011, the current rate of urbanisation in India stands at 31.16% rising from 27.86% in 2001 and 25.72% in 1991.

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### Trends in Urbanisation in India (1961-2011)

<table>
<thead>
<tr>
<th>Census Year</th>
<th>Urban Population (in Million)</th>
<th>Rate of Urbanisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>78.94</td>
<td>17.97</td>
</tr>
<tr>
<td>1971</td>
<td>109.11</td>
<td>19.91</td>
</tr>
<tr>
<td>1981*</td>
<td>159.46</td>
<td>23.34</td>
</tr>
<tr>
<td>1991**</td>
<td>217.18</td>
<td>25.72</td>
</tr>
<tr>
<td>2001</td>
<td>286.12</td>
<td>27.86</td>
</tr>
<tr>
<td>2011</td>
<td>377.10</td>
<td>31.16</td>
</tr>
</tbody>
</table>

Source: Census of India, various years

*Includes projected figures for Assam; ** Includes projected figures for Jammu & Kashmir

As a growth driver, rising urbanisation leads to an increase in demand for new designs and fashions to match new lifestyles. A large percentage of these new city dwellers are expected to be in their twenties, possibly making first-time independent choices for various categories of clothing items including denims, shirts, and footwear.

There is also a growing realisation among urban families and among women themselves that women should work, contribute to the family income and secure their financial future. According to World Bank data available up to 2013, female labour force participation in India stood at a meagre 27 percent - a dismally low global rank of 199. However, this is expected to improve as more women are venturing out beyond home to shopping complexes, schools or offices to socialise and work. The women’s apparel market, which has been significantly smaller than men’s, (as traditionally, women’s wardrobes have been limited to home wear and items for special occasions), is thus set to boost growth of the textiles and apparels industry in India.

A significant proportion of women workers are employed in home textiles (which includes kitchen, bed linen, table, bath linen and all home textile products for residential and commercial use that may be made of cotton, cotton blends, synthetics and terry fabrics) and technical textiles.

### 3. Skill Development

As the textiles industry grew in India, a large number of textiles institutes were founded across the country teaching mainly conventional technologies. They mainly provided structured educational inputs for supervisory and middle level positions, at pre-employment stages. Skill development and up-gradation of skills at the operators’ level were neglected till the establishment of the Textiles Research Associations post-independence.

This industry is a skill-oriented one which requires innovation and knowledge at every stage of production. It is essentially a labour-intensive industry, offering enormous labour absorption capacity. In the backdrop of continuously rising demand, as a result of rising incomes, changing lifestyles, increasing urbanisation and female workforce participation in India, backed by the enormous capacity to absorb labour, skilled human capital to meet this growing demand is one of the important and necessary factors that will drive growth of this industry.

According to the Planning Commission’s Working Group for the Textiles and Jute Industry, the Skill Development Mission plans to set up 1,500 new skill development centres with a progressive funding of 2.5 % of the GDP

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20 World Bank Development Indicators (http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS, accessed on 3rd August 2015)

21 Report of the Working Group for the Textiles & Jute Industry for the Twelfth Five Year Plan, Planning Commission
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proposed for the skill development programmes of the Government. According to the report, currently, the following bodies offer textile related training facilities:

✓ Apparel Training & Design Centres;
✓ National Institute of Fashion Technology;
✓ Textiles Research Associations;
✓ Powerloom Service Centres;
✓ Indian Institutes of Handloom Technology;
✓ Weaver’s Service Centres;
✓ Industrial Training Institutes;
✓ Home Science Colleges offering Textiles & Clothing Courses;
✓ Indian Institute of Carpet Technology; and
✓ Institute of Jute Technology.

National Skill Development Corporation (NSDC) and ICRA Management Consulting Services Ltd. (IMaCS) analysis projects human resource requirements across various functional levels to be 16.7 million. The following table shows the segment wise requirement.

<table>
<thead>
<tr>
<th>Workforce distribution by function</th>
<th>Procurement</th>
<th>Production</th>
<th>Sales</th>
<th>Quality</th>
<th>Engineering and Maintenance</th>
<th>Support</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinning</td>
<td>0.02</td>
<td>0.98</td>
<td>0.03</td>
<td>0.06</td>
<td>0.05</td>
<td>0.13</td>
<td>1.27</td>
</tr>
<tr>
<td>Fabric Manufacturing</td>
<td>0.09</td>
<td>4.68</td>
<td>0.06</td>
<td>0.06</td>
<td>0.29</td>
<td>0.67</td>
<td>5.85</td>
</tr>
<tr>
<td>Fabric Processing</td>
<td>0.00</td>
<td>0.26</td>
<td>0.00</td>
<td>0.00</td>
<td>0.02</td>
<td>0.04</td>
<td>0.33</td>
</tr>
<tr>
<td>Garmenting</td>
<td>0.09</td>
<td>7.48</td>
<td>0.37</td>
<td>0.37</td>
<td>0.28</td>
<td>0.75</td>
<td>9.34</td>
</tr>
<tr>
<td>Total</td>
<td>0.21</td>
<td>13.39</td>
<td>0.46</td>
<td>0.50</td>
<td>0.64</td>
<td>1.59</td>
<td>16.79</td>
</tr>
</tbody>
</table>

Source: IMaCS analysis/NSDC

According to a report by Ministry of Skill Development and Entrepreneurship, Government of India, the textiles and apparels industry has a major role to play in the Government’s ‘Make in India’ campaign through its contribution to employment generation. The report states that the overall employment in the sector would increase from about 33-35 million in 2008 to about 60-62 million by 2022.

The ‘skill pyramid’ developed for the textiles and apparels industry by IMaCS and NSDC with inputs from the industry captures the current standing of the industry in terms of skills as compared to all other industries. The lower portion of the pyramid, ‘Skill Level 1’, has the highest incremental requirement of human resources. It requires persons who are minimally educated, yet can handle simple and/or repetitive tasks (persons employed in activities such as basic machine operations, knitting, cutting, and stitching/sewing, etc.).

skills can also be obtained in lesser time duration as compared to engineering or ITI courses. As many as over 15 million persons are required across skill levels 1 and 2.

In the context of new trade regimes, the demand for trained manpower, competent to manufacture quality products, with high productivity, and to handle sophisticated machines, has been increasing rapidly in textiles and garment manufacturing. Being labour intensive, these sectors will require focused training for skill development and skill-up gradation. Training and retraining in these areas will be a wise investment in our human resources, to exploit the full potential of the textiles and garment industry.

4. Focus On Technical Textiles

Technical textiles is a knowledge based, research oriented industry and has been slowly but steadily gaining ground due to its functional requirement, health & safety compliance, cost effectiveness, durability, high strength, lightweight, versatility, customisation, user friendliness, eco friendliness, logistic convenience etc. The main users of technical textiles are industries like, automobile, railways, garments, medical, sports, protective clothing, packaging, construction etc. The general public also uses technical textiles, particularly disposable technical textile products.

Technical textiles are also referred to as industrial textiles, functional textiles, performance textiles, engineering textiles, invisible textiles and hi-tech textiles. The following table describes the various segments of the technical textile industry by end use application.
India may be a major player in traditional textiles, but technical textiles as a segment is growing due to rising demand for specialised fabrics from various sectors of the economy. The sector registered a compounded annual rate of growth of 11% during 11th Five Year Plan and as per the 12th Five Year Plan estimates, the technical textiles market is expected to grow at CAGR of 20% and reach ₹1,58,540 crores by 2016-17 from ₹75,925 crores in 2012-13.

The industry too has confidence in the growth potential of the technical textile sector. The Indian Technical Textile Association has stated that while the world over, the share of technical textiles among all forms of textiles is 65 per cent, its share in India is only 10 to 15 per cent. This indicates the massive growth potential in this segment, which is purely based on technology and innovation.

Manufacturing activity in these segments is mostly in small scale, unorganised units. They primarily include commodity products and are not very R&D intensive. Most of the products in other segments are imported, as SMEs do not have the know-how to invest in product innovation and R&D, which are the key success factors for high tech products. In the overall market, the Packtech, Clothtech and Hometech segments are the largest. They contribute nearly 2/3rd of the market size, while the share of Geotech, Agrotech and Oekotech is almost negligible. The following pie chart shows the distribution of the various segments of the technical textiles market as per the Planning Commission report.

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23 Report of the Working Group for the Textiles & Jute Industry for the Twelfth Five Year Plan, Planning Commission
Recognising the potential of the technical textiles sector, the government launched the ‘Technology Mission on Technical Textiles’ in 2010-11 with a total financial outlay of ₹200 crores. The objective of the mission is to remove the impediments hampering production of technical textiles in the country to meet growing domestic and export demand.

As of 2013, India imports high-end technical textiles and depends on imported machinery to produce value-added technical fabrics. India exports over US$1 billion worth technical textiles. This figure is set to grow as India is seen as a key growth market for the sector, not merely because of the large population but due to cost-effectiveness, durability and versatility of technical textiles.

### 5. Growth in Exports

Exports of textiles and clothing products from India have increased steadily over the last few years, particularly after the expiry of the Multi Fibre Agreement in 2004, which imposed quotas on the amount that developing countries could export in the form of yarn, fabric and clothing to developed countries.

On the back of a weak rupee and firm overseas demand, textile exports in India summed up to $30.37 billion in 2013-14, up from $26.36 billion in 2012-13. This translated into a growth of 15.24%, compared to a decline of 3.11% in 2012-13.
According to a report by Indira Textiles in 2014, India’s cotton and apparel exports are set to climb by around 10% in 2015 as higher wages, political instability and concerns about workplace conditions in other producing markets would push international buyers towards Indian exporters.

Investments flowing into the sector for capacity expansion in the entire value chain, have added to the growth of exports. Given this growth, the Working Group on Textiles and Jute of the 12th Five Year Plan, has projected the overall growth of exports to be 15% over the 11th five year plan.

| Projections of Exports for Twelfth Five Year Plan (in Million $) |
|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Items             | FY11            | FY12            | FY13            | FY14            | FY15            | FY16            |
| Cotton Textiles   | 7,500           | 8,400           | 9,408           | 10,537          | 11,801          | 13,218          |
| ManMade Textiles  | 5,500           | 6,380           | 7,401           | 8,585           | 9,959           | 11,552          |
| Silk Textiles     | 800             | 880             | 968             | 1,065           | 1,171           | 1,288           |
| Woolen Textiles   | 700             | 770             | 847             | 932             | 1,025           | 1,127           |
| Clothing          | 14,000          | 16,520          | 19,494          | 23,002          | 27,143          | 32,029          |
| TOTAL             | 28,500          | 32,950          | 38,117          | 44,121          | 51,099          | 59,214          |
| Jute,Coir and Handicrafts | 3,850   | 4,235           | 4,659           | 5,124           | 5,637           | 6,200           |
| Grand Total       | 32,350          | 37,185          | 42,776          | 49,245          | 56,736          | 65,414          |
| CAGR over FY11    |                 |                 |                 |                 |                 | 15%             |

India has overtaken Germany and Italy to emerge as the world’s second largest textile exporter but lags behind China, whose exports are nearly seven times higher. Data released by the Apparels Export Promotion Council (AEPIC), the industry body for garment exporters, showed that India’s textiles exports were estimated at $40 billion in 2013, compared to China’s $274 billion.

