

Study
To Promote Growth of Man-Made Fibre Textile Industry
in India; Roadmap to Identify Gaps Suggest Measures



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Govt. of India, Ministry of Textiles



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Report on

To Promote Growth of Man Made Fibre Textile Industry in India – Roadmap to Identify Gaps & Suggest Measures



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Ministry of Textiles

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Executive Summary

“TO PROMOTE GROWTH OF MMF TEXTILE INDUSTRY IN INDIA: ROADMAP TO IDENTIFY GAPS & SUGGEST MEASURES”

1



Textiles Committee



STRUCTURE OF PRESENTATION

- Study Objective & Terms of Reference
- Methodology
- Global Value Chain (GVC), Production & Trade Competitiveness of MMF Textiles
- India's Competitive position on MMF Textiles in GVC
- Technical Textiles - Emerging potential for MMF Textiles
- MMF Sector & Textile Vision of 2024-25
- Required Investments in MMF Textiles
- Cost Benchmark Analyses of India vis-a-vis 4 other countries
- Key Concerns & Suggestive Measure



STUDY OBJECTIVES & ToR

○ Objectives:

- Analyse “MMF Textile Value Chain (TVC)” including Technical Textiles (TT) and
- Analyse mega trends shaping global textile industry & identify implications for MMF Value Chain in India.

○ Terms of Reference:

- Enhance domestic consumption & exports of MMF Textiles including blends & TT
- Improve competitiveness of Indian MMF Textiles in domestic & export markets.
- Increasing investment in MMF sector to achieve Textile Vision of US\$350 Bn
- Enhancing production of MMF Textiles, blends & TT
- Bringing innovations to cater to consumer requirements



METHODOLOGY

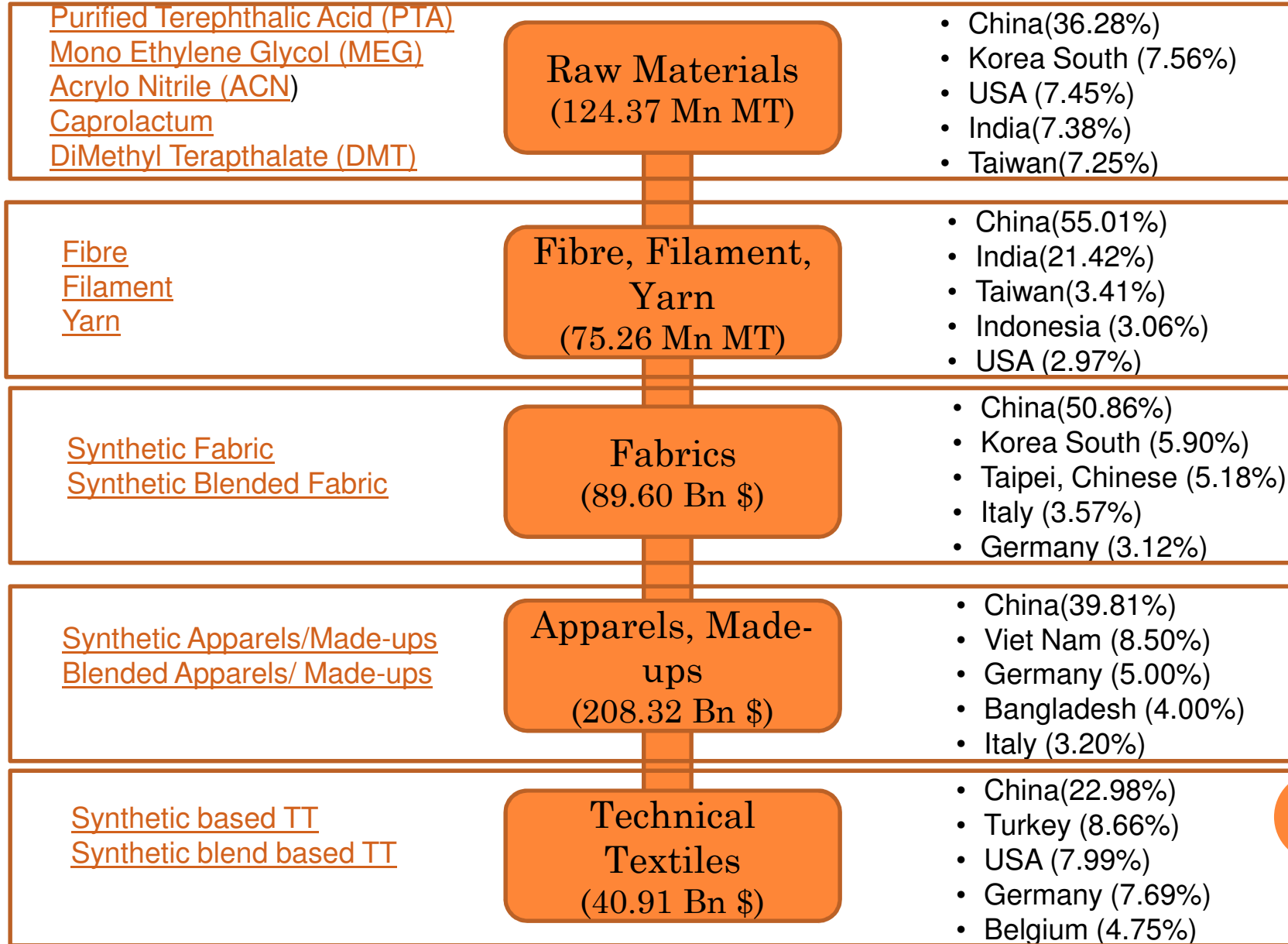
- **Secondary Research : Countrywide database Prepared**
- **Global Production, Trade & Competitiveness Analysis:**
 - mapping international trade at 6 digit HS code & competitiveness analysis using (i) Time Series Analysis, (ii) Revealed Comparative Advantage (RCA), (iii) Export Similarity Index (ESI) & (iv) Trade Intensity Index

- **Primary Research involving 732 MMF textile industries + 600 stakeholders**

Respondent category	Units	% Coverage
Fibre, specialty fibre and filament yarn manufacturer	13	1.78
Spun yarn manufacturer	100	13.66
Weaving Industry	201	27.46
Knitting Industry	43	5.87
Technical Textiles manufacturers	19	2.60
Made-ups manufacturers	137	18.72
RMG Manufacturers	188	25.68
Others (Embroidery, Durrie, etc)	31	4.23
Total	732	100.00

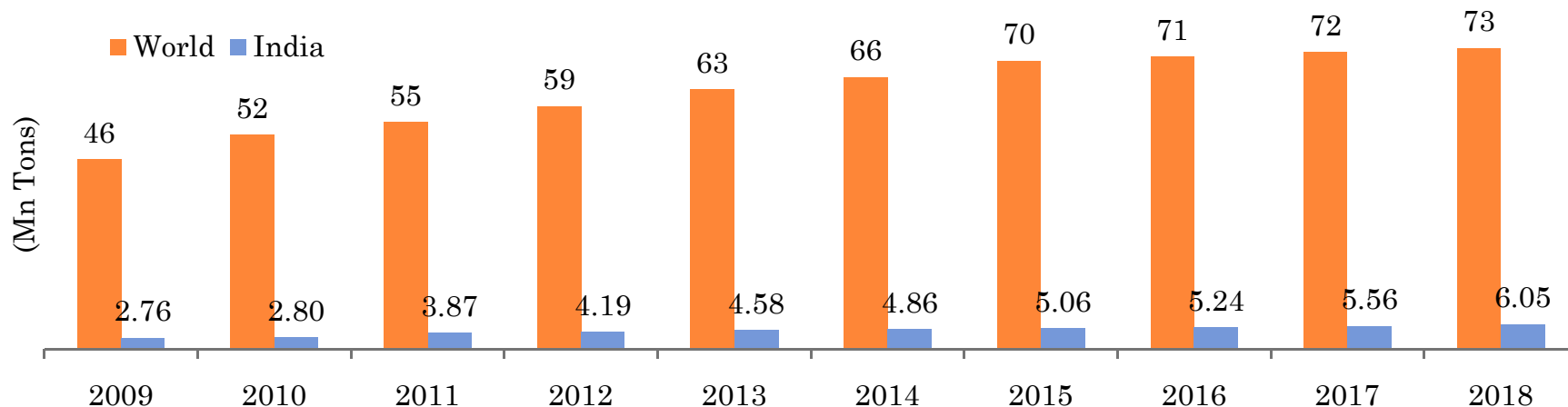
- **7 FGDs with industry @** Mumbai, Coimbatore, Tirupur, Surat, Bhilwara, Ludhiana & New Delhi in states of Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, Gujarat, Rajasthan, Punjab, Haryana, Delhi, West Bengal & Silvassa.

GLOBAL VALUE CHAIN (GVC) OF MMF

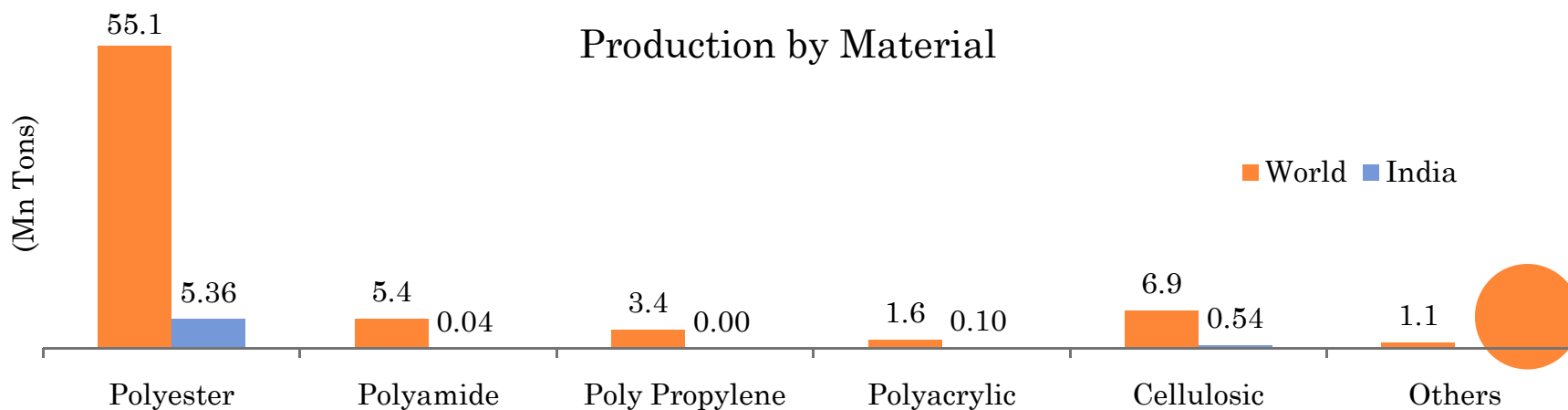




GLOBAL PRODUCTION - MMF

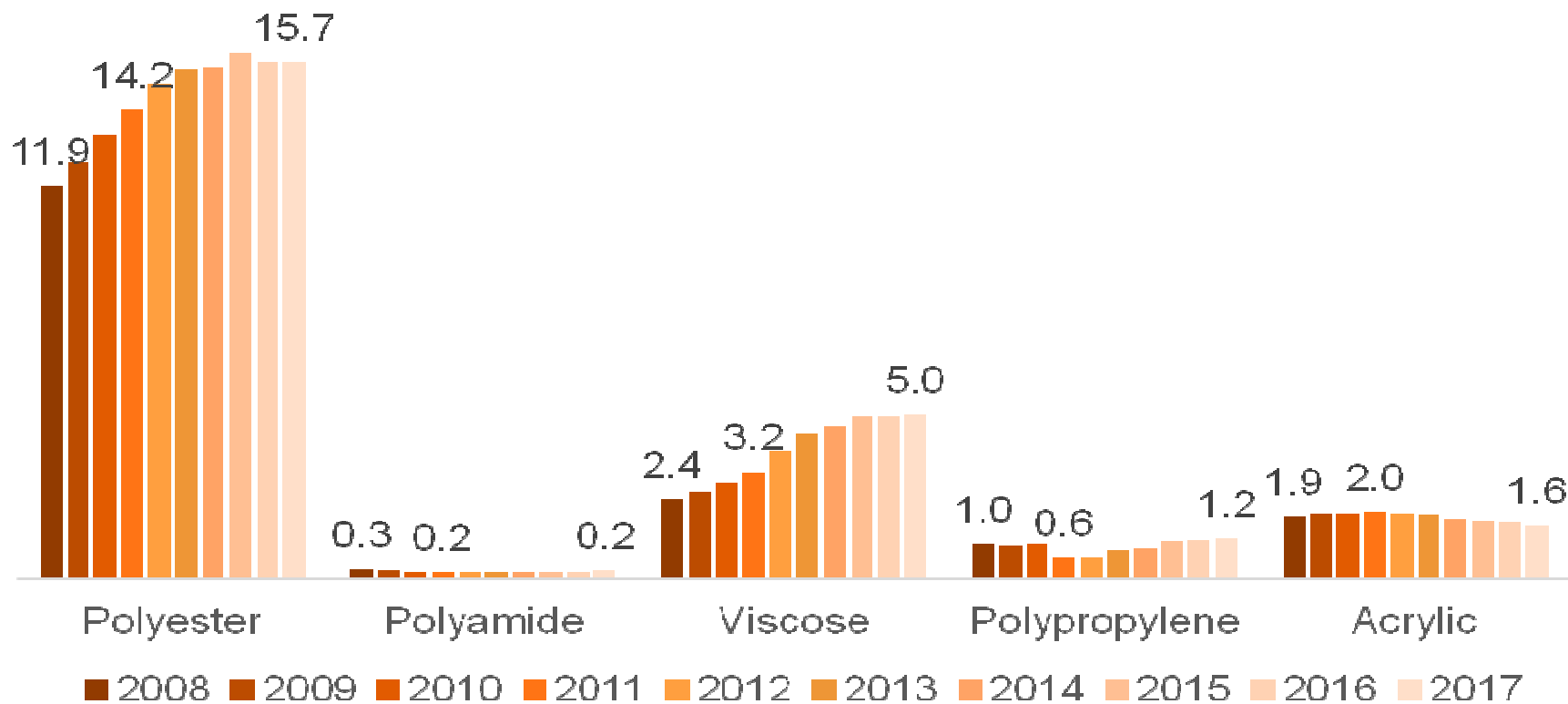


- CAGR of MM fibre production in the world is 5.27% whereas in India it is 9.10%
- India's Polyester, Cellulosic & polyacrylic material is 9.72%, 7.88% & 6.16% respaly of world production .
- Share of polyester in the global production is 75% and that in India is 89%.





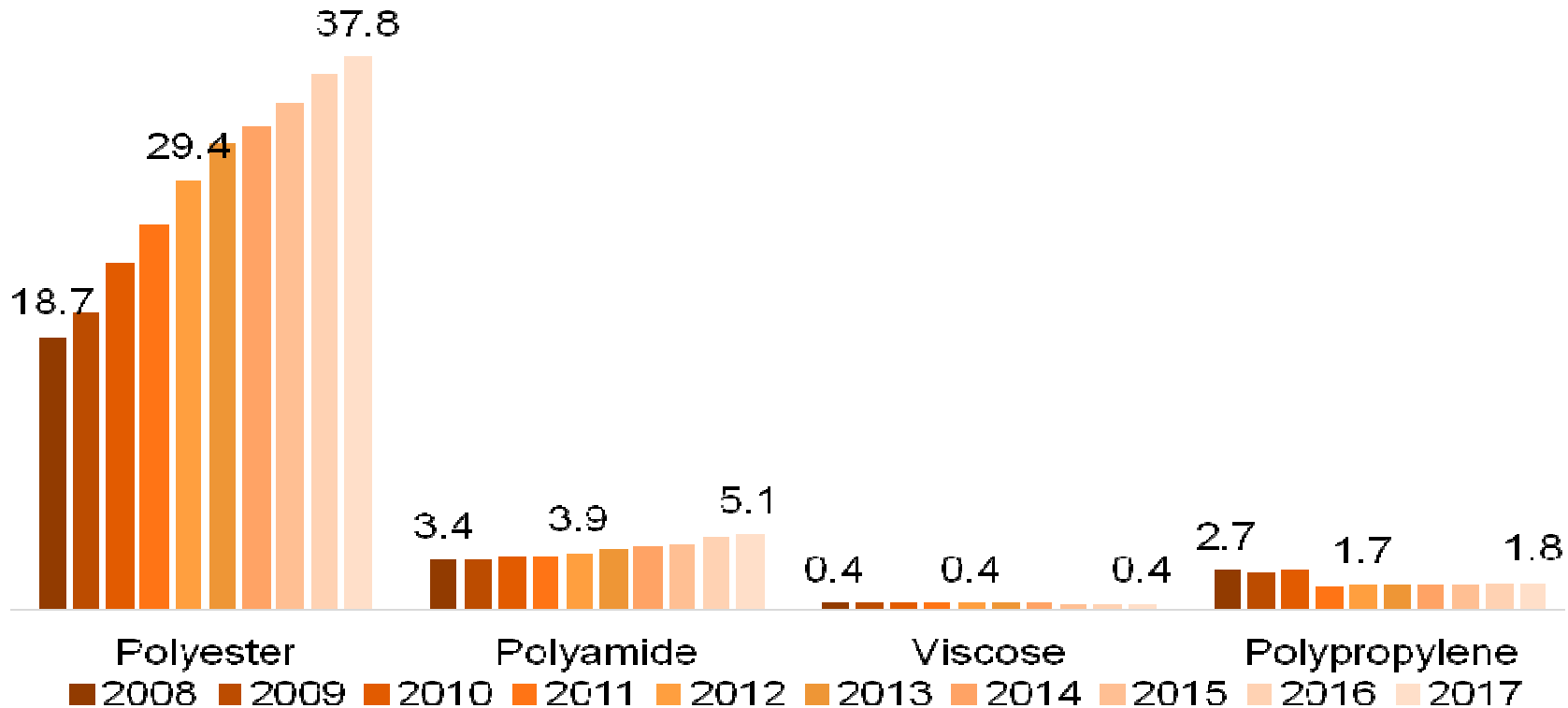
GLOBAL PRODUCTION- MMF STAPLE FIBRES (MN TONS)



- The global production of polyester staple fibre has increased at a CAGR of 3%.
- Viscose staple fibre global production has increased from 2.4 Mn. tons since 2008 to 5 Mn tons in 2017



GLOBAL PRODUCTION OF MM FILAMENT YARN (MN TONS)

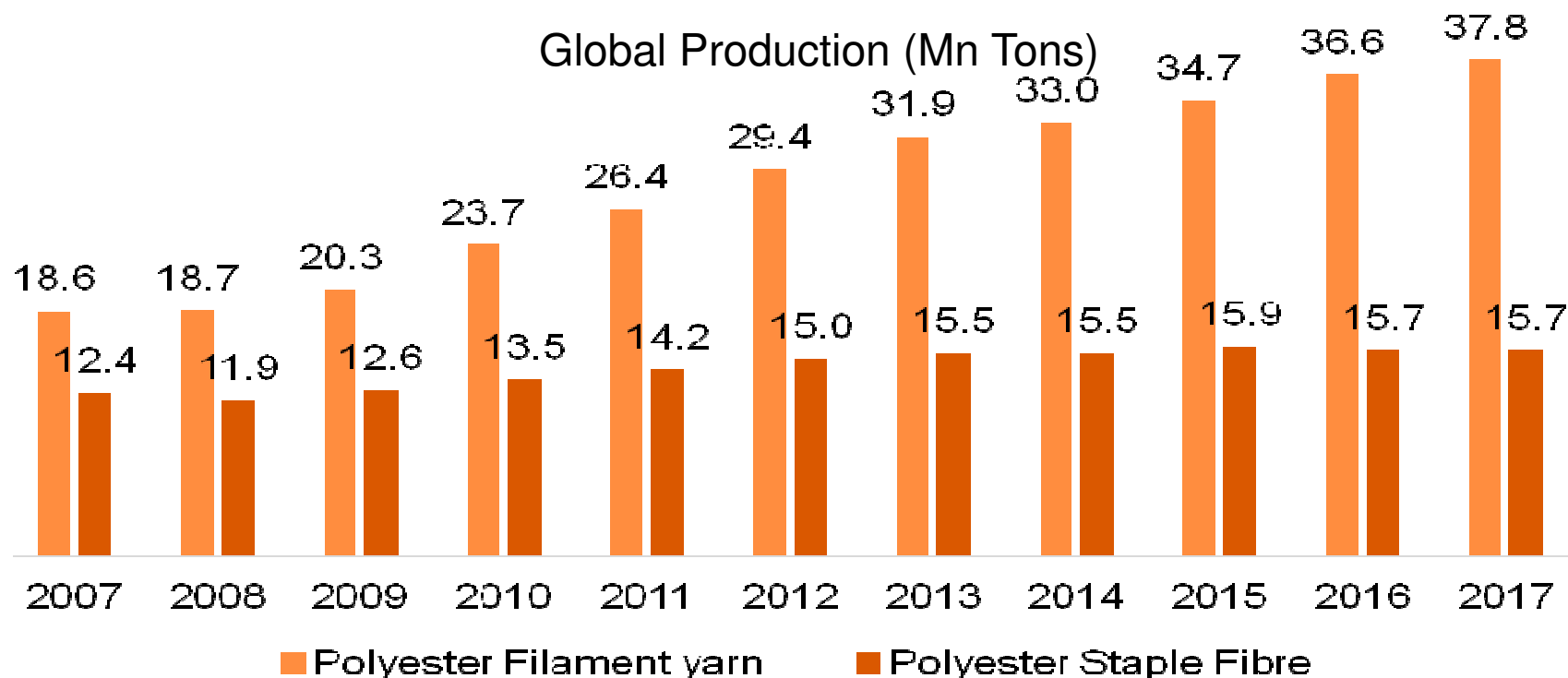


- Global Polyester filament yarn production has increased @ 8% CAGR.
- Production of Polyamide filament yarn has increased @ 5% CAGR and Viscose Filament Yarn has remained stagnant at 0.4 Mn tons from 2008 to 2017.
- Production of PP filament yarn has declined @ 4% CAGR due to higher production costs.





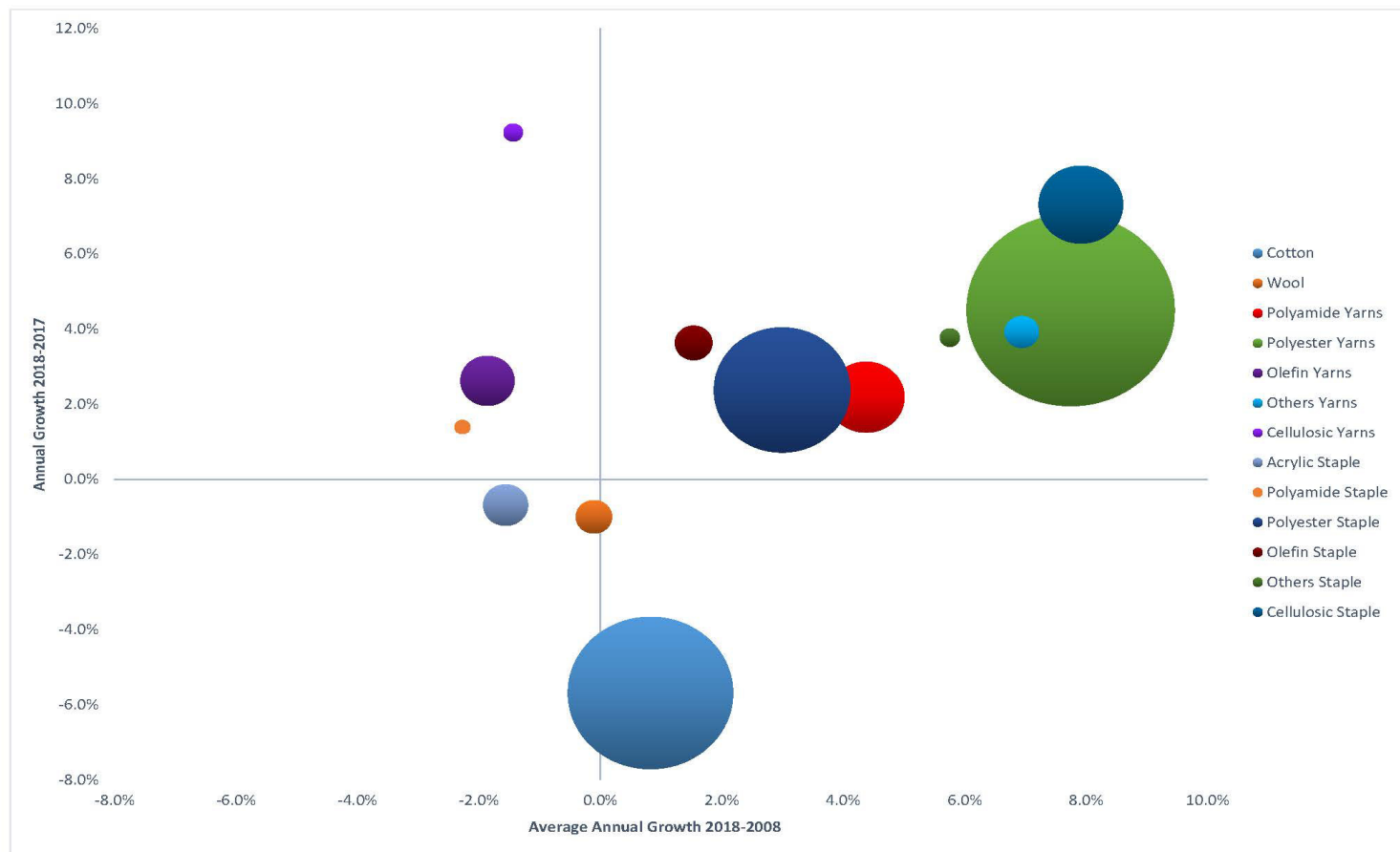
COMPARATIVE MARKET ANALYSES OF PFY & PSF



- The production growth of polyester filament (@ 7.35% CAGR) outsmarts production growth of polyester staple fibre @ CAGR 2.39%).
- India is the second largest producer of polyester fiber and filaments.

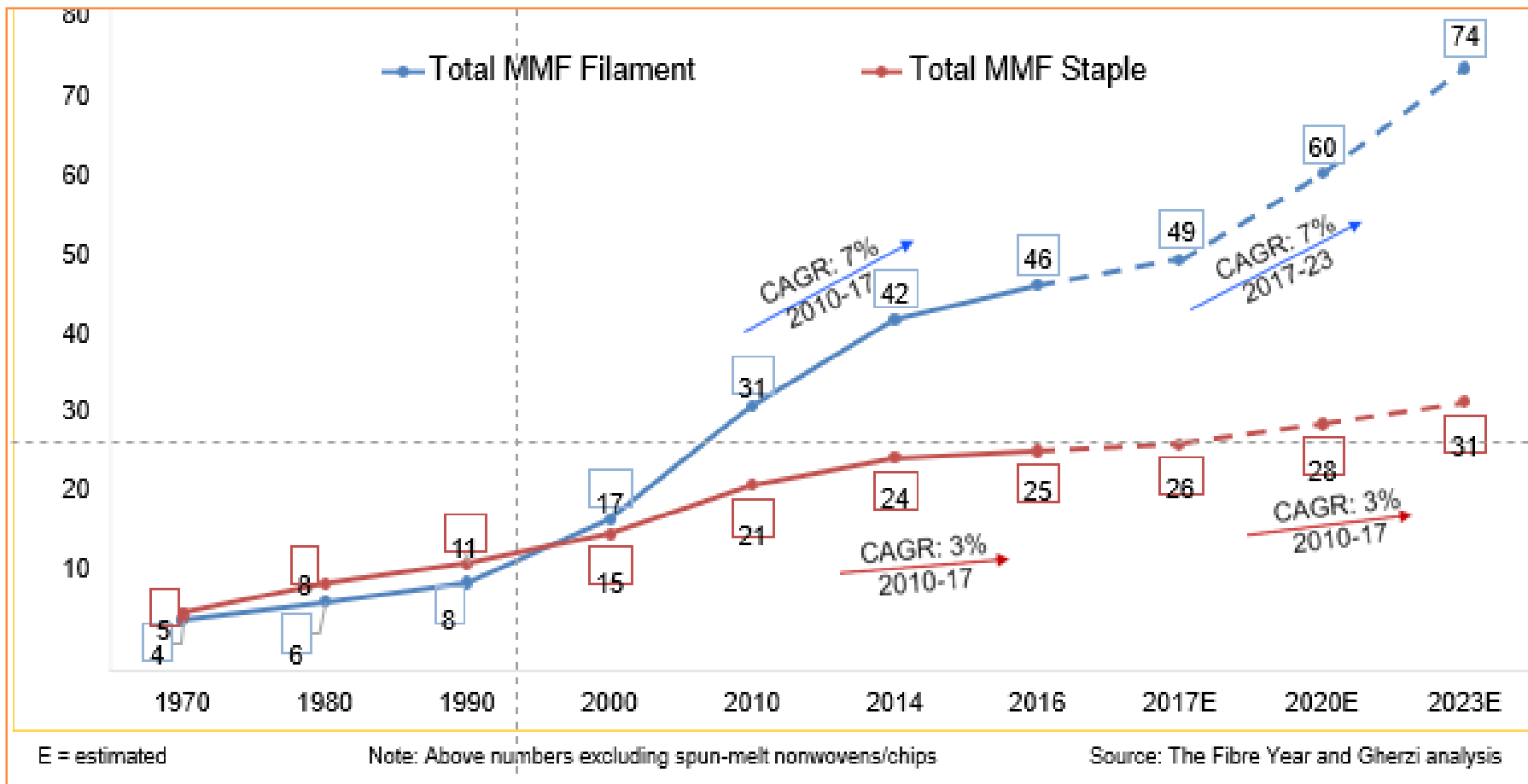
Global production & trade Competitiveness of MMF Textile