A 2013 study by the Cotton Textiles Export Promotion Council stated that a 10% reduction in China’s market

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24 Report of the Working Group for the Textiles & Jute Industry for the Twelfth Five Year Plan, Planning Commission
28 Cost benchmarking in India vis-à-vis Bangladesh, Indonesia, Egypt, China, Pakistan and Turkey, Cotton Textiles Export Promotion Council (TEXPROCIL)
share gives India an opportunity to double its exports. The steady growth of exports in textiles and apparels therefore offers a huge opportunity to the sector for growth in the coming years.

6. Growth in Electronic Commerce

The proliferation of digital internet technology in India coupled with wide scale ownership of devices such as smart phones, laptops and tablets that support internet usage, have resulted in an unprecedented growth of Electronic Commerce (e-commerce). As incomes are rising and lifestyles are changing, people have little time to spare. E-commerce has leveraged this opportunity and is providing consumers with what they want, with just a few simple clicks, making their shopping experience easier, faster and convenient.

The 5 major Indian clothing and lifestyle e-commerce players along with their earned revenues (in $Mn) in 2011 are presented in the table below.

<table>
<thead>
<tr>
<th>Company</th>
<th>Year of Establishment</th>
<th>Reach (in Mn)</th>
<th>Penetration (cities)</th>
<th>Associated Brands</th>
<th>Revenues (in $Mn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yebhi.com</td>
<td>2004</td>
<td>1.2</td>
<td>1,100</td>
<td>150</td>
<td>20</td>
</tr>
<tr>
<td>Myntra.com</td>
<td>2007</td>
<td>3.0</td>
<td>1,200</td>
<td>350</td>
<td>100</td>
</tr>
<tr>
<td>Fashionbyme:</td>
<td>2010</td>
<td>3.6</td>
<td>1,200</td>
<td>500</td>
<td>11</td>
</tr>
<tr>
<td>Yepme.com</td>
<td>2011</td>
<td>0.5</td>
<td>500</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>Jabong.com</td>
<td>2012</td>
<td>1.5</td>
<td>500</td>
<td>500</td>
<td>150</td>
</tr>
</tbody>
</table>

Source: Author’s representation, Indian Apparel Market: Current Status and Future Outlook, Wazir Advisors, 2012

Buoyed by the success of e-commerce, Indian textile companies like Arvind Ltd., TT Ltd. and Creative Lifestyles, etc. are exploring the online market through their own e-commerce platforms (eg: Arvind Internet Ltd.). Textiles companies are increasingly looking to build up consumer loyalty by selling their products on their websites and establishing a direct connect with their consumers.

Currently, as stated in a Wazir Advisors study, the worldwide share of online apparel retail is 18% compared to 4 % in India. However, with the online retail market expected to grow at 37%, there lies huge potential for substantial growth in the coming years.

The Government too is supporting e-commerce platforms. It has signed a Memorandum of Understanding with Flipkart for online sale of handloom products. Primary Weavers’ Cooperative Societies are also being pursued by the Ministry of Textiles for production of quality fabrics with new designs which can be sourced through e-marketing.

7. Government Support

The textile industry, being one of the most significant sectors in the Indian economy, has been a key focus area for the Government of India. A number of initiatives have been taken by the Government to make the industry more competitive. This section lists out some of the initiatives that are expected to drive the growth in the sector.

29 Indian Apparel Market: Current Status and Future Outlook, Wazir Advisors, 2012
30 Annual Report 2014-15, Ministry of Textiles, Government of India
31 Annual Report 2014-15, Ministry of Textiles, Government of India
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<table>
<thead>
<tr>
<th><strong>New National Textile Policy</strong></th>
<th>The draft policy has been discussed further with concerned stakeholders. The revised draft of the New Textile Policy is in the process of being approved by the Government.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technology Up-gradation Fund Scheme</strong></td>
<td>The Government of India established Technology Up-gradation Fund Scheme (TUFS) in 1999 to enable firms to access low-interest loans or technology up-gradation. Handlooms will now be covered under the TUFS. Under this scheme, the Government reimburses 5 per cent of the interest rates charged by banks and financial institutions, thereby ensuring credit availability for up-gradation of technology at global rates.</td>
</tr>
<tr>
<td><strong>Scheme of Integrated Textile Parks</strong></td>
<td>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 by providing financial support for world class infrastructure in the parks. 13 new textiles parks have been approved and will receive a grant to the extent of ₹520 crores from government for infrastructure development. They are estimated to bring in private investment of about ₹3,240 crores into the sector and generate direct employment for about 35,000 persons over the next three years.</td>
</tr>
<tr>
<td><strong>Boosting Exports</strong></td>
<td>With a vision to create an export friendly economy, the government has introduced several initiatives such as duty free entitlements, 24/7 customs clearance facilities, etc.</td>
</tr>
<tr>
<td><strong>Foreign Direct Investment (FDI) Policy</strong></td>
<td>The government has allowed 100% FDI in the textile sector under the automatic route since 2006. The Ministry of Textiles has set up an FDI Cell to attract FDI in the sector with the objectives of providing assistance and advisory support, assisting foreign companies in identify JV partners, providing operational support, maintaining and monitoring production and investment data.</td>
</tr>
<tr>
<td><strong>Promotion of Technical Textiles</strong></td>
<td>A new ₹427 crore scheme has been launched to popularise the use of Geotechnical textiles in the North East States. The scheme empowers the administrative machinery to adopt this technology, promote establishment of the supply chain and set up manufacturing units of Geo-tech.</td>
</tr>
<tr>
<td><strong>Deepening reach of Handloom products</strong></td>
<td>The E-commerce initiative with Flipkart will strengthen the existing Primary Weaver Cooperative Society. It is expected to assist entrepreneurs in taking up production and supply directly to the customers. Fashion shows such as Lakme Fashion Week have also helped to showcase the vibrancy and magic of Indian weavers and crafts.</td>
</tr>
<tr>
<td><strong>Handloom Mega Cluster Scheme</strong></td>
<td>Development of tassar handloom products like sarees, dress material and a wide range of home furnishing fabric for exports typical to Bhagalpur in Bihar has been initiated under the Mega Cluster Scheme. Another mega cluster is being developed at Trichy, Tamil Nadu. Over 15,000 handloom weavers will directly benefit from these two clusters. The remaining new megalclusters at Surat, Bareilly, Lucknow, Kutch and Mysore are at various stages of implementation.</td>
</tr>
<tr>
<td><strong>Linking Textile with Tourism</strong></td>
<td>The process for linking textiles with tourism has been worked out in consultation with the Ministry of Tourism. Guidelines have been circulated to state governments in January 2015. The development of Raghurajpur crafts village in Orissa as a destination village at a project cost of ₹10 crores has been approved in January 2015.</td>
</tr>
<tr>
<td><strong>Integrated Skill Development Scheme</strong></td>
<td>The scheme was introduced to impart employable skills to workers in different segments of the industry. The objective was to train approximately 26.75 lakh persons over a span of 5 years. The Ministry is also in the process of expanding the implementation of the scheme in the Public-Private Partnership mode. With a vision to encourage and train the youth of Jammu and Kashmir for fashion design and thereby generate employment opportunities the Government has increased its financial support for setting up an NIFT center in Srinagar from 50% to 90%.</td>
</tr>
</tbody>
</table>

32 Ministry of Textiles, FDI policy, http://texmin.nic.in/fdi/fdi_main.htm
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Quality Control and Improvement

The Textile Commission, under the Ministry of Textiles, facilitates firms in the industry to improve their quality levels and also facilitates recognised quality certifications. Out of 250 textile companies that have been taken up by the Commission, 136 are certified ISO 9001. The other two certifications that have been targeted by the Commission are ISO 14000 Environmental Management Standards and SA 8000 Code of Conduct Management Standards.

Quadrant Scenario Model

This section uses the Quadrant Scenario Development Tool (used by economists worldwide) to segregate the growth drivers identified for this industry based on their relative importance. The drivers are arranged in different quadrants on a matrix of relative importance and time continuum.

The top right quadrant shows drivers that are most important but come into play in the long run. The bottom right quadrant shows drivers of relatively lesser importance which also come into play in the long run. On the opposite end of the spectrum, the top left quadrant refers to the most important drivers that come into play in the short run and those in the bottom left are of lesser importance but also come into play in the short run.

* “Government support” has been identified as a growth driver for this industry. However for the purpose of the quadrant representation, the various policy measures undertaken have been placed in different quadrants based on their relative importance in the long run or short run. These are:
  - New National Textile Policy
  - Technology Up-gradation Fund Scheme
  - Scheme of Integrated Textile Parks
  - Foreign Direct Investment (FDI) Policy
  - Integrated Skill Development Scheme
Admittedly, arranging the drivers in various quadrants is a somewhat subjective exercise and is subject to different interpretations by different readers. The following discussion enumerates why each driver has been placed in this study in their respective quadrants.

**Short Run Growth Drivers**

The following factors will drive growth in the sector in the short run:

1. Rising Incomes and Changing Lifestyles
2. Increasing Urbanisation and Growing Female Participation in the Workforce
3. Focus on Technical Textiles
4. Government Support:
   - Scheme of Integrated Textile Parks
   - Foreign Direct Investment (FDI) Policy
   - Integrated Skill Development Scheme

**Growth Drivers More Important in the Short Run**

Rising incomes and changing lifestyles, increasing urbanisation and growing female participation in the workforce, Scheme of Integrated Textile Parks and FDI policy have been identified as more important growth drivers in the short run.

Urbanisation is taking place right now with rural population moving to cities in search of jobs, disposable incomes are rising and lifestyles are accordingly changing, more women are joining the workforce. All these factors are currently and constantly leading to growth in demand for clothing. Therefore, these factors will contribute to the growth of the industry in the short run itself and have hence been placed in the second quadrant.

The scheme of Integrated Textile Parks aims to provide financial assistance to small and medium entrepreneurs for world class infrastructure. The 13 new textile parks approved by the Ministry, target the next three years to achieve its objectives. As the impact of the scheme will be felt in the short run itself it has been hence identified as an important driver in the short run.
Integrated Skill Development Scheme was started with a five year target of imparting employable skills to workers. With a huge skilling requirement in the industry, the scheme will be instrumental in driving the growth of the industry in the short run. Hence it has been aptly identified as a more important growth driver in the short run.

Permitting 100% FDI through automatic route will further attract foreign investors who see an enormous growth potential in the industry in the coming years.

**Growth Drivers Less Important in the Short Run**

Focus on technical textiles has been identified as a **less important growth driver in the short run**.

The technical textiles segment is a relatively new area for the Indian textile industry. While it is steadily gaining importance, the segment will need time and resources, for it to bear fruits that will drive the growth of industry as a whole. Therefore, this growth driver is placed in the third quadrant in the quadrant scenario model.

**Long Run Growth Drivers**

The following factors will drive growth in the sector in the long run:

1. Skill Development
2. Growth in Exports
3. Growth in E-commerce
4. Government Support:
   - New National Textile Policy
   - Technology Up-gradation Fund Scheme

**Growth Drivers More Important in the Long Run**

Skill development, growth in exports, growth in E-commerce and the new National Textile Policy, have been identified as **more important growth drivers in the long run**.

As the textiles and apparels industry is essentially labour intensive, skill development is a very important growth driver for the industry. However, as the skilling requirements of the industry are huge, skill development is expected to yield results only in the long run. Hence it find its place in the first quadrant of the model.
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Textile exports have been growing steadily over the past few years, with India having overtaken Germany and Italy to become the world’s second largest textile exporter in 2013. The exports are likely to grow steadily in the coming years offering a huge opportunity for growth to the industry in the long run.

The e-commerce industry is growing rapidly and the apparel sector contributes 18% to online retail worldwide. The concept is relatively new for the Indian textiles and apparels industry and will hence be in a position to prove its metal only in the long run.

The new National Textile Policy which aims to achieve USD 300 billion exports by 2024-25 and envisages creation of additional 35 million jobs in line with the Government’s ‘Make in India’ campaign, has another 10 years to achieve its target, and is in fact yet to be announced by the government. Therefore, it is appropriately identified as a more important driver in the long run.

**Growth Drivers Less Important in the Long Run**

Technology Up-gradation Fund Scheme has been identified as a less important growth driver in the long run.

The Technology Up-gradation Fund Scheme has been an important intervention in promoting investments in the textile sector. However, reduction in budget allocation for the current year by the government, may impact the growth of the sector in the long run, and has hence been identified as a less important driver in the long run.
What is the Multiplier Effect?

The multiplier effect is simply the measure of how one factor changes in response to other factors. In other words, an initial change in economic activity has a sort of ripple effect on the local economy. This effect is known as the multiplier effect. Evaluating multipliers is an important tool in economic analysis, particularly for policy formulation. Hence, they are used extensively to assess the impact of a change in one economic variable on other correlated economic indicators.

Multipliers “connect the initial effect of a change in demand—due to purchases made by households or government or due to foreign trade, but not part of an industrial production process—to the total effect of that change on the regional economy. The total effect is reported here in terms of jobs, but it also could be measured in terms of output, sales, income or value added. Total effect has three main parts: direct, indirect, and induced effects.”

Hence, an increase in demand has three effects, that add up to the ‘total effect’:
1) Direct effect;
2) Indirect effect; and
3) Induced effect.

**Direct Effect:** The direct effect can be explained as the impact that an increase in final demand for a particular product/sector has, on the output of that product/industry, as producers react to meet the increased demand.

**Indirect Effect:** The resultant increase in demand of their suppliers, etc. down the supply chain is referred to as the indirect effect.

**Induced Effect:** The direct and indirect effects lead to an increase in the level of household income throughout the economy as a result of increased employment. A proportion of this increased income will be re-spent on final goods and services. This is described as the induced effect.

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33 https://labor.ny.gov/stats/PDFs/enys0405.pdf
Another aspect of the multiplier application is linkages. Linkages can be of two types:

**Backward Linkages:** Backward linkages deal with the demand side of the production process. A rise in the demand by a sector/industry of inputs from other sectors/industries to meet its own production requirements, and its repercussions on the economy is termed as backward linkages.

**Forward Linkages:** Forward linkages deal with the supply side of the production process. A rise in the demand of a sector/industry to meet the input requirements of some other sector/industry and its repercussions on the economy is termed as forward linkages.

This section of the study estimates backward linkages with the objective of doing an in-depth analysis of the textiles and apparels sector from the demand side. It will help to assess the importance of the sector from the perspective of overall manufacturing.

**How is the Multiplier Effect Measured?**

**Literature Review**

Calculation of input-output (I-O) multipliers can be traced back to Nobel Prize winning economist Wassily Leontief (1941). He developed the input-output model, a quantitative economic technique that represents the interdependencies between different branches of a national economy or different regional economies.\(^{34}\)

The I-O model is a set of national-level multipliers that could be used to estimate the economy-wide effect that an initial change in final demand has on an economy.\(^{35}\) The US Bureau of Economic Analysis (BEA) has produced regional I-O multipliers that show the inter-industry purchases resulting from changes in final demand. The RIMS II model (Regional Input-Output Modelling System) developed by the BEA is created by adjusting national I-O relationships with regional data. When using RIMS II, there are four measures of changes in total economic activity that can be estimated—gross output, value added, earnings, and employment.\(^{36}\)

The “System of National Accounts” (SNA) of the UN is the internationally accepted and agreed source of measuring economic activity. The Statistics Division of the Economic and Social Department of the UN is responsible for preparing and updating national accounts and detailed input-output tables, which can be used by its members and public for the purpose of analysis.

**Measuring the Multiplier Effect**

Literature review shows that two types of models have been developed to measure the multiplier effect. They are:

1) **Type I Multiplier** – Type I multipliers involve the assessment of the direct and indirect impact of the increasing demand of a sector.

\[
\text{Type I} = f(\text{Direct} + \text{Indirect})
\]

2) **Type II Multiplier** – In addition to assessment of the direct and indirect effects, Type II multipliers also make an assessment of the induced effect arising because of increasing demand of a sector.

\[
\text{Type II} = f(\text{Direct} + \text{Indirect} + \text{Induced})
\]

Direct, indirect and induced effects have already been explained earlier.

\(^{34}\) *Input-Output Economics: Theory and Applications - Featuring Asian Economies* (Thijs ten Raa, 2010)


\(^{36}\) *ibid*
Increase in the demand of a product has a direct impact on the output of the sector followed by employment, income/gross value added and taxes collected across the economy. Depending upon the variable of interest, there are several kinds of multipliers that may be evaluated, namely: output, employment, income/gross value added and tax.

For the purpose of this study, Type I multiplier will be calculated. Availability of data in the Indian context, with regard to compensation of employees for estimating the induced effect needs to be explored further.

A basic study of supply side economics tells us that in the absence of capacity constraints, a rise in demand leads to rise in output, which in turn increases employment, since, to produce more, manufacturers would need to employ more factors of production and labour is among the primary factors of production.

A rise in demand in the short run usually leads to a rise in the price of the product. Even when supply increases in response to an increase in demand, the product will be sold at a higher price, as supply continues to be short of demand due to various constraints. Considered at the macro-economic level, when the overall price level/CPI moves up, there is a need to increase wages/compensation to employees too. This phenomenon is commonly known as Wage-Price Spiral. Hence, with increase in demand, income/compensation to employees also rises.

Lastly, increase in output also leads to increase in indirect tax collections. As indirect taxes are levied on products and services, a study from the supply side is done to analyse only the effect of indirect taxes and not direct taxes. Direct taxes are levied on individuals and entities and are therefore not relevant in this context.

**Types of Multipliers**

As discussed above, a rise in the demand of a sector has an impact on economy wide output, employment, income / gross value added and tax. The multiplier effect can therefore be calculated for these categories.

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37 Some studies use income and gross value added multiplier interchangeably.
These multipliers are explained below:

1) **Output Multiplier**

The output multiplier shows how the output of the economy changes when the demand of a sector changes by one unit of measure (in the present study - ₹ 1).

2) **Income/Gross Value Added Multiplier**

The gross value added multiplier is the ratio of total effect (direct and indirect) on the gross value added because of a ₹ 1 change in demand of a sector, to the direct change in gross value added because of a ₹ 1 change in demand of that sector.

3) **Employment Multiplier**

The employment multiplier can be defined as the ratio of total (direct and indirect) change in employment as a result of a ₹ 1 change in demand of a sector, to the direct change in employment in response to a ₹ 1 change in demand of that sector.

4) **Tax Multiplier**

The tax multiplier can be defined as the ratio of total (direct and indirect) change in indirect taxes as a result of a ₹ 1 change in demand of a sector, to the direct change in indirect taxes in response to the same.

\[
\text{Multiplier}_i = \frac{\text{Total Effect/Linkage (Direct + Indirect)}}{\text{Direct Effect/Linkage}} \\
\text{Where } i = \text{output/gross value added/employment/tax}
\]

**The Multiplier Effect and the Textiles and Apparels Industry**

The production process involves combining various inputs to obtain an output and a final product. Technological advancements have made this process more complex. The final product of one industry is not just an end use product now. With the passage of time, the final product of one sector is being used as an input in some other sector. For example, in agriculture, a soil leveler, a product of the manufacturing sector, is used for the purpose of levelling the soil.

As per the Ministry of Textiles, in 2013 the Indian textile industry contributed about 14% to Index of Industrial Production, 4% to the country’s GDP and 17% to the country’s export earnings. Around 35 million people are directly employed in textile manufacturing activities. The count goes up to 95 million after including indirect employment.

As stated earlier, when the demand for the final product of one industry increases, the related output, employment, income and taxes also tend to increase. This is usually described as direct effect. To increase production though, input requirements, which may be the final product of some other industry/sector, will also increase. This is described as indirect effect/ backward linkage.

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38 An alternative definition of the value added/income multiplier is total change in the value added/income because of a change in the demand of the sector. This definition has been used in studies by NCAER including ‘Estimating Jobs in the Wind Energy Sector Using Input-Output Analysis for Gujarat State, India’.

39 An alternative definition of the employment multiplier is total change in employment because of a change in the demand of the sector. This definition has been used in studies done by NCAER (including ‘Estimating Jobs in the Wind Energy Sector Using Input-Output Analysis for Gujarat State, India’) and UNCTAD (http://unctad.org/en/PublicationsLibrary/webditctnccd2009d1_en.pdf).

40 Annual Report, 2014-15, Ministry of Textiles
The textiles and apparels industry uses inputs from several ancillary industries, such as fibres, chemicals, dyes, the agriculture sector, machinery, packaging materials, etc. When the demand for textiles and apparels industry rises, the demand for the products of these ancillary industries will also go up.

Rising population, changing tastes and increasing spending power are expected to drive the demand in the sector. The future of textiles and apparels exports also looks promising. The Textiles Vision Document formulated by the National Manufacturing Competitiveness Council (NMCC) has projected that textiles exports will touch US$ 300 billion by the 2024-25.

With increased demand, employment and income also rise which leads to rise in spending power and hence, consumption. This will lead to increase in the demand of the other sectors. This is known as **induced effect**.

**Methodology of Estimation & Data Sources**

For the purpose of calculating the multiplier, a scientific and widely used method involving the “Input-Output Table”, established by Leontief, is being used. The input-output table basically shows the transactions taking place between consumers and producers. It is prepared in a manner so as to give a user an idea of:

- The demand for inputs from a particular sector; and
- The demand of the sector, for immediate and final consumption, simultaneously.

In simpler words, the Input-Output (I-O) table helps to analyse the demand of any product for **intermediate consumption & final use**, thus, allowing for the study of **inter-sector linkages**. As the I-O table is in matrix form, the entries in the rows and columns of the matrix have different interpretations. These are:

1. The sum of the entries in a particular column shows inputs purchased by the industries/sectors representing that column.
2. The sum of each row indicates the sales made by the sector to other sectors for immediate consumption and final use.