GROWTH IN GLOBAL PRODUCTION OF MMF



- Production growth of natural fiber like wool, Cotton declined during 2008 to 2018
- Growth of MM Fibre production has increased during the period significantly

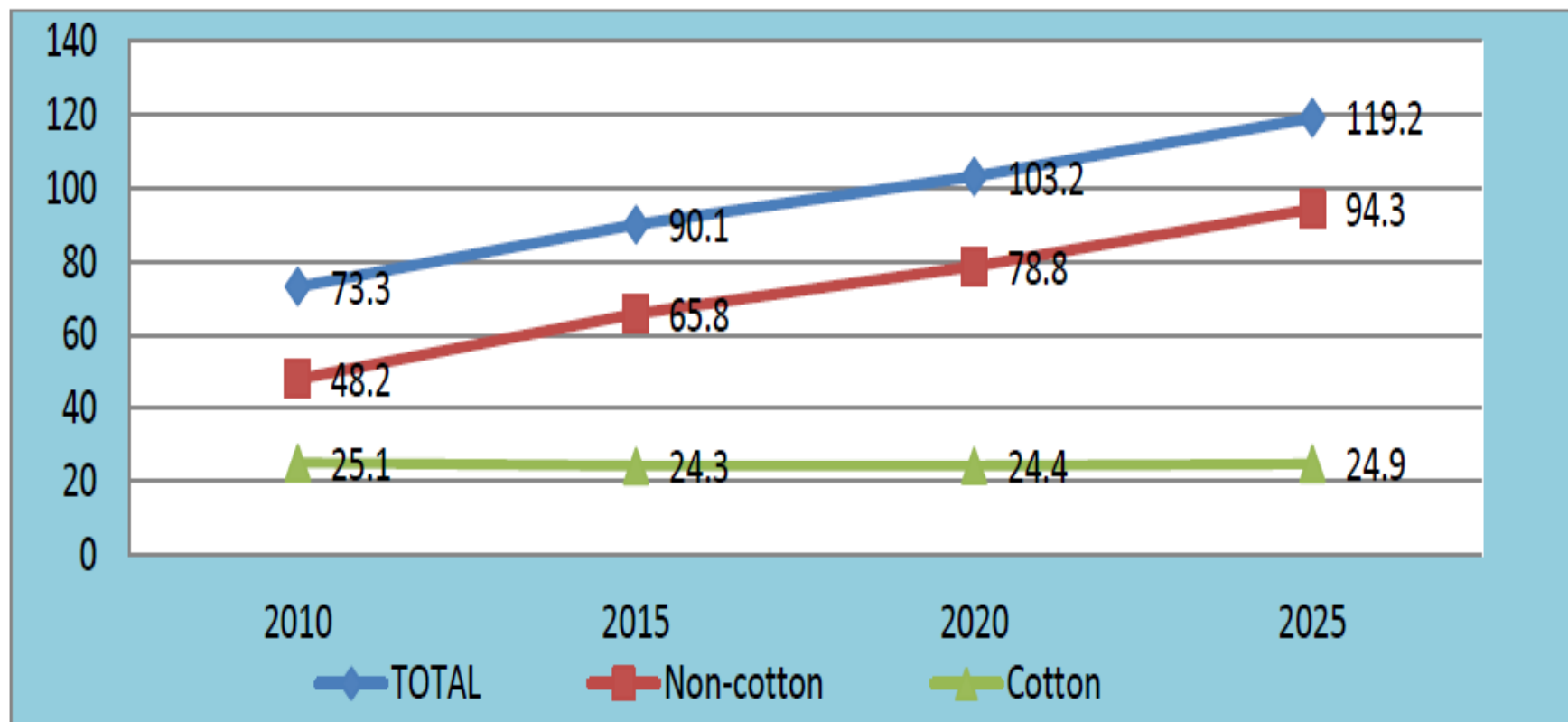
GLOBAL MM FIBRE CONSUMPTION



- Even consumption of MMF filament has grown much faster @ 7% CAGR compared to 3% CAGR growth of MM Staple from 2000 to 2017.
- Estimated consumptions by 2023 would be 74 M Tons for MMF filament compared to 31 M Tons of MMF Staple

Global production & trade Competitiveness of MMF Textile

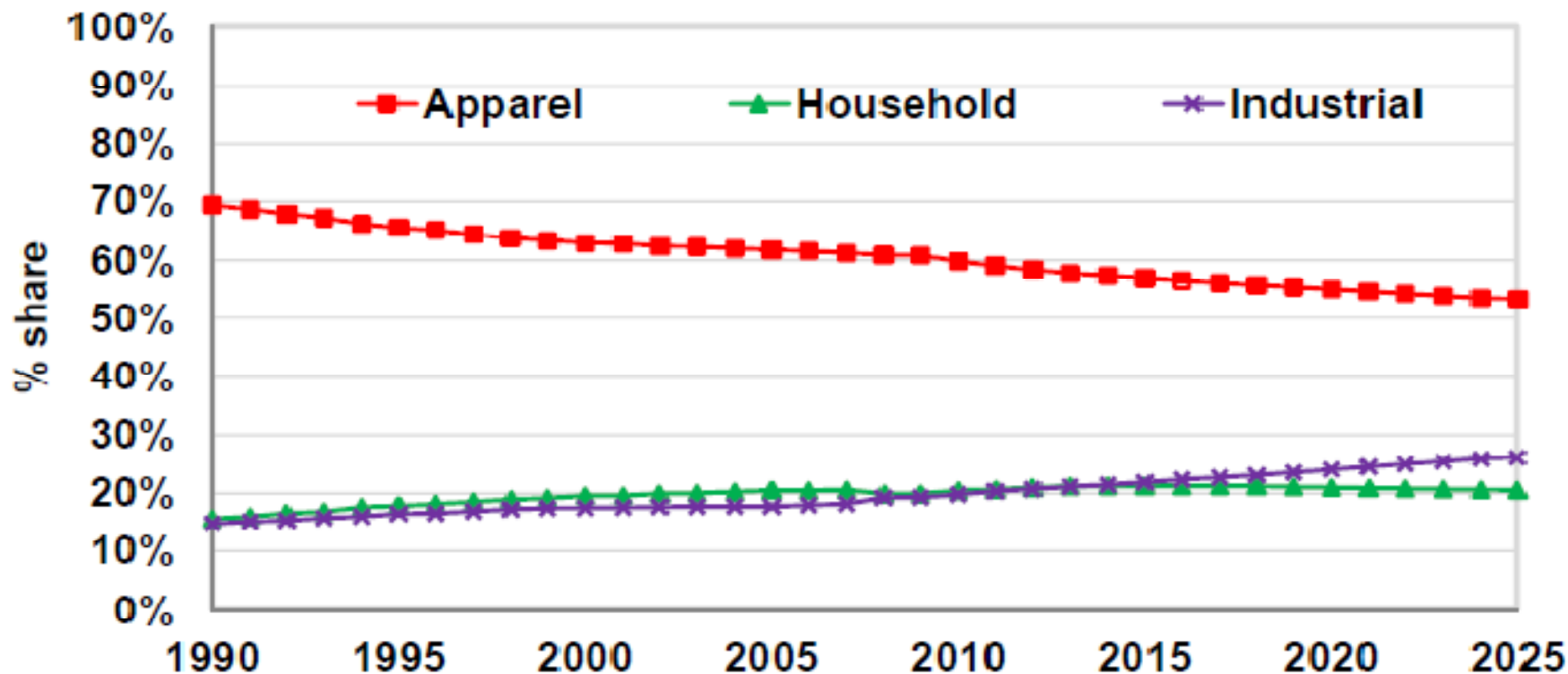
GLOBAL END-USE DEMAND FOR TEXTILE FIBRE



- Global end-use demand for textile fibres is projected to expand by an average of 2.8% p.a. between 2015 & 2025, from 90.10 Mn tons to 119.20 Mn tons
- Global end-use demand for MMF is expected to increase by 3.7% to 94.3 Mn tons in 2025 from 65 Mn tons in 2015.

Global production & trade Competitiveness of MMF Textile

END-USE MIX – PERCENT SHARE OF GLOBAL DEMAND

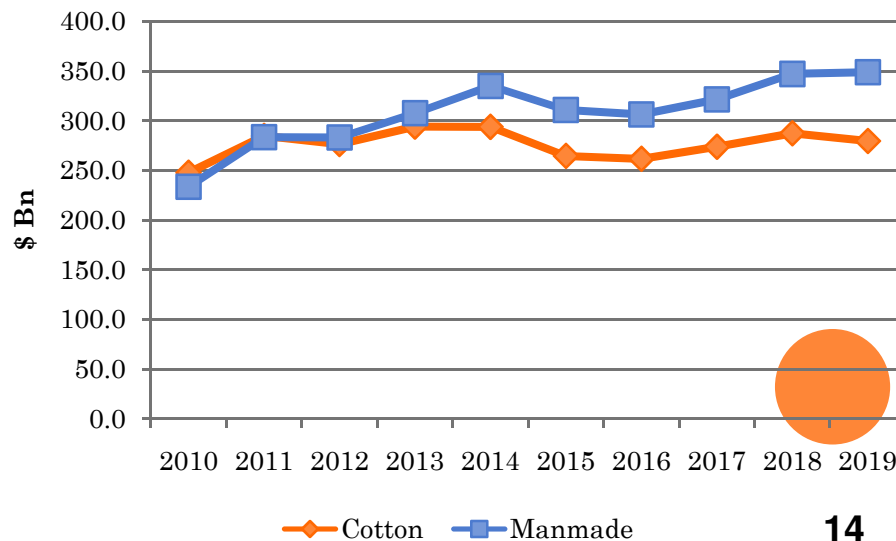
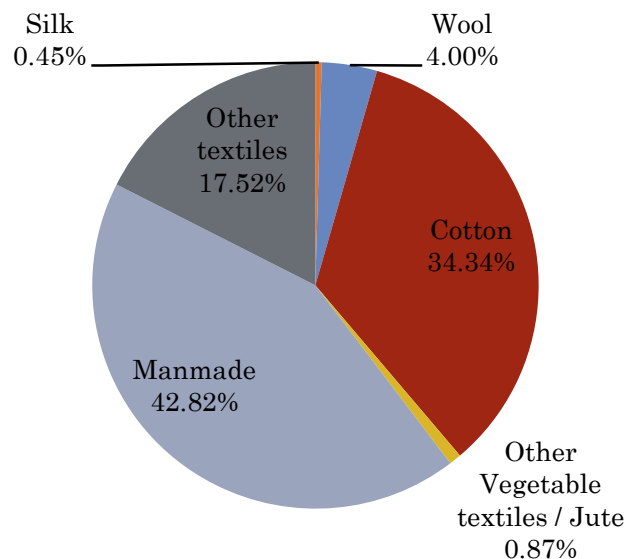


- Contribution of industrial textile to global demand will be more than household sector.
- In 1990, household & industrial sectors contributed about 15.7% and 14.9%, respaly to global demand & is likely to increase to 20.5% & 26.1% respaly in 2025.
- **Contribution of apparel sector will decline gradually from 69.4% in 1990 to about 53% by 2025 and remaining 47% from household & industrial sector**



GLOBAL T&A TRADE IN MM TEXTILES

- Global T&A exports grew from \$ 639.58 Bn (2010) to \$ 814.56 Bn (2019) @ 2.72% CAGR .
- MM T&A Export grew from \$ 233.71 Bn (2010) to \$ 348.78 Bn (2019) @ 4.55% CAGR.
- MM T&A (42.82%) followed by Cotton (34.34%) in 2019.
- Key factors of MMF textiles growth being superior performance, wide applications, lower product cost, easier & cheaper maintenance & endless design possibilities for lifestyle & applications.
- Limitation to growth of cotton on account of limited availability of land for cotton cultivation.





CATEGORY WISE EXPORT OF MMF PRODUCTS (\$ BN)

Category	2010	2014	2019	Share% (2019)	CAGR% (2010-19)
Fibre	11.52	13.41	11.17	1.37	-0.34
Yarn	29.75	34.28	32.72	4.02	1.06
Fabric	62.41	83.01	81.86	10.05	3.06
Technical Textiles	13.85	19.50	20.48	2.51	4.44
Made ups	18.77	26.66	26.70	3.28	4.00
Garments	95.99	156.39	174.57	21.43	6.87
Others	1.42	1.66	1.26	0.16	-1.28
Total	233.71	334.92	348.78	42.82	4.55

- MMF TT, apparels and made-ups which are value added segments are amongst growing areas in export of MMF products.