**Input-Output Table: Representation**

<table>
<thead>
<tr>
<th>Intermediate Uses</th>
<th>Final Uses</th>
<th>Gross Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consumption Expenditure</td>
<td>Capital Formation</td>
</tr>
<tr>
<td>1</td>
<td>x11 x12.....x1n</td>
<td>c1</td>
</tr>
<tr>
<td>2</td>
<td>x21 x22.....x2n</td>
<td>c2</td>
</tr>
</tbody>
</table>

... ... ... ... ...

j | xj1 xj2.....xjn | cj | fj | ej | Xj |

... ... ... ... ...

n | xn1 xn2.....xnn | cn | fn | en | Xn |

Where:
- x11...x1n show the demand of the sector/industry 1 from other sectors/industries for **intermediate consumption**;
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- $c_1$, $f_1$, $e_1$ represent final demand of the industry/sector 1 for consumption, investment and net exports.

- Final demand is represented by $y_1$ – the aggregate of $c_1$, $f_1$ and $e_1$. 

On adding the following:

1) Intermediate demand- $x_{11}, x_{12}...x_{1n}$; and

2) Final demand- $y_1$;

**We get total/gross output- $X_1$**

The above matrix represents the following set of n balance equations:

$$X_i = x_{i1} + x_{i2} \ldots + xin + y_i, i = 1, 2 \ldots n, y_i \text{ is final use}$$

In order to calculate the multiplier, the inverse of the Leontief Matrix needs to be calculated. The first requirement for which is an I-O Coefficient Matrix. Column entries represent inputs requirement, gross value added and net indirect tax. Hence the sum of the columns represents the total output of the sector. In order to obtain I-O coefficient matrix, each entry in a column of the matrix is divided by the sum total of that column i.e. total output of the sector/industry.

For e.g.- consider $a_{ij}$ denotes the I-O coefficient which represents how much input sector $j$ is taking from sector $i$ per unit output of sector $j$. This relationship is presented below:

$$X_i = a_{i1}x_{i1} + a_{i2}x_{i2} \ldots + ain x_{in} + y_i, i = 1, 2 \ldots n, x_{ij} = a_{ij}X_j$$

In the matrix notation, this can be represented as

$$X = AX + Y$$

$$Y = (I-A)^{-1}X$$

Where:

- $A$ is the input-output coefficient matrix;
- $(I-A)$ is the Leontief Matrix;
- $(I-A)^{-1}$ is the inverse of the Leontief Matrix;
- $X$ is the total/gross output; and
- $Y$ is the final demand of $X$.

The diagonal of the Leontief Matrix $(I-A)$ gives the net output for each sector with positive coefficients while the rest of the matrix gives the input requirements with negative coefficients. The inverted Leontief matrix $(I-A)^{-1}$ shows how direct and indirect requirements change with change in final demand by one unit.

Once, the inverted Leontief matrix is estimated, it is easier to calculate multipliers, which is explained in detail in the next section.

**Data Sources**

In India, the Central Statistics Office (CSO), of the Ministry of Statistics & Program Implementation, prepares the input-output table which is updated, every five years. NSSO’s report on employment and unemployment
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for the year 2007-8,\textsuperscript{41} has been used for obtaining employment data.\textsuperscript{42}

The latest available input-output table is for the year 2007-08. Considering the structure of the economy does not change significantly in a span of 5-7 years, we can safely use the estimates derived from the latest available table.

The CSO matrix however is a “commodity X commodity” matrix for 130 commodities. To simplify the analysis, for this study eight broad sectors were identified based on economic activity. The entries in the I-O table were then aggregated on the basis of the economic activities so identified and NIC-2008 codes, to convert the 130 X 130 commodity X commodity matrix, into an 8X8 sector X sector matrix.

The eight sectors identified are:

a) Agriculture & Allied Activities
b) Mining
c) Textiles & Apparels
d) Other Manufacturing
e) Construction
f) Electricity, Gas and Water Supply
g) Services
h) Public Administration

\textbf{Aggregation of 130 Commodities into Eight Sectors}

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Commodities in I-O Table-2007-08 matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Activities</td>
<td>1-26</td>
</tr>
<tr>
<td>Mining</td>
<td>27-25</td>
</tr>
<tr>
<td>Textiles &amp; Apparel</td>
<td>46-54</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>36-45 &amp; 55-105</td>
</tr>
<tr>
<td>Construction</td>
<td>106</td>
</tr>
<tr>
<td>Electricity, Water Supply</td>
<td>107-108</td>
</tr>
<tr>
<td>Services</td>
<td>109-129</td>
</tr>
<tr>
<td>Public Administration</td>
<td>130</td>
</tr>
</tbody>
</table>

Source- TARI Research Team, based on NIC 2008

\textbf{Measurement & Results}

As discussed in the previous section, multiplier estimation requires estimation of the inverted Leontief Matrix, which is derived using the I-O coefficient matrix.

An I-O coefficient matrix is estimated using the I-O table, which summarises the demand and the supply side transactions that are taking place in the economy. The input-output coefficient can be interpreted as the input requirement of a particular sector from other sectors, to produce one unit of output of that sector.

\textsuperscript{41} In order to make the data comparable across the factors, employment data for the year 2007-08 has been used despite the fact that it was thin round of the NSSO survey.

\textsuperscript{42} Report titled "Employment and Unemployment Situation in India, 2007-08"
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Such a matrix can be obtained by dividing column entries by total output of the sector, where column entries show the input requirement of a sector.

Total output is the sum total of total input, gross value added and net indirect taxes. Hence the sum of input coefficient, indirect tax coefficient and income coefficient should be one.

### Input- Output Coefficient Matrix

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Agriculture &amp; Allied Services</th>
<th>Mining</th>
<th>Textiles &amp; Apparels</th>
<th>Other Manufacturing</th>
<th>Construction</th>
<th>Electricity &amp; Water Supply</th>
<th>Services</th>
<th>Public Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>0.191</td>
<td>0.000</td>
<td>0.099</td>
<td>0.065</td>
<td>0.025</td>
<td>0.001</td>
<td>0.023</td>
<td>0</td>
</tr>
<tr>
<td>Mining</td>
<td>0.000</td>
<td>0.007</td>
<td>0.004</td>
<td>0.134</td>
<td>0.014</td>
<td>0.098</td>
<td>0.001</td>
<td>0</td>
</tr>
<tr>
<td>Textiles &amp; Apparels</td>
<td>0.005</td>
<td>0.001</td>
<td>0.223</td>
<td>0.004</td>
<td>0.003</td>
<td>0.002</td>
<td>0.001</td>
<td>0</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.053</td>
<td>0.101</td>
<td>0.125</td>
<td>0.365</td>
<td>0.288</td>
<td>0.144</td>
<td>0.115</td>
<td>0</td>
</tr>
<tr>
<td>Construction</td>
<td>0.007</td>
<td>0.018</td>
<td>0.015</td>
<td>0.007</td>
<td>0.118</td>
<td>0.021</td>
<td>0.013</td>
<td>0</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>0.010</td>
<td>0.019</td>
<td>0.024</td>
<td>0.018</td>
<td>0.011</td>
<td>0.154</td>
<td>0.010</td>
<td>0</td>
</tr>
<tr>
<td>Services</td>
<td>0.081</td>
<td>0.083</td>
<td>0.261</td>
<td>0.168</td>
<td>0.159</td>
<td>0.154</td>
<td>0.144</td>
<td>0</td>
</tr>
<tr>
<td>Public Administration</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0</td>
</tr>
<tr>
<td>Net Indirect Taxes</td>
<td>-0.02610</td>
<td>0.01806</td>
<td>-0.00038</td>
<td>0.03668</td>
<td>0.03470</td>
<td>0.01431</td>
<td>0.02130</td>
<td>0</td>
</tr>
<tr>
<td>Gross Value Added</td>
<td>0.679</td>
<td>0.753</td>
<td>0.249</td>
<td>0.201</td>
<td>0.348</td>
<td>0.410</td>
<td>0.669</td>
<td>1</td>
</tr>
<tr>
<td>Sum</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Once, the I-O coefficient matrix is obtained, the Leontief Matrix is obtained by subtracting the I-O coefficient matrix from an identity matrix of the same order. The diagonal of the Leontief Matrix gives the net output for each sector with positive coefficients while the rest of the matrix gives the input requirements with negative coefficients. The matrix thus obtained, the ‘Leontief Matrix,’ is then inverted to estimate the multipliers.
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Inverted Leontief Matrix

<table>
<thead>
<tr>
<th></th>
<th>Agriculture &amp; Allied Services</th>
<th>Mining</th>
<th>Textiles &amp; Apparels</th>
<th>Other Manufacturing</th>
<th>Construction</th>
<th>Electricity &amp; Water Supply</th>
<th>Services</th>
<th>Public Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied</td>
<td>1.255</td>
<td>0.023</td>
<td>0.207</td>
<td>0.153</td>
<td>0.098</td>
<td>0.044</td>
<td>0.058</td>
<td>0.000</td>
</tr>
<tr>
<td>Allied Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td>0.023</td>
<td>1.040</td>
<td>0.066</td>
<td>0.238</td>
<td>0.104</td>
<td>0.171</td>
<td>0.037</td>
<td>0.000</td>
</tr>
<tr>
<td>Textiles &amp; Apparels</td>
<td>0.009</td>
<td>0.004</td>
<td>1.293</td>
<td>0.013</td>
<td>0.011</td>
<td>0.008</td>
<td>0.009</td>
<td>0.000</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.151</td>
<td>0.215</td>
<td>0.406</td>
<td>1.723</td>
<td>0.621</td>
<td>0.380</td>
<td>0.251</td>
<td>0.000</td>
</tr>
<tr>
<td>Construction</td>
<td>0.014</td>
<td>0.027</td>
<td>0.038</td>
<td>0.028</td>
<td>1.148</td>
<td>0.041</td>
<td>0.023</td>
<td>0.000</td>
</tr>
<tr>
<td>Electricity &amp; Water</td>
<td>0.020</td>
<td>0.031</td>
<td>0.056</td>
<td>0.048</td>
<td>0.036</td>
<td>1.199</td>
<td>0.022</td>
<td>0.000</td>
</tr>
<tr>
<td>Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>0.160</td>
<td>0.156</td>
<td>0.517</td>
<td>0.394</td>
<td>0.364</td>
<td>0.322</td>
<td>1.237</td>
<td>0.000</td>
</tr>
<tr>
<td>Public Administration</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Output Multiplier

The sum of the textiles & apparels column of the 8 X 8 matrix gives the value of the output multiplier.

Output Multiplier

<table>
<thead>
<tr>
<th>Sector</th>
<th>Output Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>1.63</td>
</tr>
<tr>
<td>Mining</td>
<td>1.50</td>
</tr>
<tr>
<td><strong>Textile &amp; Apparel</strong></td>
<td><strong>2.58</strong></td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>2.60</td>
</tr>
<tr>
<td>Construction</td>
<td>2.38</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>2.16</td>
</tr>
<tr>
<td>Services</td>
<td>1.64</td>
</tr>
<tr>
<td>Public Administration</td>
<td>1.00</td>
</tr>
</tbody>
</table>

The study has estimated the output multiplier of the textiles and apparels industry to be 2.58. This means, an increase of ₹1 in final demand in the textile and apparel industry will lead to an increase of the overall output of the economy by roughly three times.

Value Added Multiplier

The value added multiplier (as discussed earlier) has two types of linkages- direct and indirect. In order to calculate the value added multiplier, the value added coefficient must first be calculated, which is also an estimate of the direct effect. It is the ratio of gross value added, to the total output of the sector, both of which are reported in the CSO I-O table.
The total effect is the sum of the product of the value added coefficients of various sectors and the entries in the textiles and apparels column of the inverted Leontief Matrix.

### Linkage-Value Addition

<table>
<thead>
<tr>
<th>Value Added Linkage</th>
<th>Direct Linkage</th>
<th>Total Linkage (Direct + Indirect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>0.68</td>
<td>1.02</td>
</tr>
<tr>
<td>Mining</td>
<td>0.75</td>
<td>0.97</td>
</tr>
<tr>
<td><strong>Textiles &amp; Apparels</strong></td>
<td><strong>0.25</strong></td>
<td><strong>0.98</strong></td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.20</td>
<td>0.93</td>
</tr>
<tr>
<td>Construction</td>
<td>0.35</td>
<td>0.93</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>0.41</td>
<td>0.96</td>
</tr>
<tr>
<td>Services</td>
<td>0.67</td>
<td>0.96</td>
</tr>
<tr>
<td>Public Administration</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

The following table provides the results of the value added multiplier.

### Value Added Multiplier

<table>
<thead>
<tr>
<th>Value Added Multiplier</th>
<th>Value Added Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>1.51</td>
</tr>
<tr>
<td>Mining</td>
<td>1.29</td>
</tr>
<tr>
<td><strong>Textiles &amp; Apparels</strong></td>
<td><strong>3.92</strong></td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>4.60</td>
</tr>
<tr>
<td>Construction</td>
<td>2.67</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>2.34</td>
</tr>
<tr>
<td>Public Administration</td>
<td>1.44</td>
</tr>
</tbody>
</table>

The study has estimated the value added multiplier of the textiles and apparels to be 3.92. This means, value added in the economy because of a ₹1 rise in demand of the textiles and apparels industry is almost four times of the value added in the industry itself. This would happen because of the strong linkages which the industry has with ancillary industries.

### Employment Multiplier

Like the value added multiplier the employment multiplier has two types of linkages – direct and indirect. In order to calculate the employment multiplier, the employment coefficient must first be calculated, which is also an estimate of the direct effect. It is the ratio of employment to the total output of the sector.

The total effect is the sum of the product of the employment coefficients of various sectors and the entries in the textiles and apparels column of the inverted Leontief Matrix.
The Textiles and Apparels Industry – Contributing to “Make in India”

Linkage-Employment

<table>
<thead>
<tr>
<th>Employment Linkage</th>
<th>Direct Linkage</th>
<th>Total Linkage (Direct + Indirect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>1.813</td>
<td>2.311</td>
</tr>
<tr>
<td>Mining</td>
<td>0.094</td>
<td>0.179</td>
</tr>
<tr>
<td>Textiles &amp; apparels</td>
<td>0.124</td>
<td>0.639</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.062</td>
<td>0.464</td>
</tr>
<tr>
<td>Construction</td>
<td>0.162</td>
<td>0.460</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>0.033</td>
<td>0.207</td>
</tr>
<tr>
<td>Services</td>
<td>0.124</td>
<td>0.283</td>
</tr>
<tr>
<td>Public Administration</td>
<td>0.107</td>
<td>0.107</td>
</tr>
</tbody>
</table>

The following table provides the results of the employment multiplier.

Employment Multiplier

<table>
<thead>
<tr>
<th>Employment Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
</tr>
<tr>
<td>Mining</td>
</tr>
<tr>
<td>Textiles &amp; apparels</td>
</tr>
<tr>
<td>Other Manufacturing</td>
</tr>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
</tr>
<tr>
<td>Services</td>
</tr>
<tr>
<td>Public Administration</td>
</tr>
</tbody>
</table>

The study has estimated the employment multiplier of the textiles and apparels industry to be 5.172. This means, employment generated in the economy because of a rise of ₹1 in demand of the industry, is more than 5 times the employment created in the sector itself, thus indicating the huge potential in the industry to generate employment.

Tax Multiplier

As discussed earlier, rise in production leads to increase in collection of indirect taxes also.

Like the other multipliers, the tax multiplier also has two types of linkages – direct and indirect. In order to calculate the tax multiplier, the tax coefficient must first be calculated, which is also an estimate of the direct effect. It is the ratio of indirect taxes to the total output of the sector, both of which are reported in the CSO I-O table.
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The total effect is the sum of the product of the tax coefficients of various sectors and the entries in the textiles and apparels column of the inverted Leontief Matrix.

### Tax-Linkage

<table>
<thead>
<tr>
<th>Tax Linkage</th>
<th>Direct Linkage</th>
<th>Total Linkage (Direct + Indirect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>-0.0261</td>
<td>-0.02</td>
</tr>
<tr>
<td>Mining</td>
<td>0.0181</td>
<td>0.03</td>
</tr>
<tr>
<td>Textiles &amp; apparels</td>
<td>-0.0004</td>
<td>0.02</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.0367</td>
<td>0.07</td>
</tr>
<tr>
<td>Construction</td>
<td>0.0347</td>
<td>0.07</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>0.0143</td>
<td>0.04</td>
</tr>
<tr>
<td>Services</td>
<td>0.0213</td>
<td>0.04</td>
</tr>
<tr>
<td>Public Administration</td>
<td>0.0000</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The following table provides the results of the employment multiplier.

### Tax Multiplier

<table>
<thead>
<tr>
<th>Tax Multiplier</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>0.87</td>
</tr>
<tr>
<td>Mining</td>
<td>1.70</td>
</tr>
<tr>
<td>Textiles &amp; apparels</td>
<td>-61.45</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>2.01</td>
</tr>
<tr>
<td>Construction</td>
<td>2.02</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>2.89</td>
</tr>
<tr>
<td>Services</td>
<td>1.68</td>
</tr>
<tr>
<td>Public Administration</td>
<td>-</td>
</tr>
</tbody>
</table>

The study has estimated the tax multiplier of the textiles and apparels industry to be -61.45. This means, a ₹1 rise in demand of the sector will lead to the decline of indirect taxes in the economy by more than 61 times as compared to the decline in indirect tax collections from the industry itself. The estimate of the direct linkage of the industry is also negative, indicating the extent of subsidies which the sector attracts. A negative multiplier means that the amount of subsidies and tax incentives which the industry is getting along with its ancillary industries is more than the tax revenues collected.

The textiles and apparels industry has undergone structural changes in the last couple of decades, from big textile mills towards much smaller export oriented units. Focus on exports also warranted tax exemptions and other incentives to make the end products competitive. There are tax exemptions and subsidies for services at both the backward and forward ends. For example, transportation services associated with cotton textile products are exempted from taxation. High subsidy allocations compared to tax collections shows the government’s intentions to promote the sector. As a result of these subsidies, incentives and exemption schemes, Indian textiles and apparels sector has created a foothold in the international market through competitive pricing, among other factors.
Therefore, due to these tax incentives which are aimed at promoting the industry, the proportion of change in tax is much less. It is not surprising then that the combined effect derived from both the direct and indirect effect, in the estimation of the tax multiplier for this industry, gives a high negative figure.

Conclusion

The manufacturing sector is important for an economy from the point of view of self-reliance, sustainability, job generation and inclusive growth. In order to take advantage of declining dependency ratio and assuring jobs to the growing work force in India, the government launched the National Manufacturing Policy in 2011 with two major objectives:

1) To increase the share of the manufacturing sector in GDP to 25%
2) Creation of additional 100 million jobs in the sector by 2022.

This policy plans to promote and strengthen employment intensive industries. The textiles and apparels industry has thus been identified as a priority sector and one with growth potential. As the numbers show, the choice is not surprising given the strong backward and forward linkages it has with manufacturing. These linkages suggest a potentially large multiplier effect, which in turn indicates the sector’s ability to revive manufacturing.

This study has estimated the multiplier effect of the textiles and apparels industry for all the variables of interest. The results tabulated below, show why it has been identified as a priority sector by policy makers.

<table>
<thead>
<tr>
<th>Multiplier</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>2.58</td>
</tr>
<tr>
<td>Value Added / Income</td>
<td>3.92</td>
</tr>
<tr>
<td>Employment</td>
<td>5.17</td>
</tr>
<tr>
<td>Tax</td>
<td>-61.45</td>
</tr>
</tbody>
</table>

The output multiplier shows that increase in demand of the textiles and apparels sector can lead to an increase in overall output of the economy by approximately 3 times. This shows the strong backward linkages of the sector with others i.e. ancillary industries.

The production process is closely associated with employment, value addition and taxes. In terms of value addition and job generation, the textiles and apparels industry and its future looks promising. Rise in employment across the economy because of a rise of ₹1 of demand is more than 5 times the rise in employment within the sector. Similarly, rising demand can lead to increase in value addition of the economy by approximately four times the value addition within the sector.

The combined impact of both the direct and indirect effects in the estimation of the tax multiplier has given a high negative multiplier largely due to the incentives and subsidies granted to the industry as well as the backward and forward linkages in a bid to promote and encourage it. However, the negative value need not be a cause for concern as the loss in taxes due to an increase in output here is purely notional. In fact, interpreting this tax multiplier, along with the employment multiplier of 5.17, explains the existence of exemption schemes in taxes. These exemptions create the basis for large employment generation in the sector, which is signified by a high positive value of employment multiplier. A cost-benefit analysis shows that the potential tax revenue loss gets compensated by employment generation to a great extent, which is essential for inclusive growth of the economy.
Value addition/income generation is a variable of high interest. A higher value addition to output ratio indicates:

- High final usage of the industry’s product and a lower immediate consumption; and
- Higher investment flows to the industry.

Value addition/income generation is particularly expected in:

- Agricultural sector;
- The services sector i.e. trade, transport, etc.; and
- Machinery, dyes, chemicals.

The textiles and apparels industry is growing rapidly with an expected CAGR of 10.1% during the period 2009-21. It is clearly capable of driving up GDP, increasing employment and gross value added. Its growth may well be seen as one of the keys to the problems facing the economy.

*The estimates of the multiplier effect in this study show that the industry has great potential and how it’s linkages with other industries can facilitate achievement of the government’s "Make in India" initiative to revive Indian manufacturing, overall economic growth and prosperity.*

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The Indian textiles and apparels industry plays a crucial role in contributing to employment generation, industrial output and export earnings. However, in its race towards becoming the second largest producer of textiles and apparels in the world, it has faced several challenges and continues to battle them to not only retain its position in the global map but also to improve it.

This section discusses the major challenges faced by the industry in India that could potentially come in the way of its contribution to the Government’s ‘Make in India’ programme.

1. Obsolete Machinery and Technology

The lack of domestic machinery manufacturers has left the textile industry grappling with the inability to replace old and worn out machinery for production. The paucity of domestic producers of shuttle-less looms and spindles greatly affects the industry with the waiting time per order being as much as 2 to 3 years.

A study done for the Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India (GOI), quotes an estimate which says that in India over 60% of the spindles in use are

44 http://www.dsir.gov.in/reports/irr1/Textiles%20and%20Garments/2_0.pdf
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more than 25 years old. Obsolete machinery leads to low efficiency and poor quality products. Coupled with the lack of investment and research in the area of textile machinery, the industry is forced to import machinery to compete with other textile producing countries. According to the Office of Textiles Commissioners, India’s textile machinery imports have nearly doubled in 4 years, standing at ₹4,357 crores in 2009-10 to ₹8,558 crores in 2012-13. It is projected to rise to ₹13,422 crores in 2014-15.