TOP 10 EXPORTERS IN GLOBAL TRADE (\$ BN)

Country	2010	2014	2019	% share	CAGR
China	85.76	140.80	137.11	39.31	5.35
Vietnam	4.51	11.34	20.70	5.93	18.44
Germany	12.30	14.46	15.75	4.52	2.79
Italy	9.92	12.10	12.06	3.46	2.20
Turkey	7.28	10.89	11.41	3.27	5.12
USA	8.80	11.22	10.25	2.94	1.70
India	5.75	9.94	9.48	2.72	5.71
Spain	3.74	6.78	8.59	2.46	9.69
Korea	8.53	9.63	8.00	2.29	-0.71
Belgium	6.71	7.51	7.53	2.16	1.30
Top 10	153.12	234.30	240.36	68.91	5.14
R o World	80.59	100.62	108.42	31.09	3.35
Total	233.71	334.92	348.78	100.00	4.55

- China is top Exporter with 39% global share, followed by Vietnam, Germany etc. India is at 7th position.
- Vietnam is fastest growing nation in MMF export (18.44%) followed by Spain (9.69%) & India (5.71% CAGR). Viet Nam foremost in capturing space vacated by China during last five years



TOP 10 IMPORTERS IN GLOBAL TRADE (\$ BN)

Importers	2010	2014	2019	Share% (2019)	CAGR% (2010-19)
USA	30.32	42.80	48.82	15.15	5.43
Germany	15.86	20.25	20.63	6.40	2.97
Japan	13.84	17.77	17.68	5.49	2.76
UK	11.60	14.74	13.42	4.17	1.63
Vietnam	3.96	7.19	13.34	4.14	14.45
France	9.51	11.78	12.19	3.78	2.79
Spain	5.55	8.49	10.63	3.30	7.49
China	10.92	12.05	10.61	3.29	-0.32
Italy	8.70	10.02	9.69	3.01	1.20
Korea	4.17	7.11	8.33	2.59	8.00
Total Top 10	114.43	152.20	165.33	51.32	4.17
Rest of World	106.50	138.30	156.82	48.68	4.39
Total World	220.93	290.50	322.15	100.00	4.28

- USA is the major destination followed by Germany, Japan, UK
- By CAGR, Vietnam tops with 14.45%, followed by Korea (8.00%), Spain (7.49%)
- 5 EU countries are in top 10 importers of the world establishing their importance.



TOP MMF EXPORTS & INDIA (\$ Bn)

- An analysis of top exported MMF products (≥ 1 Bn\$) reveals that there are 89 products (HS6 digit) which contribute around US\$ 289.89 Bn (83.12%) to MMF products export basket in 2019.
- Of these 89 products, 38 are Apparels, 20 (Fabrics), 11 (yarn), 9 (Technical textiles) and 7 from Made-ups category.
- Share of India in these top 89 products is US \$ 7.16 Bn (2.47%).
- India needs to diversify its product basket so as to attain higher level of exports in MMF products.





EXPORT POTENTIAL OF INDIAN MMF IN WORLD

- India exported \$9.48 Bn (2019) MM T&A & has potential to grow to \$16 Bn.
- Estimated potential destinations and products for MM textile export, by using ITCs Export Potential Indicator (EPI).

US \$ Mn

Product Category	Export Potential	Actual Exports	Untapped potential	% Share	Total Imports of the country	Avg Applied tariffs
Apparels	6298.91	4274.88	3214.77	49.29	105959.07	11.71
Fabric	2552.79	1763.20	1383.89	21.22	46853.49	9.82
Yarn	2416.80	1623.82	1161.89	17.82	18671.12	5.37
Fibre	928.56	589.00	543.01	8.33	8395.92	3.41
Made ups	221.09	132.63	125.24	1.92	8018.94	11.81
Technical Textiles	141.76	89.94	92.87	1.42	9038.53	6.12
Grand Total	12559.91	8473.48	6521.66	100.00	196937.08	9.10

- EPI identifies products in which exporting country has already proven to be internationally competitive & have good prospects in specific target markets.
- Products like Garment (\$3.21 Bn) & fabrics (\$1.38Bn) has highest potential
- Greatest impediment in realising potential is average tariff applied by destination country.
- Made-ups/Home textile is also experiencing highest tariff in international market



POTENTIAL MARKETS FOR INDIAN MM EXPORTS

It takes into consideration potential export value from supply capacity in exporting countries, demand conditions in target market & bilateral linkage between countries

US \$ Mn

Country	Fibre	Yarn	Fabric	Apparels	Made ups	Technical Textiles	Total
European Union	49.49	177.89	198.82	1032.96	21.15	9.00	1489.31
USA	13.89	35.57	21.04	691.78	7.01	0.04	769.31
Vietnam	48.68	128.28	249.14	11.94	4.68	13.02	455.75
China	35.45	79.75	111.37	122.94	2.24	28.03	379.78
United Kingdom	17.54	21.92	18.01	309.76	8.70	0.02	375.95
Bangladesh	18.42	150.82	64.42	5.94	0.79	1.97	242.35
Mexico	15.21	60.46	55.18	75.88	2.59	2.78	212.10
Indonesia	55.29	36.52	80.76	6.60	2.91	3.67	185.74
Turkey	81.12	8.46	43.16	29.82	0.54	0.88	163.99
Japan	1.60	9.62	10.24	89.53	0.58	2.77	114.34
Brazil	11.74	38.73	31.21	25.73	2.63	1.51	111.55
Korea, Republic of	8.00	26.46	6.51	66.99	0.83	0.81	109.59
Pakistan	23.87	71.04	8.92	0.08	1.10	0.51	105.52
Other Countries	172.69	356.19	531.63	877.56	74.27	29.66	2042.00
World	543.01	1161.89	1383.89	3214.77	125.24	92.87	6521.66





RCA OF INDIA AT PRODUCT LEVEL (6 DIGIT)

Market	All Time RCA	RCD to RCA	All Time RCD	RCA to RCD	Cyclic al	Total
China	9	16	180	19	95	319
France	15	13	215	18	83	344
Germany	24	10	175	17	93	319
Italy	25	12	176	34	72	319
Japan	20	27	158	20	94	319
Korea_Republic_of	7	15	213	11	73	319
Spain	16	16	185	24	78	319
United Kingdom	33	22	160	35	69	319
United States of America	52	23	126	32	86	319
Viet Nam	6	13	195	23	82	319
World	53	21	180	16	49	319

- India – Comparative Advantage (CA) in **53 out** of 319 products it trades with other countries.
- Lost CA in **16 products** in last 10 yrs and losing in another 49 products.
- It always been in disadvantageous position in 180 products.
- Also gained CA on **21 products** in last 10 yrs.
- **Among top 10 mkts, India has CA in 52 products in USA, 33 in UK & 25 in Italy and 24 in Germany.**



INDEX OF RCA OF INDIA IN MM TEXTILES

Product Category	2010	2012	2014	2016	2017	2018	2019
Fibre	2.7	2.5	2.5	3.4	3.3	2.7	2.7
Yarn	3.4	3.9	3.7	3.6	3.8	3.7	3.4
Fabric	2.3	1.7	1.8	1.5	1.5	1.3	1.4
Technical Textiles	1.0	1.3	1.9	1.9	2.1	2.6	2.5
Made ups	0.7	0.8	1.0	1.0	1.1	1.0	1.1
Garments	0.9	1.2	1.3	1.8	1.9	1.3	1.2
Others	4.1	3.4	5.2	4.9	4.0	3.4	2.6

- Consistent with export shares, as IRCA is a function of export values, India has significant advantage in MM yarns (3.4), MM fibres (2.7) & MM Technical Textiles (2.5).
- India has been gaining CA in most categories of MM textiles except Fabrics as the RCA value is declining.





INDIA'S TRADE INTENSITY WITH USA

Product Category	India's Trade Intensity Index with USA						
	2010	2012	2014	2016	2017	2018	2019
Fibre	0.75	0.93	1.15	1.31	1.41	1.40	0.93
Yarn	0.51	0.51	0.52	0.63	0.63	0.75	0.85
Fabric	0.76	0.93	0.95	1.47	1.57	1.91	1.92
TT	2.50	2.70	2.56	2.55	2.73	2.50	2.73
Made ups	1.42	1.73	1.87	1.99	1.91	1.88	1.89
Apparel	0.72	0.86	0.97	0.86	0.89	1.19	1.23
Others	1.13	1.20	1.58	1.32	1.18	0.82	1.30

- Our TI with USA is high in most T&A categories like Fabrics, TT & NW, made ups and apparels except fibre & yarn.
- USA is a major trading partner for India in MM textile and apparel sector.



INDIA'S TRADE INTENSITY WITH UK

Product Category	India's Trade Intensity Index with UK						
	2010	2012	2014	2016	2017	2018	2019
Fibre	0.39	0.14	0.10	0.28	0.20	0.18	0.12
Yarn	0.44	0.32	0.28	0.33	0.37	0.37	0.41
Fabric	1.79	2.32	1.58	1.95	2.05	2.59	2.41
TT	2.62	3.34	3.25	3.17	2.55	2.50	2.22
Made ups	0.82	1.13	0.91	0.90	1.03	1.34	1.34
Apparel	1.58	2.07	1.83	1.54	1.56	2.08	2.19
Others	3.87	4.71	7.20	4.61	3.99	3.43	4.85

- India's TI is higher in MM fabrics, apparels, TT & NW and other products and is relatively less in made ups.
- TI in these categories is consistent from 2009 to 2018.
- The details of other countries viz France, Spain, Korea and China are [here](#)





INDIA'S EXPORT SIMILARITY INDEX IN MMF (2018)

Import Markets	USA	China	Vietnam	Germany	Italy	Korea	Spain	Belgium	Turkey
USA		0.30	0.22	0.15	0.21	0.12	0.28	0.09	0.12
China	0.10		0.11	0.09	0.09	0.10	0.11	0.05	0.11
Vietnam	0.03	0.11		0.03	0.03	0.07	0.01	0.02	0.30
Germany	0.08	0.18	0.16		0.17	0.05	0.28	0.20	0.27
Italy	0.16	0.13	0.08	0.14		0.06	0.20	0.15	0.14
Korea	0.05	0.12	0.10	0.09	0.04		0.06	0.12	0.05
Spain	0.07	0.22	0.24	0.22	0.16	0.05		0.17	0.33
Japan	0.16	0.25	0.24	0.19	0.14	0.17	0.26	0.14	0.16
UK	0.19	0.26	0.28	0.21	0.21	0.06	0.36	0.12	0.25
France	0.11	0.23	0.16	0.27	0.22	0.03	0.33	0.23	0.28

- India's ESI with 9 major exporters in the 10 import markets.
- India's ESI is not very high or close to 1 which means India's not facing very high export competition.
- India has highest competition with Spain in UK & France with ESI of 0.36 and 0.33 respily.
- Other competing countries for India are Turkey in Spain and Vietnam; China in USA market.
- India has some competition with China, Spain, Italy, Vietnam, Belgium and Turkey in different import markets however, that the competition is not too intense.