The textile industry at the same time suffers from outdated technology. Although there have been schemes such as the Soft Loan Scheme for modernisation of textile industry equipment, the problem has not been completely addressed. In fact, the rate of absorption of modern machinery and technology in the industry has been slow thus affecting costs and productivity efficiency. An increase in use of technology and incorporation of modern machinery is absolutely necessary for increasing levels of production commensurate with domestic and international consumer preferences.

The Government on its part launched the Technology Up-gradation Fund Scheme (TUFS) from 1st April, 1999 to give the industry access to timely and adequate capital at internationally comparable rates of interest for upgrading its technology and improving its competitiveness. Industry must take advantage of this opportunity and overhaul the outdated technology-mix being used in different segments. Moreover, firms need a strong deployment of industrial engineering with particular emphasis on cellular manufacturing, JIT and statistical process control to reduce lead times on shop floors. Penetration of IT will further add to improving productivity.

2. Threats to the Handloom Sector

Indian handloom products have been famous across the world and are the pride of the nation. The variety of textures, weaves and designs spun off the handloom is infinite, ranging from the finest muslins to heavy rugs, from appealingly simple to fascinatingly intricate compositions. The consistent and continuous growth of the sector, reminds us of its enormous potential.
However, the adoption of modern techniques and liberalisation has impacted the handloom sector. Stiff competition from mechanised mills, changing consumer preferences and the pursuit of less demanding means of livelihood have threatened the vibrancy of the handloom industry. Traditional hand woven products are in danger of becoming obsolete and weaving skills face threat of dilution.

A major threat to the handloom industry comes from power loom associations that have been demanding exemption of sarees from the Handloom (Reservation of Articles for Production) Act. Since 1985 this Act has been protecting traditional handloom weavers, especially of sarees, from being copied by competitors using machines and power loom. While there has been no confirmation on the matter from the Government, a recent online petition, ‘Save Handlooms - Don’t repeal the Handloom Reservation Act!’ received more than 17,000 signatories, demonstrating the importance of handlooms even among the urban youth on social media.

Another major challenge faced by India’s handloom sector is the lack of credit facilities extended to it. The requirement is assessed at ₹ 9,850 crores for the 12th Five Year Plan. According to a Planning Commission report, some of the reasons for constrained credit to the sector are the lack of accessibility to credit, high cost of credit, debt overhang, exclusion of about 80% of weavers from the formal financial system, growing inefficiency of the cooperative marketing system, poor accounting & financial management, competition from power looms, poor socio-economic conditions of weavers and continued weakness of lending institutions in the cooperative sector.

Institutional sources are still reluctant to provide loans to the handloom sector. The Planning Commission in its report strongly recommends credit guarantee schemes to ensure adequate flow of credit to the sector. Convergence with the schemes of other Ministries like Ministry of Rural Development and NABARD has been recommended for easier access of credit.

3. Power Shortage

Textile mills face acute power shortage. Frequent electricity cuts and load shedding affect the industry tremendously, leading to loss of man hours and low production in the mills. According to a report by research firm Fibre2fashion, states like Tamil Nadu and Andhra Pradesh have lower textile production than their

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capability. The industry in Tamil Nadu faces daily losses worth ₹ 300 crores due to power shortages or irregular power supply.

Small and medium scale textile enterprises are severely affected by power shortage and are forced to use manual machines, which produce lower quality products and are more costly to maintain. This leads to longer working hours and also affects the health of workers due to prolonged use of manual machines. In addition, the continuous rise in oil prices made alternate arrangements costlier with the same consequences.

Therefore, uninterrupted power supply is necessary to support the textiles and apparels industry in India which comprises several small and medium scale units.

4. Illicit Markets

Rapid advancement in technology and liberalisation of the economy has provided opportunities for misuse of existing brand values that have been cultivated and nurtured over a period of time.

Counterfeiting has become an economic problem of international importance and has been growing in magnitude, affecting a wide range of sectors including textiles and apparels. According to a worldwide survey by OECD in 2008, the largest share (30%) of seizures of infringing items belonged to the textiles and apparels industry where the items included counterfeited T-shirts, hats, jerseys, trousers, athletic footwear, caps, socks and boots.

According to Fibre2fashion the most popular counterfeit market in India is clothing, followed by shoes, watches, leather goods, and jewellery. Foreign luxury brands such as Louis Vuitton, Gucci, Burberry, Tiffany, Prada, Hermes, Chanel, Dior, Yves St Laurent, and Cartier are frequently pirated. Students and businessmen form the largest share of buyers of counterfeit products at 31%, followed by 19% of service class individuals and 17% housewives.

Manufacturers of original products, face enormous losses due to counterfeit products. The common consumer, with limited knowledge, falls for counterfeit products due to cheap or discounted prices, usually 40% to 45% lower than original value, often willingly compromising on quality. Anti-counterfeiting measures in India are not effectively implemented, further aggravating the problem.

The growth of illicit markets also directly impacts the level of investment and innovation in the industry. The logic being, that if someone can imitate (or produce a counterfeit product of) an innovation at a cost that is substantially lower than the cost to the innovator, it reduces or even completely kills the incentive for the innovator to carry out any further innovation and R&D. This hampers business sentiment of investors, adversely affecting the economy.

In order to protect the industry and the government from losses, manufacturers of original products and government, find themselves in a constant battle against counterfeiters. This has led to a variety of counter measures based on lawful, political, administrative, or business techniques. Purchase intentions of consumers need to be studied and they need to be made aware of the consequences of purchasing counterfeit products. Unless the problem is tackled at the level of every purchaser, it cannot be wiped out from the economy.

5. Labour Related Concerns

India has a large young population waiting to join the workforce. The textiles and apparels industry has a lot to offer to these job seekers owing to its labour intensive nature and capacity to absorb labour into small units.

46 Economic impact of Counterfeiting and Piracy, OECD 2008
47 Counterfeiting of Brands in India, Fibre2fashion, Nandita Abraham
However, like other industries, the textiles and apparels industry in India also faces several challenges related to labour, which are discussed in the following paragraphs.

**a. Safety and Health Concerns of Workers**

The Indian textiles and apparels industry consists of a large number of units, small, medium and big engaged in multiple processes including spinning, weaving, dyeing, printing, and finishing, that convert fibre into finished fabric or garments. While the skill and hard work that goes into manufacturing a garment is widely recognised and appreciated, one often tends to forget the health hazards faced by the workers involved in manufacturing process. According to research firm Fibre2fashion, the important safety and health issues associated with this industry are a result of exposure to cotton dust, chemicals and excessive noise.

Exposure to cotton dust and particles of pesticides and soil lead to respiratory disorders among workers engaged in the processing and spinning of cotton. Workers have a high risk of contracting byssinosis, which is a fatal disease also known as 'brown lung' in common parlance.

Chemicals based on benzidine, optical brighteners, solvents and fixatives, crease-resistance agents releasing formaldehyde, flame retardants and antimicrobial agents, are used in textile operations which pose severe health threats to workers engaged in dyeing, printing and finishing activities.

Prolonged exposure to high levels of noise is universally known to cause hearing problems. Inefficient maintenance of machinery is one of the major reasons behind noise pollution in textile units. Though it causes serious health effects, exposure to noise is often ignored because its effects are not immediately visible and there is an absence of immediate pain. Other problems like fatigue, absenteeism, annoyance, anxiety, reduced efficiency, changes in pulse rate, blood pressure and sleep disorders, also occur when continuously exposed to noise.

Safety and health measures play an important role in any industry. It is essential that the workers are made aware of various occupational hazards and that management takes the necessary steps to protect workers from these known potential hazards.

**b. Child Labour**

Child labour is a particular problem for the fashion and garment industry since it is fragmented into several small scale units requiring low-skilled labour where some tasks are considered more suitable for children than adults. For e.g., in cotton picking, employers prefer to hire children as their small fingers are better suited to not damage the crop. According to a report by the India Committee of the Netherlands (ICN), in 2007, more than 400,000 children under the age of 18 were found to be employed in cotton seed farms in the states of Gujarat, Andhra Pradesh, Tamil Nadu and Karnataka. More than half of these children were younger than fourteen. These farms account for more than 90% of the total cotton production area in India. Child workers in cotton seed production are subjected to long working hours and exposure to pesticides, for wages often below the official minimum.

A major challenge in tackling this problem is the complex supply chain for each garment. Even when brands have strict guidelines in place for suppliers, work often gets sub-contracted to other factories that the buyer may not even know about.
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An analysis\textsuperscript{51} of the success of Surat’s textile industry reveals how rampant child employment and exploitation is. It explains that child labour in the textile industry exists predominantly in three sectors. First is the power loom factory, located largely in the areas of Katargam, Limbayat, Pandeyasaray, Udna, Falsabadi, Mufatnagar, where the raw cloth is prepared. Children in these sites are employed to put oil in the machines and act mainly as helpers of machine operators. The second sector is the dyeing factory, where the cloth is coloured. This is a hazardous industry because of the harmful chemicals used in the dyeing process and because the steaming involved can cause burns. The third sector where child labour is rampant is the textile market. Surat, which is considered the hub of the textiles market in India, has over 60,000 textile shops. Children pack sarees, bundle the thread, and carry bundles in the market. The most number of children are found in these markets, because they are offered a wage of ₹50 to ₹80 a day, more than double offered at power looms where they get a meagre ₹20 to ₹25 per day.

A report by Centre for Research on Multinational Corporations (SOMO) and ICN,\textsuperscript{52} says that young girls are often lured into working for the textile industry, for money that can be saved for their dowry, which ironically is another crime. The report further states that young Dalit girls are recruited from impoverished rural areas or come as migrant workers from distant states. They are hired on three to five year contracts, lured by the promise of a decent wage and an end-of-contract bonus that they can use to pay for their dowry. A survey forming part of this report, suggested that among 1,638 spinning mill workers, 18% were younger than 15 years when they entered the factory and 60% were aged between 15 to 18 years when they started working. The practice is common in the yarn and textile spinning mills of Tamil Nadu.

c. Skills Gap

Along with modernisation, there is a need for skilled workers in the industry, who can run the machinery efficiently and understand modern production processes. Thus the skill requirement increases with technological upgradation. In India, due to the fear of increase in requirement of skilled labour, many firms in the industry are hesitant to expand their scale of operations or enter into high end segments with cutting edge technology.

Currently, there is a massive gap between the availability of skilled manpower and the requirements of the industry, particularly in the weaving, dyeing, processing and garment segments. According to an analysis by ICRA Management Consulting Services and National Skill Development Corporation,\textsuperscript{53} the expected shortfall in skills in the textile and clothing industry is estimated to at 26.2 million people in 2022.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{chart.png}
\caption{Growing Skills Gap in 2022 (in Mn)}
\end{figure}

\textsuperscript{51} ShirishKhare, Senior correspondent, Tehelka magazine,2013
\textsuperscript{52} SOMO and ICN, ‘Maid in India – Young Dalit Women Continue to Suffer Exploitative Conditions in India’s Garment Industry’, April 2012
\textsuperscript{53} Human Resource and Skill Gap Requirements (2022), IMaCS,Aon Hewitt, NSDC
A study by Indian Institute of Management, Ahmedabad,\textsuperscript{54} suggests that there are three pertinent issues associated with skills gap in the Indian textiles and apparels industry. One, there is a paucity of technical manpower – there exist barely 30 programmes at graduate engineering (including diploma) levels graduating about 1,000 students – this is insufficient for bringing about technological change in the sector. Second, Indian firms invest very little in training its existing workforce and the skills are limited to existing processes. Third, there is an acute shortage of trained operators and supervisors.