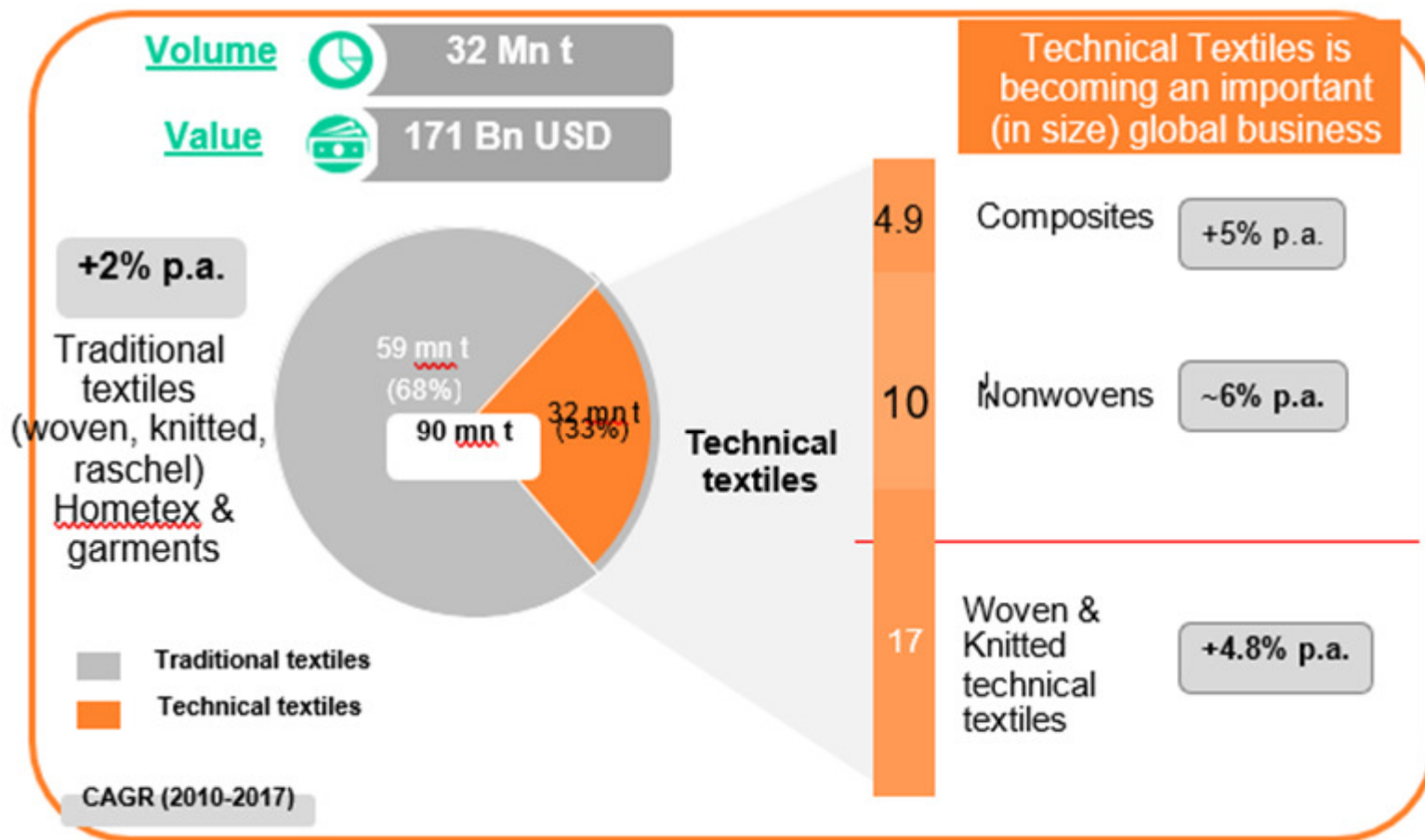


TECHNICAL TEXTILES AS EMERGING AREA





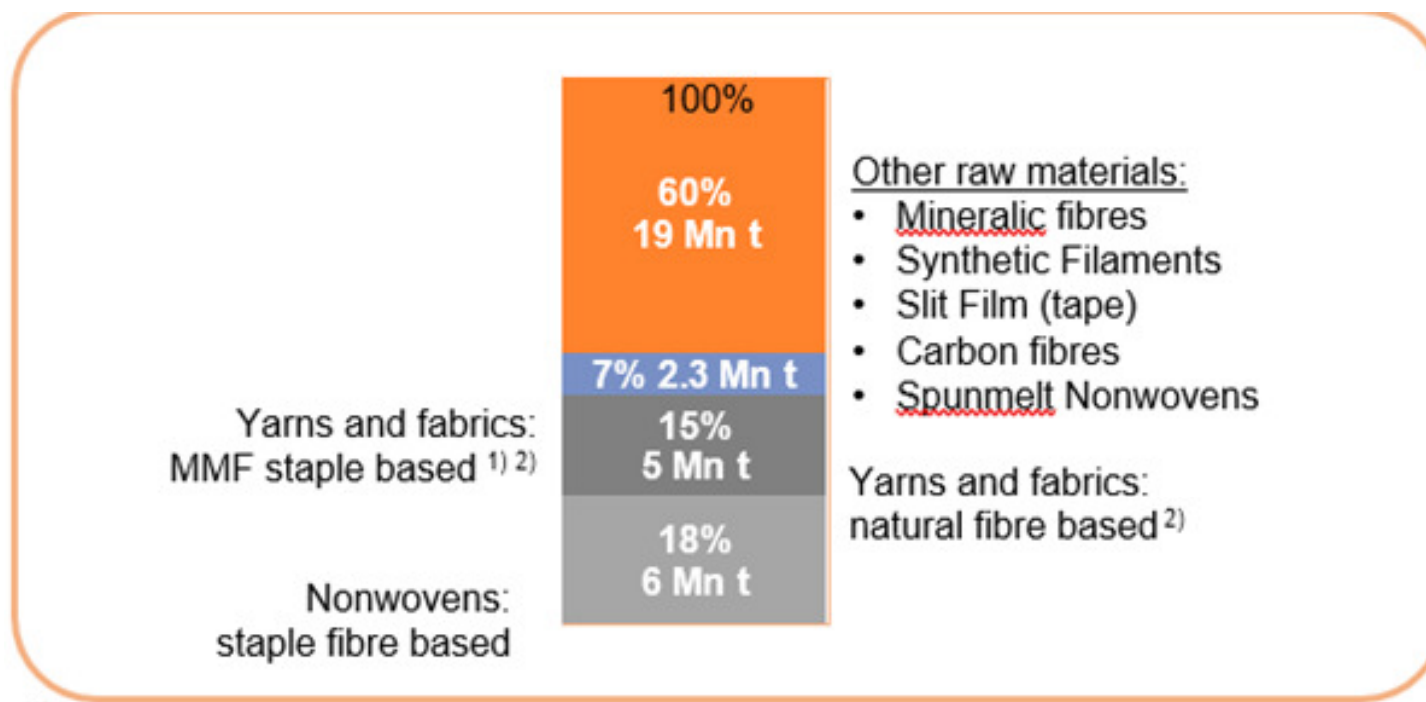
GLOBAL TECHNICAL TEXTILES MARKET 2017



- Global Market size of Technical Textiles was \$171 Bn in 2017 in value term
- In terms of volume, it is 32 Mn tonne



RAW MATERIAL FOR TT PRODUCTION (2017)



- Other raw materials:
- Mineralic fibres
 - Synthetic Filaments
 - Slit Film (tape)
 - Carbon fibres
 - Spunmelt Nonwovens

Yarns and fabrics: natural fibre based ²⁾

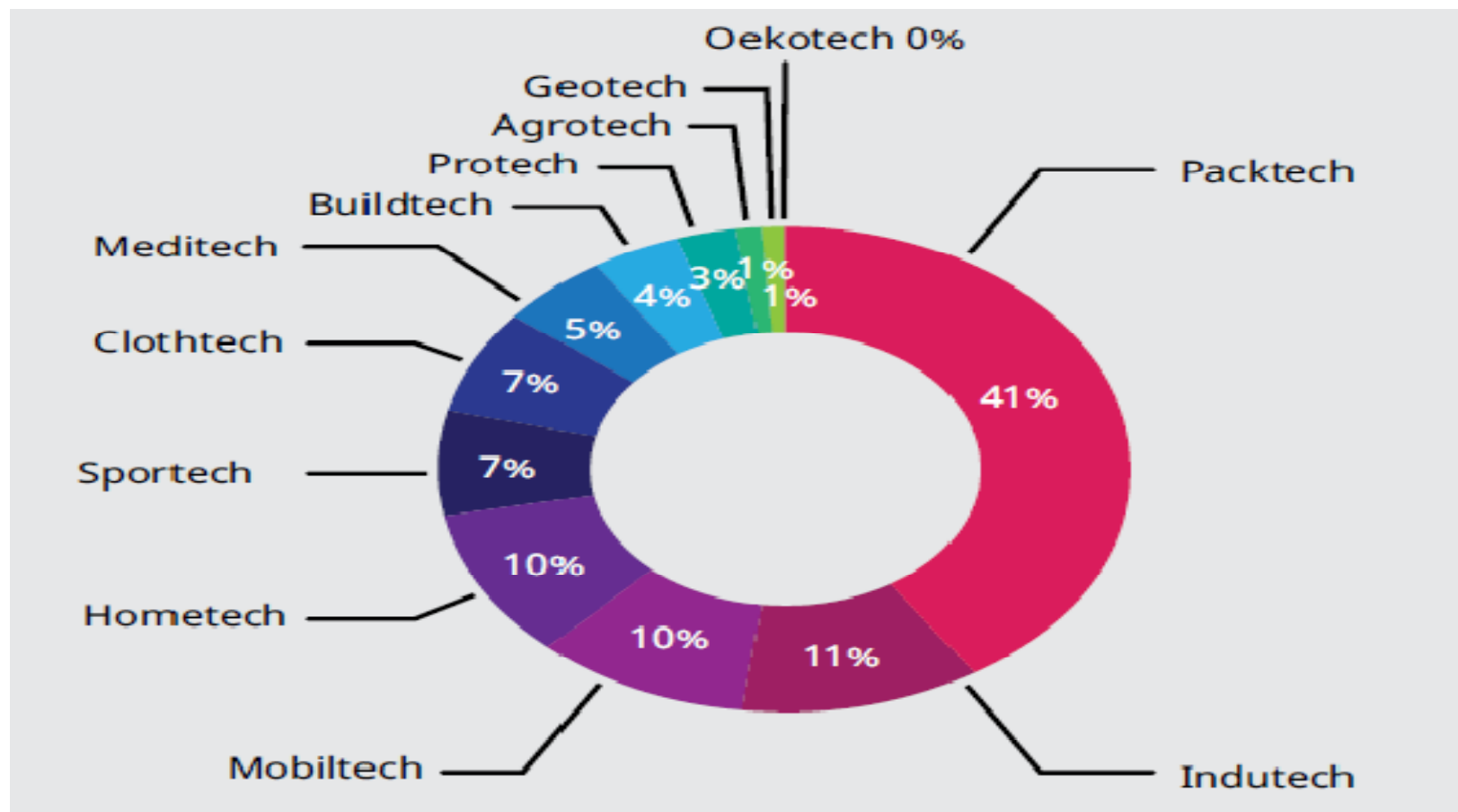
...
¹⁾ PET, PA, Viscose, ²⁾ without traditional, e.g., Poly Cotton workwear

- MM Textile contributes about 85% raw-material to the TT industry
- It includes 18% NW staple fibre based & 60 % synthetic filaments, Mineralic fibre, carbon fibres, etc
- Strengthening TT industry depends on strength of the MMF based industry





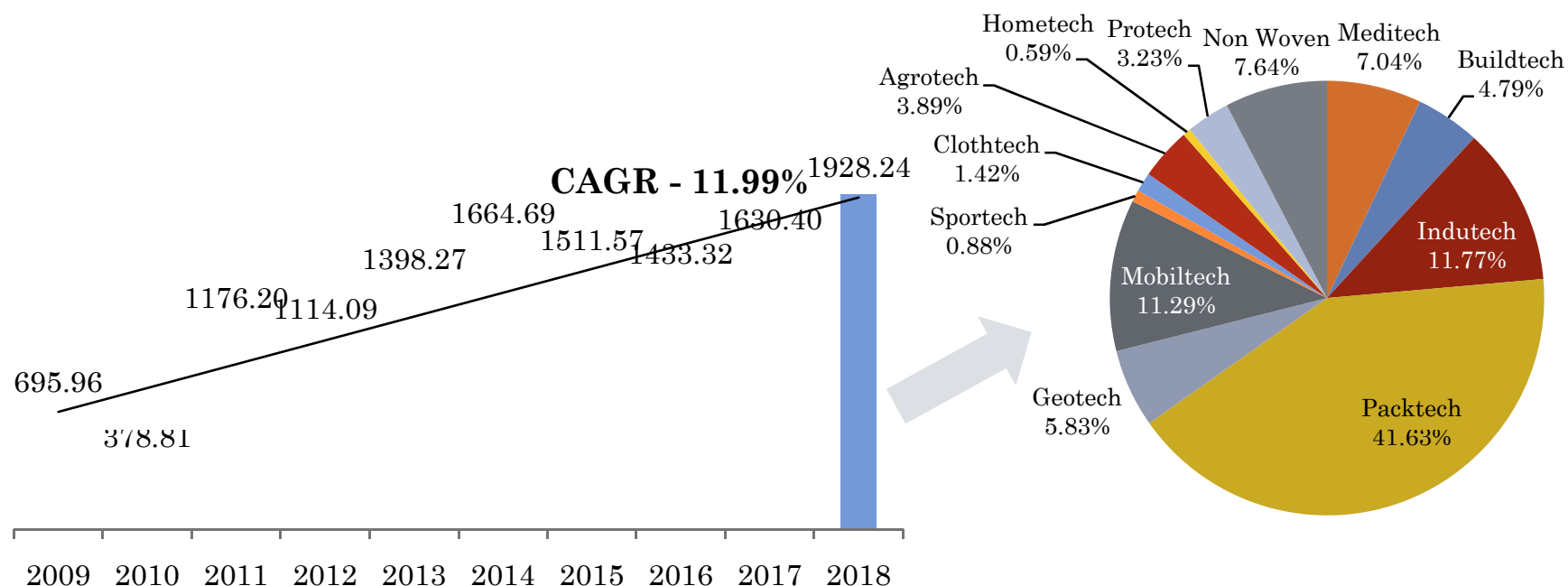
MARKET BREAK-UP OF INDIAN TT (2017-18)



- Technical Textiles mkt in 2017-18 is US \$ 16.48 Bn & expected to reach 30.44 Bn in 2025
- Packtech contributes about 41% followed by indutech (11%), mobitech (10%)
- Hometech (10%) & Sportech (7%) are emerging as major areas of growth



INDIA'S EXPORT OF TECHNICAL TEXTILES (US\$ MN)

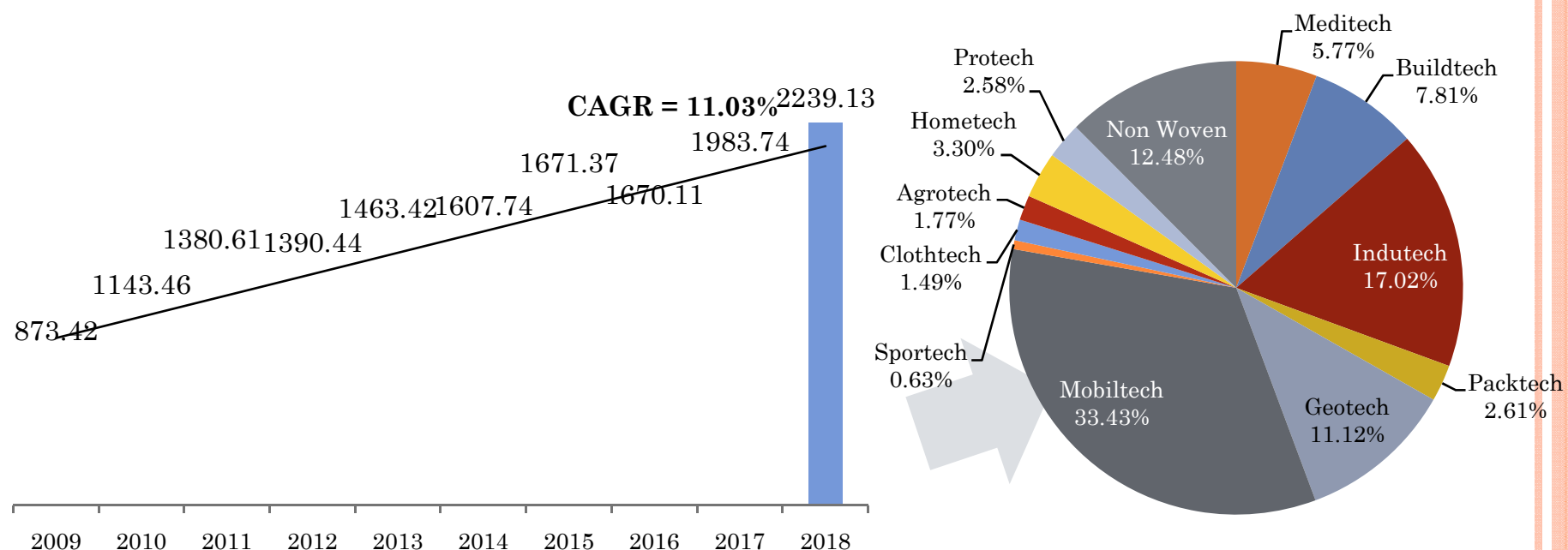


- Export up from \$0.7 Bn (2009) to 1.93 Bn (2018) @ 11.99% CAGR
- Accelerated export in Packtech(42%), indutech (12%), NW (8%), Geo (6%) & Agrotech (4%) in last 10 yrs.
- Contribution - MMF based TT (77%), other textiles (15.24%), Jute & Other vegetable fibres (4.56%), Cotton (2.64%) & wool (0.27%).
- MM TT exports recorded highest growth @ 15.39% CAGR in last 10 years.



Technical Textiles

INDIA'S IMPORT OF TECHNICAL TEXTILES (US\$ MN)



- Imports up from \$0.87 Bn (2009) to \$2.24 Bn @ 11.03% CAGR in last 10 yrs
- Accelerated imports – Meditech (43.72%), Packtech (24.81%), Protech (19.46%) and NW (19.63%) in last 10 yrs.
- Contribution – Mobiltech (33.43%), Indutech (17.02%), Non-Woven (12.48%) and Geotech (11.12%).



MMF SECTOR AND TEXTILE VISION
DOMESTIC US \$ 350 BN
EXPORT US \$ 300 BN





PROJECTIONS TO ACHIEVE TARGET ENVISAGED IN VISION DOCUMENT

- Govt. has set an ambitious target of achieving domestic market size of US \$350 Bn and export of US \$ 300 Bn by 2025.
- Domestic market for T&A coupled with strong export led growth strategy based on its strength & positions makes it potentially possible to more closer to proposed target.
- Study examines the ways and means for MMF sector to achieve this target.