Bridging this gap requires massive expansion and modernisation of training institutes/polytechnics across the country. The number of Industrial Training Institutes targeted specifically to this sector needs to be increased significantly to meet the shortage of skills.

\textit{d. Strict Labour Laws and Poor Working Environment}

India has very strict labour laws as compared to countries like China, which in turn impacts overall labour productivity. The Chinese apparel industry has highly flexible labour laws that allow for lay-offs during the non-peak season, hiring of contract labour, and a flexible hiring and firing system in SEZ-based units. The Mexican apparel industry also allows layoffs during the slack business season. In India, as a result, there are reported issues of long absenteeism from work, lower levels of efficiency in work, and still others such as long strikes which impact overall productivity of the labour force.

Another concern for the industry in India relates to the ergonomic issues observed in a majority of textile manufacturing units. The type of work environment in which employees operate determines the way in which such enterprises prosper. In Surat, for instance, in several factory sites such as in power looms at Katargam, even basic amenities such as toilets, drinking water, ventilation and fans are missing, working areas are engulfed in darkness and layers of grease lay underfoot.\textsuperscript{55}

According to a Fibre2fashion study,\textsuperscript{56} in most textiles units in India workers face a number of problems such as unsuitable furniture, improper ventilation and lighting, and lack of efficient safety measures in case of emergencies. Workers in such units are at risk of developing various diseases such as musculoskeletal disorders, osteoarthritis of the knees etc.

The working hours required to be put in by workers also affects their productivity. According to the World Bank, in a comparative analysis of India’s textiles competitors - China and Vietnam, it was seen that countries exhibiting higher productivity have strong labour laws and maintain average working hours of below 50 hours per week. India has the biggest chunk of firms where workforce is putting in more than 50 hours per week. In Vietnam, in 80% of firms the workforce works for less than 40 hours, as against a meagre 5% in India and China.

\textsuperscript{54} The Textile and Apparel Industry in India, Pankaj Chandra, Indian Institute of Management, Ahmedabad

\textsuperscript{55} http://indiatogether.org/surat-human-rights

\textsuperscript{56} Safety and health issues in the textile industry, Fibre2fashion
6. Excise Duty on Man-Made Fibres

An industry research report states that factors like rise in disposable income, growing consumer class, rising urbanisation, increasing retail penetration and limited supply of cotton are likely to increase the share of Man-Made Fibres (MMFs) like polyester and viscose in the market by around 2017. Weavers and textile processors in Surat expect an increase in consumption of MMFs in the domestic market at a compounded annual growth rate of 5.2% at the end of 2015-16.

The challenge however for the textiles and apparels industry lies in the fact that while globally, there is no distinction made between cotton and MMF, India has differential tax treatments for the two segments, thus creating needless distortions. While excise duty on natural fibres like cotton, wool and flax is nil, manmade fibre, filament and yarn attract duty as high as 12.5%. China, Pakistan, Sri Lanka, Indonesia and Thailand follow fibre neutral policies where excise duty on cotton/cotton yarn and MMF/MMF yarn textiles are at the same levels. MMF being a high technology and high investment area requires an enabling and better fiscal environment.

Owing to shifting consumer preferences, rise in incomes and growing urbanisation, the global fibre consumption trend in future is likely to further tilt in favour of MMF. Reduction in excise duty on MMF will stimulate growth of the industry by attracting investments leading to completing the value chain and higher production and exports, thereby generating additional employment. According to research firm Fibre2fashion, lower excise on manmade fibres has triggered tremendous growth in the MMF industry.

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57 Man-made fibre consumption to increase in next three years, Times of India, June 7, 2013
According to the Textile Ministry,\textsuperscript{59} although there has been substantial reduction in excise duties on man-made fibres and textiles during the last 10 years, the current duties on MMF and MMF textiles are still high; while cotton is exempt from excise duty, MMF attracts excise duty of 8%. Further, while MMF textiles attract a mandatory CENVAT of 8%, cotton textiles have an optional CENVAT of 4%.

Any reduction in excise duties on MMF and MMF textiles will have a positive impact on the growth of MMF consumption and ultimately impact the textiles and apparels industry as a whole.

7. Raw Materials Shortage

Cotton remains the major textiles base in our country even though there has been a shift in consumer preferences in recent years towards man-made fibres. There is a shortage of raw materials especially of good quality cotton to meet growing demand. Fluctuating prices and uncertainties in the availability of raw materials leads to low production and sickness of mills. Consequently, long and extra-long staple cotton are imported from Egypt, Sudan, Kenya, Peru, Tanzania, Uganda, and USA, as they are not grown in India except in a limited area around Salem in Tamil Nadu. According to the Cotton Corporation of India,\textsuperscript{60} India has the distinction of having the largest area under cotton cultivation in the world, around 12.2 million hectares and about 25% of the world area under cotton cultivation. The yield per hectare is however, the lowest against the world average. High yielding cotton variants need to be introduced, so as to increase production. To this end, the Government of India launched the Technology Mission on Cotton in 2000.

\textsuperscript{59} Man-Made Fibres, Ministry of Textiles, GOI
\textsuperscript{60} Cotton Corporation of India, Ministry of Textiles, GOI, India’s share in world
Cotton production is subject to wide fluctuations. Since 85% of Indian garment exports are linked to cotton, the fluctuations in production and the poor yield per hectare necessitates imports at varying prices. This creates problems in production planning and achieving cost efficiencies.

In April 2015 it was reported that textile mills in Telangana are running out of cotton, creating a raw material crisis that will spell doom for thousands of workers unless the Cotton Corporation of India bails them out with more bales. The raw material stocks at many of the 32 mills were barely enough for ten days.

Raw silk is another important textile base in the country. The production of raw silk has to be increased to meet growing domestic and export demand for silk products. This will require further R&D for breeding superior silk worm races and improving techniques of silk worm rearing. While the Central Silk Board has been operating the Catalytic Development Programme for product development and diversification in sericulture, the Government has, in the meantime, permitted canalisation of silk through specialised agencies, to meet the shortfall in the supply of superior grade mulberry raw silk.

### 8. Impact on Environment

Consumers today expect a lot out of the textile and clothing products that they purchase. They however, tend to forget that fashion leaves a pollution footprint, with each step of the clothing life cycle generating potential environmental and occupational hazards. Like any other industrial activity, the manufacturing activities of the textiles and apparels industry also impacts the environment in many ways. Although there are environmental hazards that occur during the entire manufacturing process chain, the textile wet processing activities pose serious environmental problems. According to a study by Department of Textile Technology, IIT Delhi, a large number of chemicals in vast quantities, are used in textile wet processing to cater to varying consumer demands. While some of the chemicals such as dyes and finishing agents remain attached to the product, some of them get washed away causing water pollution.

Emissions from textile processes also cause pollution. Air emissions in the form of oil and acid mists are produced when hazardous textile materials evaporate or degrade thermally. Corrosive acid mists are a result of wool carbonisation process. Solvent vapours, dust and lint and odour are other pollutants from the textile manufacturing process. Colour and high biochemical oxygen demand, along with total dissolved solids, natural and added impurities, dyes and pigments and chemicals used in the manufacturing process are the main source of water pollution caused by the industry.

A study by Fibre2fashion gives a detailed summary of the waste produced during the manufacturing activity.

<table>
<thead>
<tr>
<th>Process</th>
<th>Source</th>
<th>Pollutants</th>
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<tbody>
<tr>
<td>Energy Production</td>
<td>Emissions from boiler</td>
<td>Particulates, nitrous oxides (N₂O), sulphur dioxide (SO₂)</td>
</tr>
<tr>
<td>Coating, drying and curing</td>
<td>Emissions from high temperature ovens</td>
<td>Volatile organic components (VOCs)</td>
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<tr>
<td>Cotton handling activities</td>
<td>Emissions from preparation, carding, combing and fabrics manufacturing</td>
<td>Particulates</td>
</tr>
<tr>
<td>Sizing</td>
<td>Emission from using sizing compound (gums, PVA)</td>
<td>Nitrogen oxides, sulphur oxide, carbon monoxide</td>
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The Textiles and Apparels Industry – Contributing to “Make in India”

<table>
<thead>
<tr>
<th>Process</th>
<th>Emission</th>
<th>Emission Source</th>
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<tr>
<td>Bleaching</td>
<td>Emission from using chlorine compound</td>
<td>Chlorine, chlorine dioxide</td>
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<tr>
<td>Dyeing</td>
<td>Disperse dyeing using carriers Sulphur dyeing</td>
<td>Carriers, H₂S</td>
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<td></td>
<td>Aniline dyeing</td>
<td>Aniline vapours</td>
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<tr>
<td>Printing</td>
<td>Emission</td>
<td>Hydrocarbons, ammonia</td>
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<tr>
<td>Finishing</td>
<td>Resin finishing, Heat setting of synthetic fabrics</td>
<td>Formaldehyde Carriers-low molecular weight Polymers-lubricating oils</td>
</tr>
<tr>
<td>Chemical storage</td>
<td>Emissions from storage tanks for commodity/chemicals</td>
<td>Volatile organic components (VOCs)</td>
</tr>
<tr>
<td>Waste Water treatment</td>
<td>Emissions from treatment tanks/vessels</td>
<td>Volatile organic components, toxic emissions</td>
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Source: Process Analysis & Environmental Impacts of Textile Manufacturing, Fibre2fashion.com

Research firm cKinetics points out that between 1990 and 2005, the production of cloth in the textile sector increased from 1,613 to 11,767 million meters (an increase of 634%) and various forms of yarn and chips increased by 842% whereas energy use due to increased mechanisation rose by 908%. The sector as a whole consumes 10% of the country’s energy and has increasing carbon intensity compared to other sectors.

Textile manufacturing therefore urgently requires alternative process solutions that are sustainable, eco-friendly, and cost effective while meeting the demands of the ever-growing and competitive market.
The Textiles and Apparels Industry – Contributing to “Make in India”

The Way Forward

The growth potential of the Indian textiles and apparels industry and its current contribution to industrial output, employment generation and export earnings, paints a promising future for the industry. However, the sector faces obstacles on the road to growth and development. Given the potential it has to contribute to the Government’s ‘Make in India’ initiative, concerted efforts by government and industry bodies will go a long way in paving a smooth path for its success.

Based on an analysis of the growth drivers of the industry and the challenges faced by it, identified earlier in the report, this section discusses some of the measures and recommendations which would give a fillip to the growth of the industry and the economy as a whole. These are:

The following paragraphs describe each of the above in detail.

Infrastructure Development

One of the most important inputs of production for any industrial activity is infrastructure. The textiles and apparels industry in India faces major power problems, adversely affecting operations. In fact it has been seen in major textiles units in India that in terms of cost, energy consumed during the production process offsets the competitiveness of the sector as a whole.