DOMESTIC MARKET SCENARIO

- Domestic T & A market (including Non HH) is US \$128.67 Bn in 2018-19.
- Domestic consumption of T&A is likely to increase at 11.5% CAGR to reach US\$ 145.34 Bn by 2025
 - Household – \$ 105.89 Bn
 - Non-household – \$ 39.45 Bn
- Total mkt for T&A will be around US\$ 187.66 Bn by 2025 (US\$ 42.32 Bn exports).
- It will be short of about US\$ 462.34 Bn from textile vision of US\$650 Bn (US\$ 300 Bn export and US\$ 350 Bn domestic market).
- Textile market would be lower if adjusted for imports which are currently US\$7.3 Bn. If import grows at a CAGR of 12.29 percent, as in the past 3 years (2017-2019), it will reach to about US\$ 13.44 Bn by 2025.
- By growing in present rate, it is difficult to achieve target of US \$ 350 Bn 2024-25 of domestic market as per vision document.
- Study explored the possibility for achieving the target by 2030.



DOMESTIC SCENARIO TO ACHIEVE TEXTILE VISION'2030

\$ Bn

Year	Household					Non-Household*		
	MMF	Share	Others	Share	Total	MMF	Others	Total
2020	74.19	65.61	38.89	34.39	113.07	27.69	14.51	42.20
2021	83.69	68.23	38.96	31.77	122.65	31.23	14.54	45.77
2022	93.68	70.42	39.35	29.58	133.03	34.96	14.69	49.65
2023	104.27	72.26	40.02	27.74	144.30	38.92	14.94	53.85
2024	115.58	73.85	40.94	26.15	156.51	43.14	15.28	58.41
2025	127.69	75.21	42.08	24.79	169.76	47.65	15.71	63.36
2026	140.70	76.41	43.43	23.59	184.14	52.51	16.21	68.72
2027	154.73	77.47	45.00	22.53	199.73	57.75	16.79	74.54
2028	169.86	78.41	46.78	21.59	216.64	63.40	17.45	80.85
2029	186.21	79.25	48.77	20.75	234.98	69.50	18.19	87.70
2030	203.90	80.00	50.98	20.00	254.88	76.10	19.02	95.12

* Includes Technical Textiles

Policy induced growth aimed at strengthening MMF based textiles by enhancing its share to 80% by 2030 would lead to

- Domestic household demand would reach to \$169.76 Bn in 2025 and \$254.88 Bn in 2030
- Non Household demand would reach to \$63.36 Bn in 2025 and \$95.12 Bn in 2030
- The household segment is expected to grow at a CAGR of 7.57% and that of Non – Household segment at 8.61%.



EXPORT PROJECTIONS & TEXTILE VISION 2025

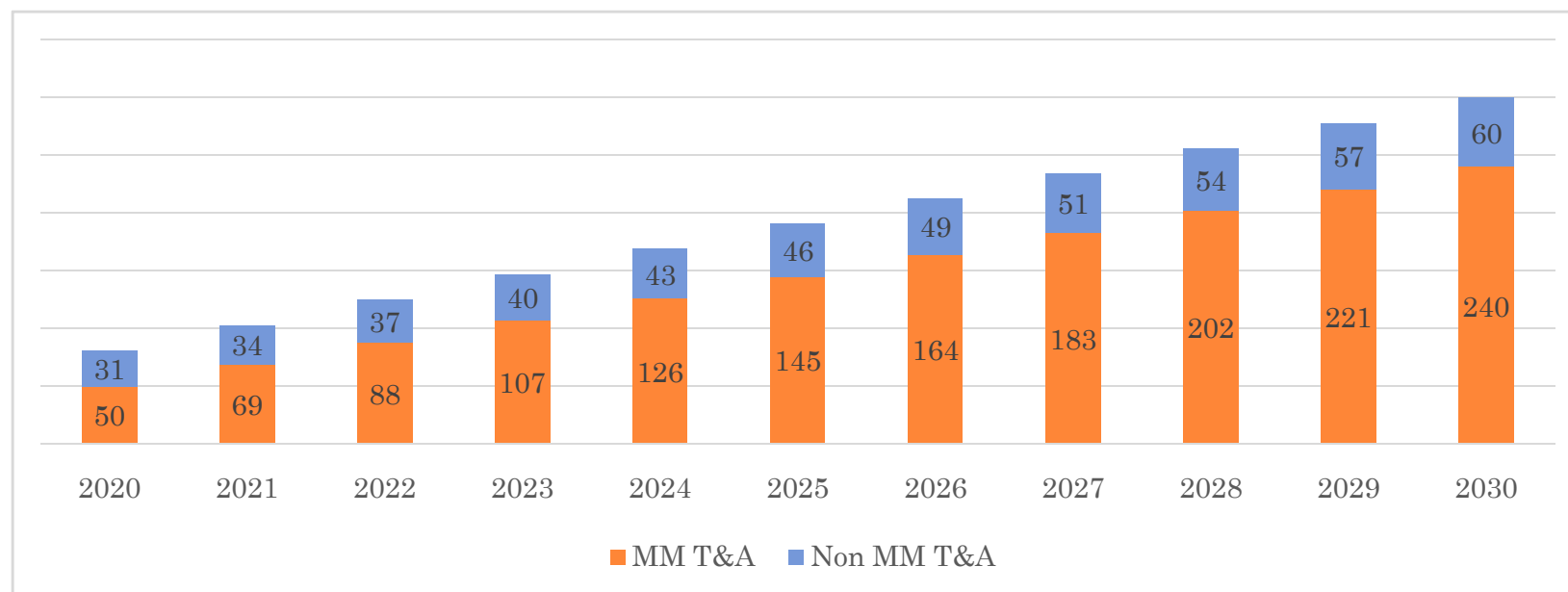
- India's present growth in export of T&A is about 3.03% during last ten years
- If business runs as usual upto 2025, India's export will grow to US\$ 42.33 Bn by 2025.
- Contribution of MMF textile will be \$ 10.84 Bn & apparels \$ 12.83 Bn.
- To achieve US\$ 300 Bn by 2025, contribution of MM T&A should be \$166 Bn & other fibre based products US\$ 134 Bn.
- To achieve target, MMF T&A should grow at a CAGR of **46.87%** & **others by 38.54%**.

Year	T & A	MM T & A		Other fibre T & A	
	\$ Bn	\$ Bn	Percent	\$ Bn	Percent
2020	51	24	47.96	24	51.83
2021	72	36	49.35	36	50.31
2022	103	52	50.78	50	48.83
2023	147	77	52.26	70	47.40
2024	210	113	53.78	97	46.01
2025	300	166	55.34	134	44.66



MM & GLOBAL CONSUMPTION PATTERN

- MMF will contribute about 84% of total fibre consumption between 2015-2030 (PCI Wood Mackenzie,).
- International Cotton Advisory Committee (ICAC) – 80% of fibre consumption will be contributed by non-cotton segment by 2025.
- If India can achieve this ratio of 80:20 (80% from MM T&A & 20 other non-MM T&A segments) by 2030, then export growth trajectories would be different.
- Projection shows that MM T&A exports need to grow @29% CAGR & non-MM T&A @7% CAGR to achieve textile export vision of US\$300 billion by 2030.



EXPORT PROJECTIONS UNDER BAU, MODERATE & OPTIMISTIC SCENARIO

(in US \$Bn)

Year	Fibre	BAU	Moderate	Optimistic	Ambitious
2025	Manmade T&A	12.92	17.19	23.57	145.00
	Non Manmade T&A	29.41	39.13	39.31	46.00
	Total	42.33	56.32	62.88	191.00
2030	Manmade T&A	14.83	26.90	39.75	240.00
	Non Manmade T&A	30.79	55.86	61.52	60.00
	Total	45.62	82.76	101.27	300.00

- Performance of T&A sector in past was better than current scenario wherein emerging nations such as Viet Nam, Bangladesh, Cambodia etc are growing & filling up space vacated by China.
- Growth in exports could achieve a CAGR of 8% in coming five years & will reach **US \$ 56.32 Bn in 2025 & US \$ 82.76 Bn in 2030.**
- Contribution of MM T&A would be \$17.19 Bn and others US\$ 39.13 Bn in 2025
- In 2030, MM T&A would be US\$ 26.90 Bn and others US\$ 55.86 Bn.

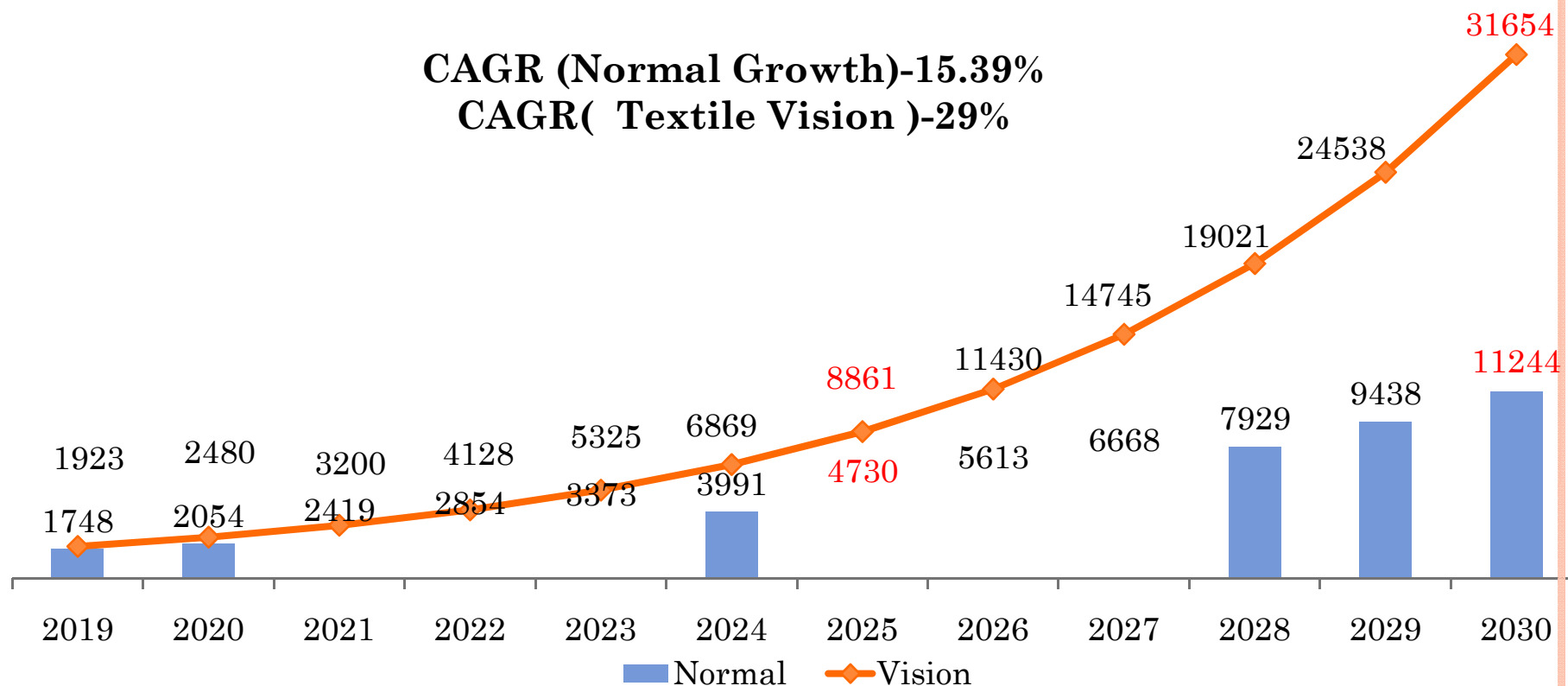




Achieving Vision

CONTRIBUTION OF MM TT EXPORTS TO TEXTILE VISION

CAGR (Normal Growth)-15.39%
CAGR(Textile Vision)-29%



- In normal case scenario, with a CAGR of 15.39%, Manmade TT exports would reach to \$4.73 in 2025 and to \$11.24 Bn in 2030
- Policy induced growth with CAGR of 29% may lead to projected exports of \$ 8.86 Bn in 2025 and \$ 31.65 Bn in 2030.
- Launch of Mission of Technical Textiles will help in achieving growth





INVESTMENTS REQUIRED TO MEET VISION

Investments

(in US \$Bn)

Year	Fibre	BAU	Moderate	Optimistic	Ambitious
2025	Manmade T&A	5.10	24.35	26.41	98.21
	Non Manmade T&A	5.69	26.67	27.62	30.71
	Total	10.80	51.02	54.03	128.92
2030	Manmade T&A	6.58	43.52	47.57	138.31
	Non Manmade T&A	7.26	47.02	49.56	34.58
	Total	13.83	90.54	97.13	172.88

- T&A industry attracted an investment of \$ 68.5 Bn under TUFs
- Industry also attracted \$6.85 Bn of investments privately (Non TUFs) (TC Primary Survey of MM TVC)
- FDI investments in the sector till date were to the tune of \$3.19 Bn and an additional FDI of US \$ 6.04 Bn is expected to be brought in by 2030.
- As evidenced from the survey, 54% of the investments are to be subsidised.
- Total outgo under subsidy under four scenarios is \$0.57 Bn, \$3.72 Bn, \$3.99 Bn & \$7.10 Bn respectively and subsidy for MMF T&A sector is \$ 0.27 Bn, \$1.79 Bn, \$1.95 Bn & \$5.68 Bn respectively by 2030.



MM TVC & Industry concerns

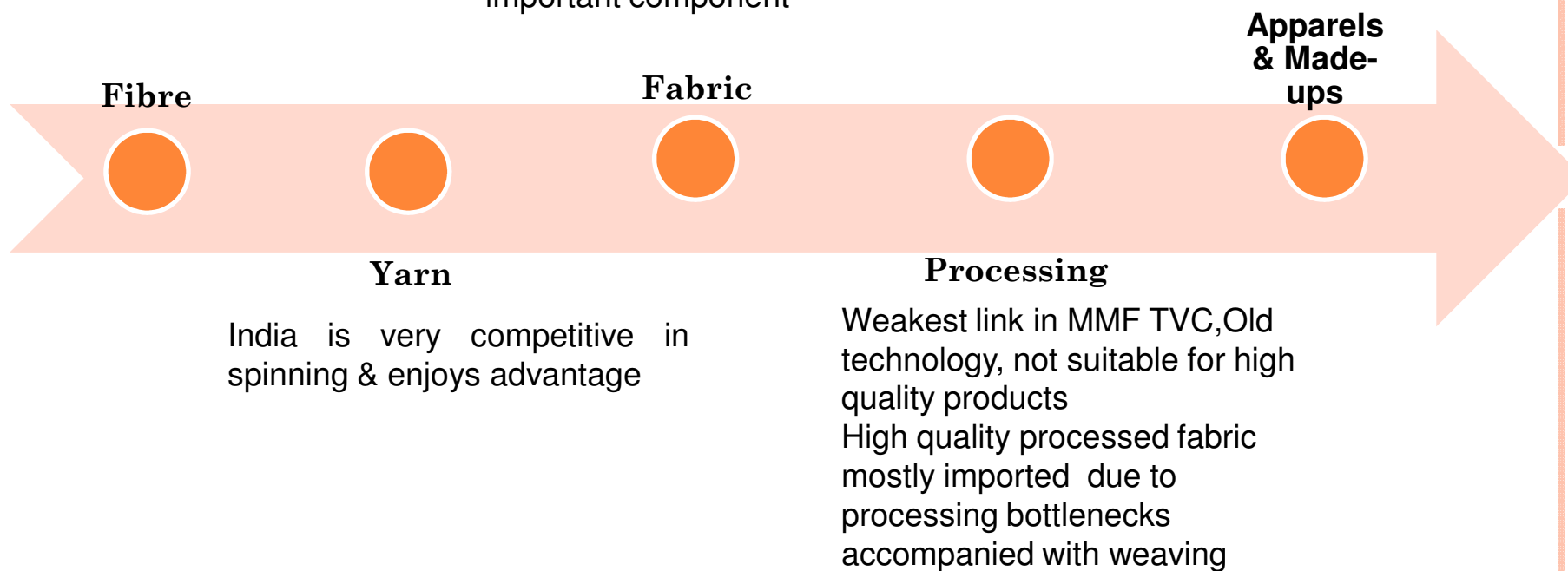


MMF TEXTILE VALUE CHAIN IN INDIA

India is leading MMF manufacture in the world next to China. Have adequate capacity but utilisation is less

Weak link in MMF TVC
Highly unorganised & cotton focussed
Low production of value added 100% MMF based fabric. Obsolete technology.
Highly unorganised & SMEs based.
Blended Fabrics is emerging as an important component

Highly SMEs based and lacks in scale economies.
initial investment can be low
Bigger players may not benefit much as need for technology is less. Lacks in brand value realisation



India is mostly dominating in three value chain components – fibre, yarn and apparels & made-ups, while there exist significant improvement opportunities in fabric and processing.



SPINNING

Present Scenario

- Spinning segment is modernised & organised.
- India is well placed in producing both Filament and spun yarn and is the 2nd largest player next to China.
- Has capacity to produce 100% MMF and blended yarns.
- Produced 4.0 Mn tons filament yarn in 2018 with installed capacity of 6.5 Mn tons
- Produced 2.2 Mn tons MM staple fibres in 2018 with 3 Mn installed capacity.
- Produced 1.1 Mn ton blended yarn in 2018 with a share of 18% of total spun yarn
- Have good strength in polyester as compared other MMF based yarns
- While Ludhiana and Surat has emerged as major centre for Polyester and Acrylic Spinning, Silvassa has emerged, Vapi & Daman emerged for texturising units.
- Coimbatore and adjacent area has emerged as Viscose Rayon, Bhiwandi for Polyester/Viscose blend.

Key Challenges

- **Low Capacity utilisation**
- **Less Efficiency & Productivity: Unavailability of skilled workforce like operator, etc, high attrition rate**
- **High Power cost & lack of modernisation by the SME units without auto doffing system**
- **High Wastage**



WEAVING

Present Scenario

- Largest No. of looms with 64% global installed capacity. About 5.0 lakhs units are operating in the country by employing about 22.56 lakh power-looms in 50 clusters.
- Only 1.05 lakhs are modern looms and hence 95 % looms are old & out dated.
- Slow pace of Technology up-gradation i.e. 67% of looms are shuttle looms & 33% shuttle-less looms.
- Highly unorganised SME based and is the weakest link in entire value chain due to low productivity, defects in fabrics manufacturing, lack of scale economy (Average looms per unit is 5 to 20 only), etc
- MMF fabrics products accounts 23% only due to domination of cotton based product. Blended fabrics manufacturing is growing during last 10 years.

Key Challenges

- **Technology and lack of Scale economy are major factors influencing the segment**
- **Lack of quality of the product leading to high wastage & defective fabrics**
- **Less emphasis on quality & compliance to international standards**
- **Less focus of product and process development**
- **Low production efficiency and lack of investment in weaving segment**



KNITTING

Present Scenario

- India has good cluster based Knitting industry with approx.50,000 units. Tirupur, Ludhiana has emerged as major cluster.
- Production of knitted fabrics is 7670Mn Sqr mtr in 2018 & growing at 3.9 % CAGR
- Ludhiana with 12000 knitting machines is rhe major MMF and blended fabrics manufacturing centre followed by Delhi NCR with 2000 machines, while Tirupur(27000), Kolkata (2000) and Maharashtra/Gujarat (2000) are mostly in cotton knitted fabrics.
- More focused in manufacturing of circular knitted fabrics

Key Challenges

- Approx.30 percent of fabrics are manufactured in Knitting sector
- Sector is more oriented towards cotton fibre. Having enormous opportunity of MMF, reorientation of the manufacturing base for MMF and blend is utmost important for realising full potential.
- Highly decentralised and SMEs based lacks scale economy
- Import of Weft Knitted fabrics is growing at 11.70 CAGR





MMF Textile Value Chain (TVC)

PROCESSING

Present Scenario

- Covers Sizing, De-sizing, bleaching, Dyeing & finishing and makes highest value addition to the fabrics.
- 90 % Processing units are in SMEs. Out of 5000 units, **only 200 units are integrated with forward & backward value chains**
- Mostly cluster centric and mostly doing job work & fragmented in nature
- Technology level is low in the industry so also in quality & conformity to international standards.
- Zero liquid discharge system as mandated in India creates constraints for SMEs.
- Almost all units are limited to basic processing activities. Processing for Specialty Manmade Fabrics is almost missing/ not developed as per the requirement of the industry, which adversely affects manufacturing of value added products. It is the weakest link in the entire MMF Textile Value Chain
- Lack of Skilled Manpower is an important concern emerged in the survey

Challenges

- Inadequate availability infrastructure, power and water
- Effluent Treatment and of skilled manpower are key challenges
- Out dated technology leading to low quality & efficiency.
- Slow in adopting international quality norms, compliance system & changed fashion needs
- Lacks in developing single step process to make fabrics suitable for subsequent process



MMF Textile Value Chain (TVC)

APPAREL AND MADE UPS

Present Scenario

- Highest valued adding segment entire MMF Textile Value Chain
- Highly unorganized and about 85 % of units belongs to MSMEs
- Most of the units are working on Job work basis and quality is major issue
- Fragmented nature of industry is also adversely affecting the Value Chain

Challenges

- Orientation towards manufacturing cotton garments is high leading to less than expected focus on MM Textiles
- Defect in manufacturing is quite high as compared to competing countries. Quality and Compliance is an important issue of sector. .
- Technology bottleneck is also creating constraints
- Availability of skilled manpower is an important issue for manufacturers





TECHNICAL TEXTILES

Present Scenario

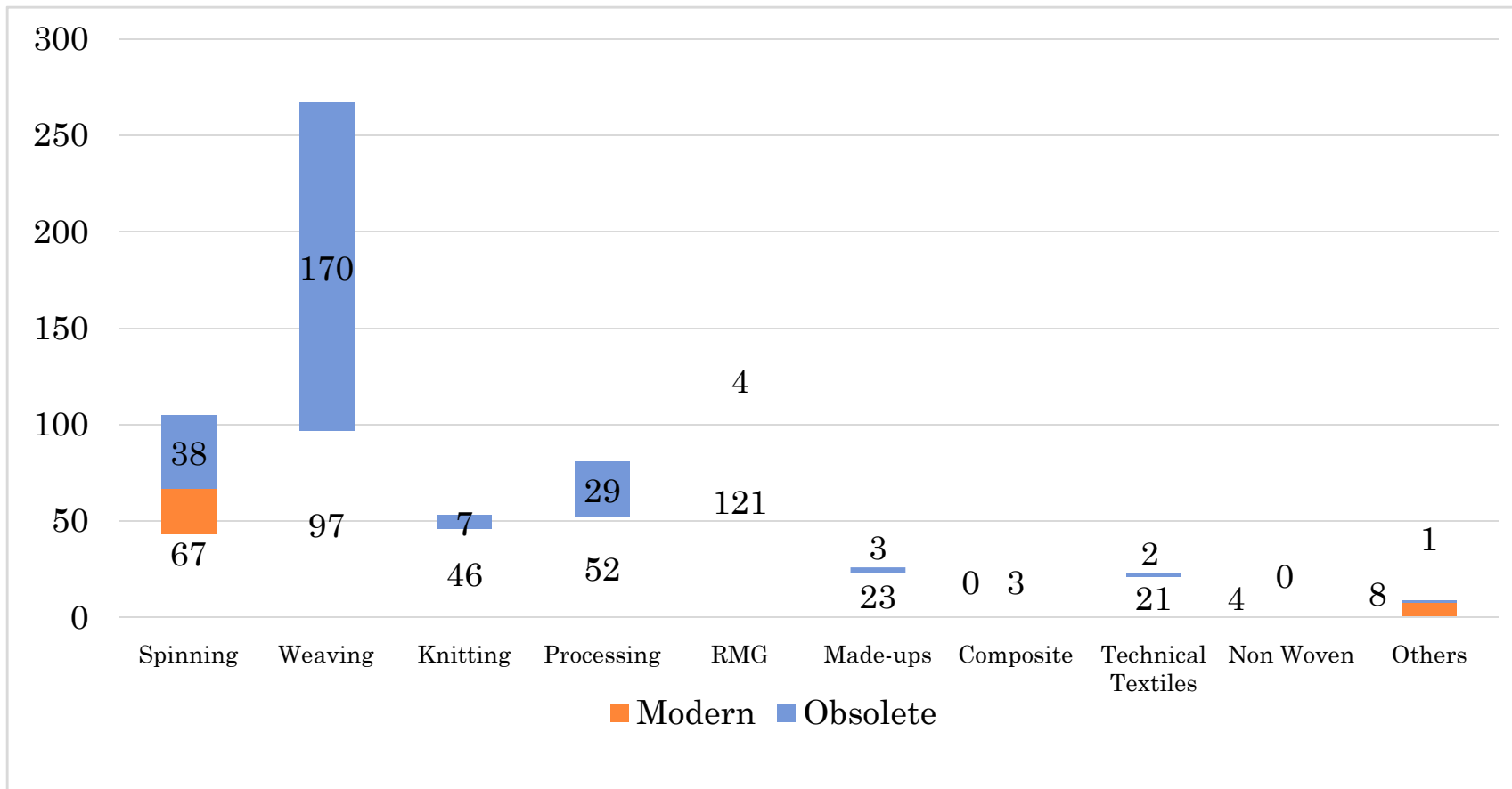
- Technical Textile industry highly depends on MMF textiles for raw material & most of the raw materials required for TT like Polyester, Polypropylene, Nylon, Polyethylene re available in India.
- India lacks in raw materials like Carbon, Aramids and depends on import for value addition.
- India has developed high tech weaving, coating and knitting technology for TT industry.
- Non woven has been emerging a major segment in TT.
- Highest value adding segment entire MMF Textile Value Chain
- India's domestic market is about \$16Bn and has exported \$ 2.0Bn and imported \$3.0Bn in 2018.

Challenges

- Lack of awareness about TT products & availability of indigenous technology
- Contribution & Performance of the segments like Meditech, Geotextiles, Agrotech, Non-woven, Buildtech need to be accelerated.
- High competition from China & EU
- Bulk supply of China at aggressive price makes Indian suppliers less competitive.
- Import substitution potential of the industry is yet to be explored