Subsidising unit rates of power or encouraging the use of other viable options such as non-conventional energy sources is a suggested measure to tackle this problem. Support from the Ministry of Power, Power
Grid Corporation of India, NTPC, NHPC, State Electricity Boards, etc. to ensure uninterrupted power supply, is a necessary prerequisite for mechanical operations of manufacturing firms. This could be implemented on a pilot basis with the involvement of state level agencies, private partners etc., should be considered before replication at a larger scale.

In addition to this, setting up more integrated textile parks and mega clusters for handlooms, power looms and handicrafts, in the public-private-partnership mode would go a long way in improving infrastructure facilities for the industry.

**Skilled Workforce**

For a labour intensive industry such as this, human capital is an important facilitator of growth. The industry currently suffers from a huge skills gap. Training and skilling the workforce therefore will help the industry to smoothen its path to growth.

Vocational training through ITI’s and design and management institutions, especially in the area of apparel manufacturing need to be encouraged along with quality control. All ITIs and polytechnics, especially in the vicinity of the textile clusters, should be encouraged to introduce courses on different trades related to core textile fields like spinning, weaving, processing and garmenting, textile mechatronics, electricians etc. While the Ministry of Textiles offers several skill development initiatives, the industry needs to leverage these initiatives, so as to maximise potential through up-gradation and enhancement.

To this end, the Ministry of Skill Development and Entrepreneurship offers the following recommendations:

1. Provide incentives to factory workers in the form of skills premium
2. Establish sector skill council for the entire textiles and clothing sector
3. Create awareness among the youth to attract them towards the sector
4. Build specialised industrial training institutes in textile machinery operations
5. Establish home textile and technical textile design centres
6. Private sector participation for providing infrastructure to ITIs
7. Revise design course content in line with global trends
8. Involve foreign collaborations for quality control
9. Introduce textile management programs
10. Develop state/central placement portal for each textile hub via electronic media

Industry associations need to participate in spreading awareness on formal employee training programmes. They may also focus on improving pay and working conditions of textile workers. Workers need to be made aware of safe and healthy methods of work to improve efficiency, productivity and output and maintain high levels of employee satisfaction and morale.

**Raw Material Availability and Management**

The textiles and apparels industry suffers greatly due to raw material shortage. Controlling raw material exports with a view to ensuring stable yarn prices in the country will make the sector more competitive and productive.

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65 Human Resource and Skill Requirements in the textiles and Clothing Sector, Ministry of Skill Development and Entrepreneurship, NSDC
According to the Planning Commission, some of the steps that would facilitate raw material availability and management are:

**Scheme to incentivise production of ELS Cotton** – A scheme may be devised for providing special subsidy package to sustain long duration crops and keep alive the interest of cotton growers of ELS cotton. The fund outlay proposed for this scheme is ₹30 crores.

**Contract Farming** – Contract farming provides downstream linkages to the spinning industry for unmixed quality cotton and to cotton growers in increasing profitability in cultivation. Contract farming may be given a boost with suitable financial incentives through cheaper credit to farmers for quality inputs.

**Promoting production of organic cotton** – Increasing production of organically grown cotton can eliminate/reduce the impact of chemicals on land, air and water from synthetic processing, fertilisers and pesticides. It can also help to build a healthy ecosystem with increased biodiversity. Thus sustaining organic cotton and Suvin cotton cultivation should be taken up on high priority.

**Price Stability** – Cotton prices depend on the domestic and international demand and supply position for cotton and yarn, fabrics and garments. Thus, there is need to balance the demand and supply position from time to time to stabilise cotton prices for the benefit of all stakeholders.

**Coverage of synthetic fibre and yarn under Textile Upgradation Fund Scheme** – At present, there are only a few big players manufacturing synthetic fibres in the country. To increase the availability of synthetic fibre and yarn in the country at reasonable prices, it is recommended that synthetic fibres should be covered under TUFS with fund support from the Department of Chemicals and Petrochemicals, of the Government of India.

**Fibre-neutral excise policy** – A fibre-neutral excise policy is recommended, in which all textiles and fibres would attract the same excise duty. Although there has been substantial reduction in excise duties on manmade fibres (MMF) and textiles over the last 10 years, the current duties on MMF and MMF textiles are still high, while cotton is exempt from excise duty. This will help the downstream industry especially weavers at Surat, Bhiwandi and Bhilwara who have been suffering due to high duties.

**Setting up an MMF Advisory Council** – To address the problems of MMF producers and users, an MMF Advisory Council may be set up. This would result in high growth of MMFs and textiles industry as a whole, thereby contributing to higher revenues, increase in employment generation, and higher foreign exchange earnings.

**Financial Support and Branding of Handlooms**

One of the major problems faced by the handloom sector in India is the lack of credit facilities, primarily due to debt overhang. To address the problem, the 12th Five year Plan proposed implementation of a revival-reform-restructuring package for the handloom sector with a financial implication of approximately ₹2,000 crores. In its first phase, the package is expected to benefit around 20 lakh handloom weavers in states where they are mostly concentrated.

While handloom products are gaining recognition in India, one important factor missing in the marketing space is an assurance that the product comes from handlooms and conforms to specifications claimed either by the producer or the seller. To address this problem, the Textile Ministry has unveiled an ambitious plan to revitalise the industry under the brand name “India Handloom.” Branding will not only provide an assurance to

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consumers but also sustain the development agenda of the handloom industry. This brand will ensure quality, purity of design and give assurance to the consumers that they have got the best value for money. According to the Ministry of Textiles, production with zero defect and zero effect on the environment, environmental compliance like avoiding harmful carcinogenic azo dyes and chemicals in dyeing, proper effluent treatment, social compliance like avoiding child labour in any form would form part of the branding process. Support from e-commerce portals will further help to boost handloom production.

Another important step that the industry and the government need to take together, is providing international exposure to Indian manufacturers and weavers. Strengthening existing support measures available to textile garments manufacturers and traders for attending, showcasing and publicising Indian textiles and garments at international trade fairs and exhibitions should be considered.

**Innovation and Technology**

Modernisation of textiles units and upgradation of technology are imperative for sustaining growth of the textiles and apparels industry. These measures will produce good quality output and also reduce cost of production.

Design is a critical input in the fast changing textile fashion technology. Therefore existing textile design centres need to be strengthened through R&D efforts and more such institutes need to be opened.

Efforts to increase the competitive strength of the industry will depend on how fast it can integrate various information technology (IT) solutions including ERP solutions, CAD/CAM and other IT-based tools for improving the speed and quality of production, reducing time lag in deliveries, marketing and cutting down overall time overrun. IT solutions for small and medium enterprises will help in boosting production significantly.

**Sustainable Textiles Manufacturing**

The textiles industry is one of the most complicated industrial chains of the manufacturing sector. Textile manufacturing has significant environmental and social impacts. As the Indian textile sector continues to modernise, sustainability presents the next frontier of development, i.e., providing potential cost savings as well as competitive differentiation, in addition to eco-efficiency. Over the last decade the sector has got modernised equipment and introduced process improvements to enhance competitiveness in the global market. It is also well known that cotton mills consume large volumes of water for various processes such as sizing, scouring, bleaching, dyeing, printing, finishing and washing. The use of chemicals and dyes and the effluents from factories have a negative impact on the environment and community. Minimising emissions from toxic gases and optimising resources such as water and energy are among the highest priorities for the industry.

Textile firms at their end too, are constantly looking for ways and means to adopt international standards of sustainable manufacturing. In 2014, the fabric and yarn manufacturer Century Rayon, became the first textile company in India to be awarded with the STeP (Sustainable Textile Production) certificate by OEKO-TEX. STeP is the new OEKO-TEX certification system for brands, retail companies and manufacturers from the textile chain who want to communicate their achievements regarding sustainable production to the public in a transparent, credible and clear manner.

Assessment of the impact on the environment and society may be done through techniques such as life cycle assessment, measuring carbon footprint, water footprint and resource utilisation of water, energy and chemicals and assessment of social responsibility. This will help in devising ways to ensure sustainable textile manufacturing in all segments of the industry.

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Other Measures

Some of the other measures and recommendations that the government and industry could consider to facilitate a smooth ride ahead for the industry are:

Focusing on Technical Textiles

The technical textiles segment is a relatively new one for Indian textiles industry, with major service offerings for consumers being thermal protection and blood-absorbing materials, seatbelts and adhesive tapes. The cost-effectiveness, durability and versatility of technical textiles along with health and safety compliance and user friendliness will make it a force to reckon with in the coming decades. The Government on its part should introduce new schemes for technical textiles on similar lines as the Technology Mission on Technical Textiles, introduced in 2010-11.

Control of Illicit Markets

Concerted efforts are needed by both industry and government, to restrict the widespread problem of illicit/fake textile products or garments. Consumers need to be made more aware of the losses that are incurred by legitimate manufacturers and the government through educative programmes and advertisements. Accelerating innovation and investment in manufacturing processes will help to control illicit markets. Some of the measures that may be taken are:

- Improving the regulatory framework for patent protection and effective enforcement;
- Using superior technology to identify counterfeit products;
- Creating an enabling environment conducive to innovation; and
- Providing incentives (including tax benefits) to enhance use of indigenous inputs over imported inputs

Diversification of Market

The dominance of a few countries in India's export basket has made it vulnerable to economic shocks in these countries. Diversifying to emerging economies in the Far East and also reviving the textiles and apparels markets in Japan, Australia and Latin American countries would not only protect the country from such external shocks but also take have a positive impact on growth rates.

Relaxation of Labour Laws

Issues like restrictions on contract labour, fixed time employment, employment of women in night shift, retrenchment, closure of loss making units, etc. need immediate attention to facilitate growth. Labour laws
therefore need to be amended considering these factors, as well as the seasonal nature of the industry which renders labour unemployed for a part of the year.

**Joint Ventures**

The production environment in the textiles industry across the world is undergoing many changes. Countries are trying to complement their own comparative advantage, whether in technology or in raw materials or in finance, by forging joint ventures or production or marketing tie-ups with other countries to increase their overall competitive strength. The Indian textiles industry may also like to explore this route for enhancing comparative advantage and convert it into competitive strength.

**Conclusion**

The contribution of the textiles and apparels sector to the country’s economy has been enormous. Riding on the back of changing demographics, the sector has a huge potential to absorb the surplus labour available in the country. Changing lifestyles, rising urbanisation and growing fashion consciousness among people, are set to give a boost to the sector in the coming decades.

At a time when the government has initiated the ‘Make in India’ programme to revive Indian manufacturing, planned and systematic efforts by the government and industry bodies to support Indian textiles and apparels will give the necessary fillip to the industry and help it to address various barriers to its growth, ultimately leading to economic prosperity.

*This study has further corroborated the potential that the industry holds. It has identified several growth drivers which, if tapped appropriately, can further boost its growth. The multiplier effect demonstrates the effect of increasing demand in the industry on output, employment, value addition and indirect tax collections, on the sector itself as well as its ancillary industries. However, despite the huge potential, the sector is faced with several roadblocks that this study has identified and suggests ways to overcome them in a sustainable manner. Coordinated efforts of the government and industry in addressing these challenges and focussing on the identified growth drivers will help the industry in achieving its rightful position in the global textiles map.*

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About this Report

This report has been prepared by Thought Arbitrage Research Institute (TARI) for ASSOCHAM.

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