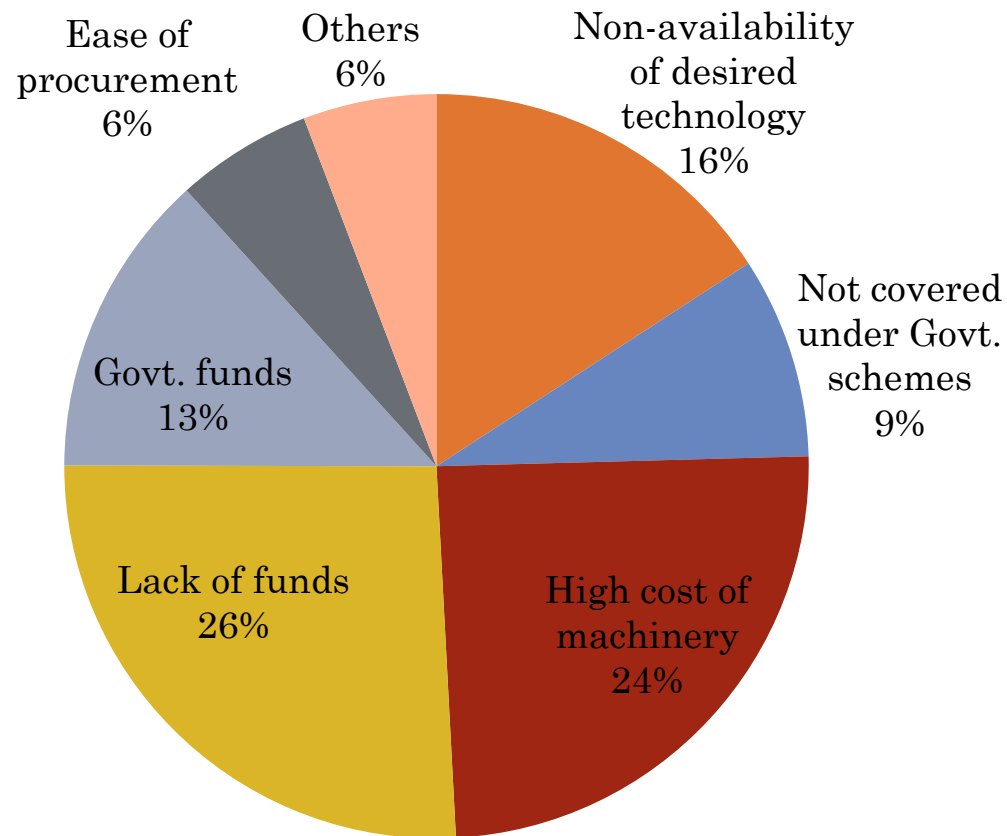


TECHNOLOGY CONSTRAINTS MM TVC



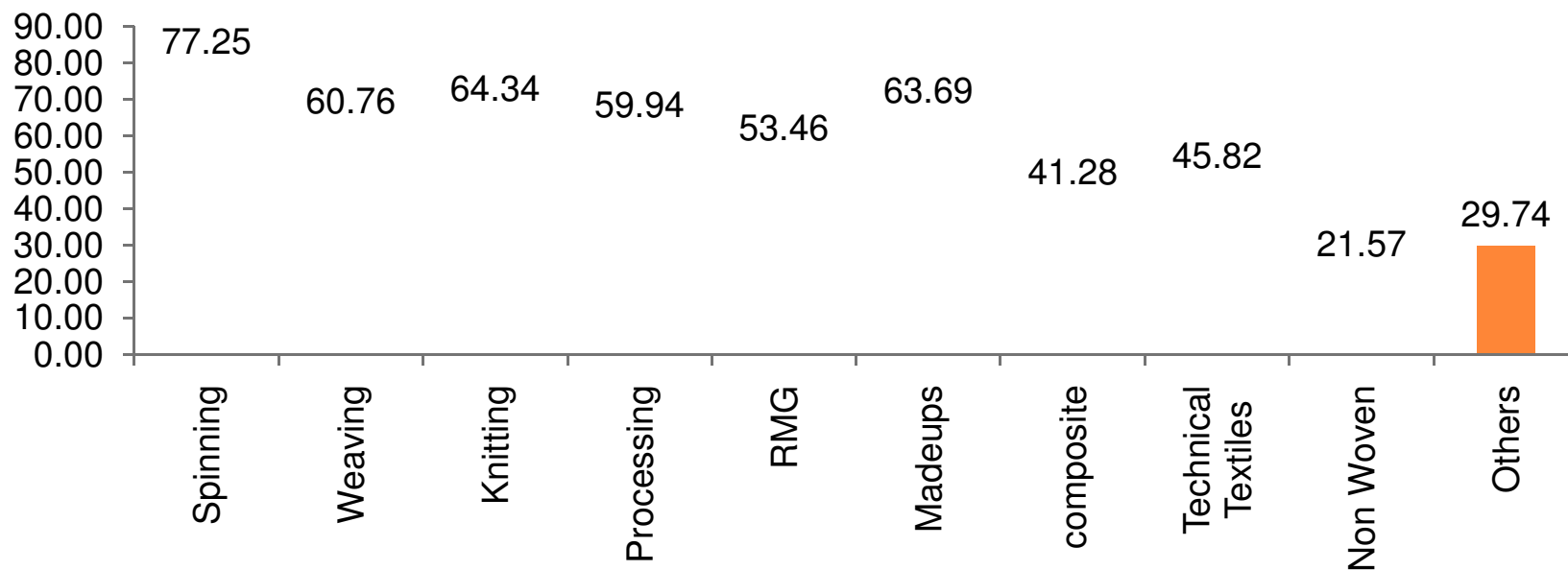
- 36% MMF spinning industries use old & obsolete technology in production.
- Weaving industry is experiencing major technological bottle necks as more than 98 percent units are using old technology.
- About 36 percent of the processing industries were using obsolete technology.
- Hence, weaving and processing industries are two major technological constraint subsector in the MMF textile value chain of the country

REASONS FOR NOT UPGRADING TECHNOLOGY



- Around 46% of industry are not willing to upgrade technology, the reasons thereof are
 - Lack of funds 26%
 - About 24% high cost of machinery
 - About 16% of the industry have reported non-availability of desired technology
 - Non availability of Govt funds (13%), non-coverage in Govt schemes (9%)
 - Difficulties in procurement (6%)

CONSTRAINTS ON CAPACITY UTILISATION



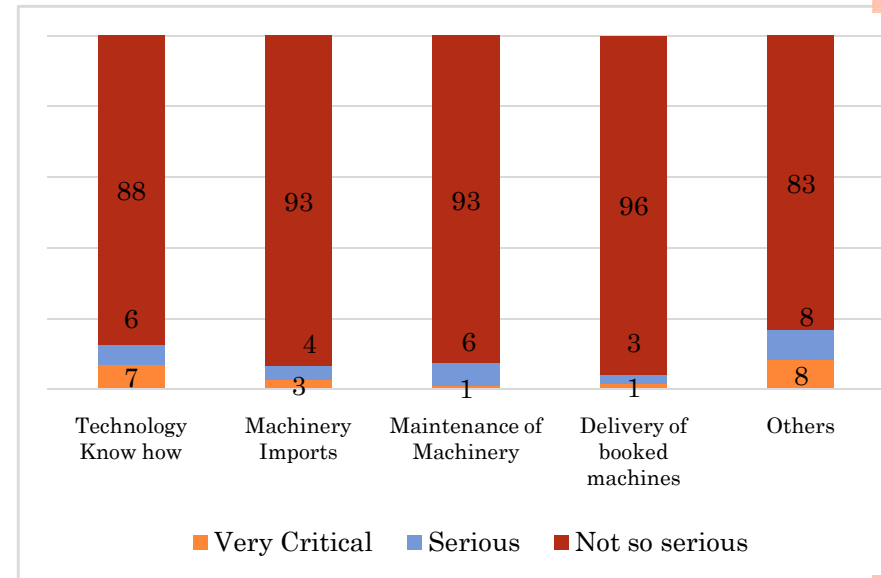
- Average capacity utilisation in the entire TVC is 59.22%.
- Highest CU is witnessed in Spinning followed by Knitting (64.34%), Made-ups (63.69%), Weaving (60.76) & least CU is observed in Non Wovens (21.57%).
- Issues associated with capacity utilisation are:
 - Lack of orders (46%)
 - Non availability of labour (15%)
 - Competition (11%)
 - Labour Issues (8%)
 - Lack of working capital (6%)
 - Insufficient raw material (5%)



INDUSTRY CONCERNS

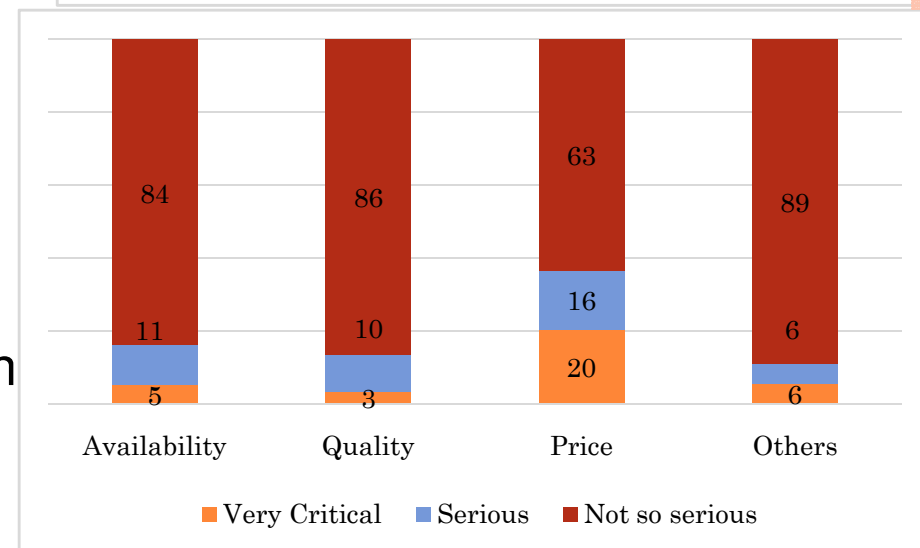
○ Technology

- Technology know how
- Lack of machinery availability
- Others (Awareness on source of machinery, Non-availability of Lab facility for technical textiles, etc)



○ Raw Material

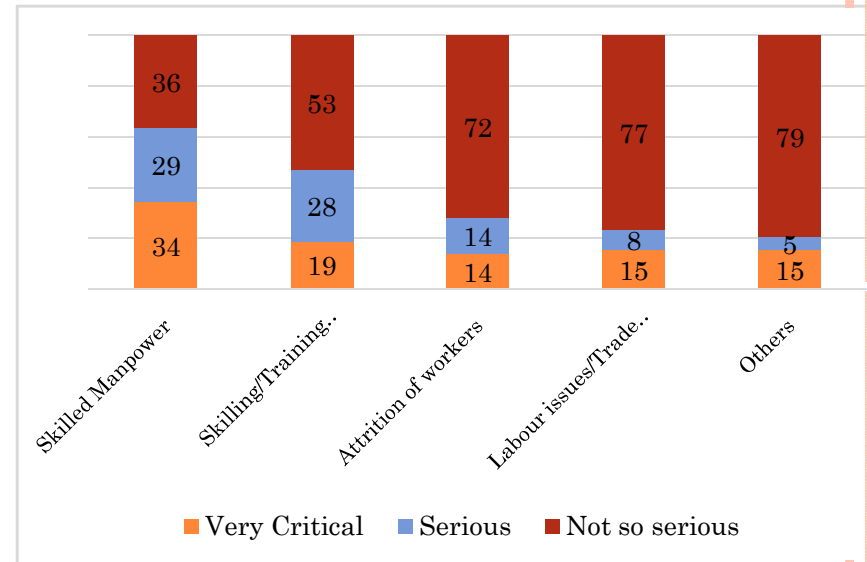
- Price
- Availability
- Quality
- Others (Anti dumping duty on imports)



INDUSTRY CONCERNS (CONTD...)

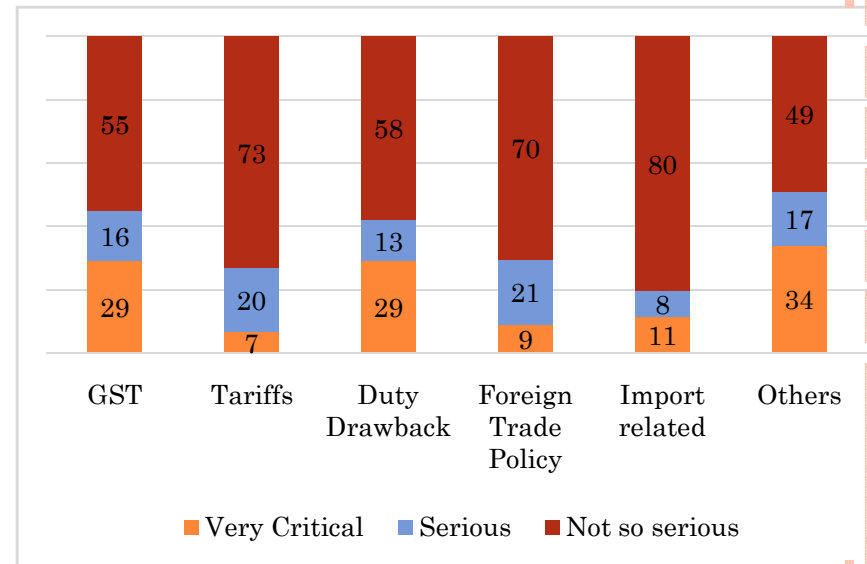
Manpower

- Lack of skilled manpower
- Lack of skilling/training programmes
- Labour trade union issues
- Attrition of workers
- Others (low labour productivity, strict implementation of labour laws, etc)



Fiscal Levies/Duty Structure

- GST
- Duty drawback
- Import related
- Others



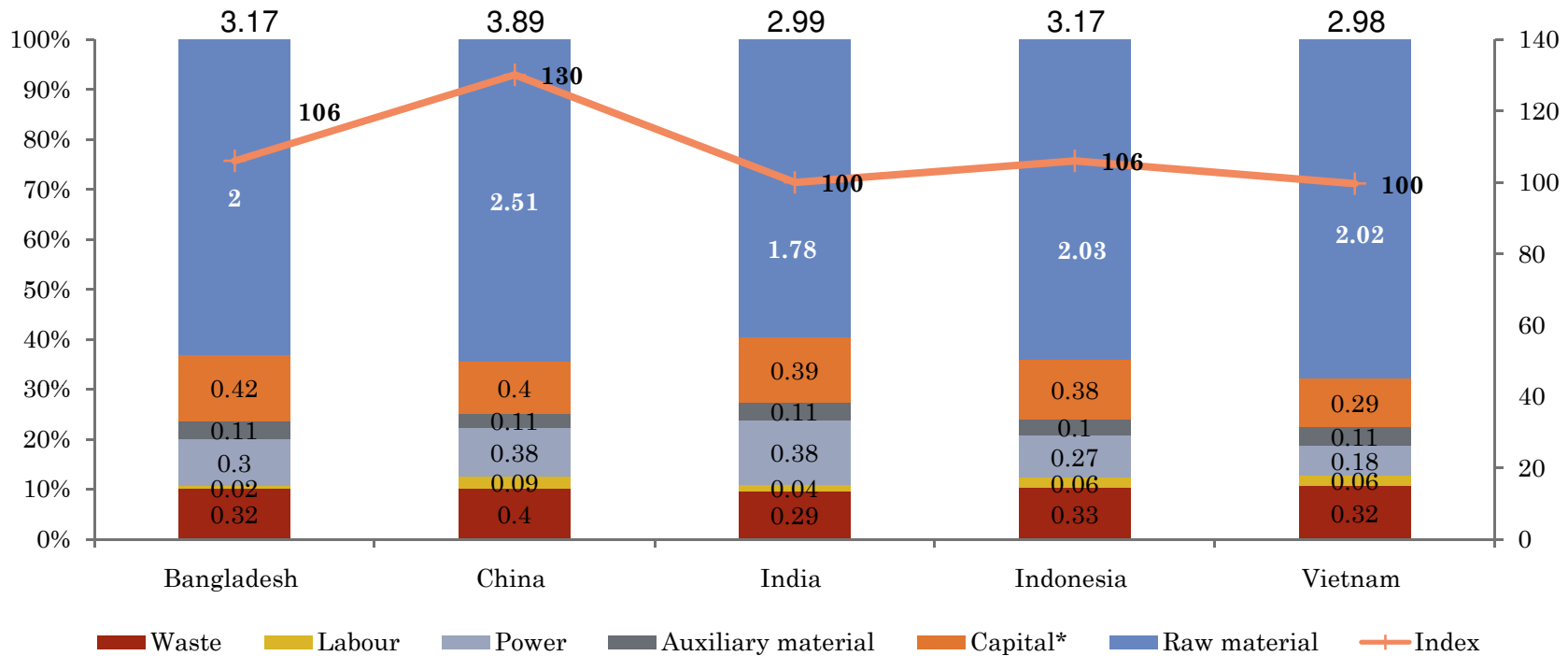


COMPARATIVE MARKET ANALYSES OF INDIA VIS-À-VIS FOUR PEER COUNTRIES & COST BENCH MARKING

1. BANGLADESH
2. CHINA
3. INDONESIA
4. VIET NAM



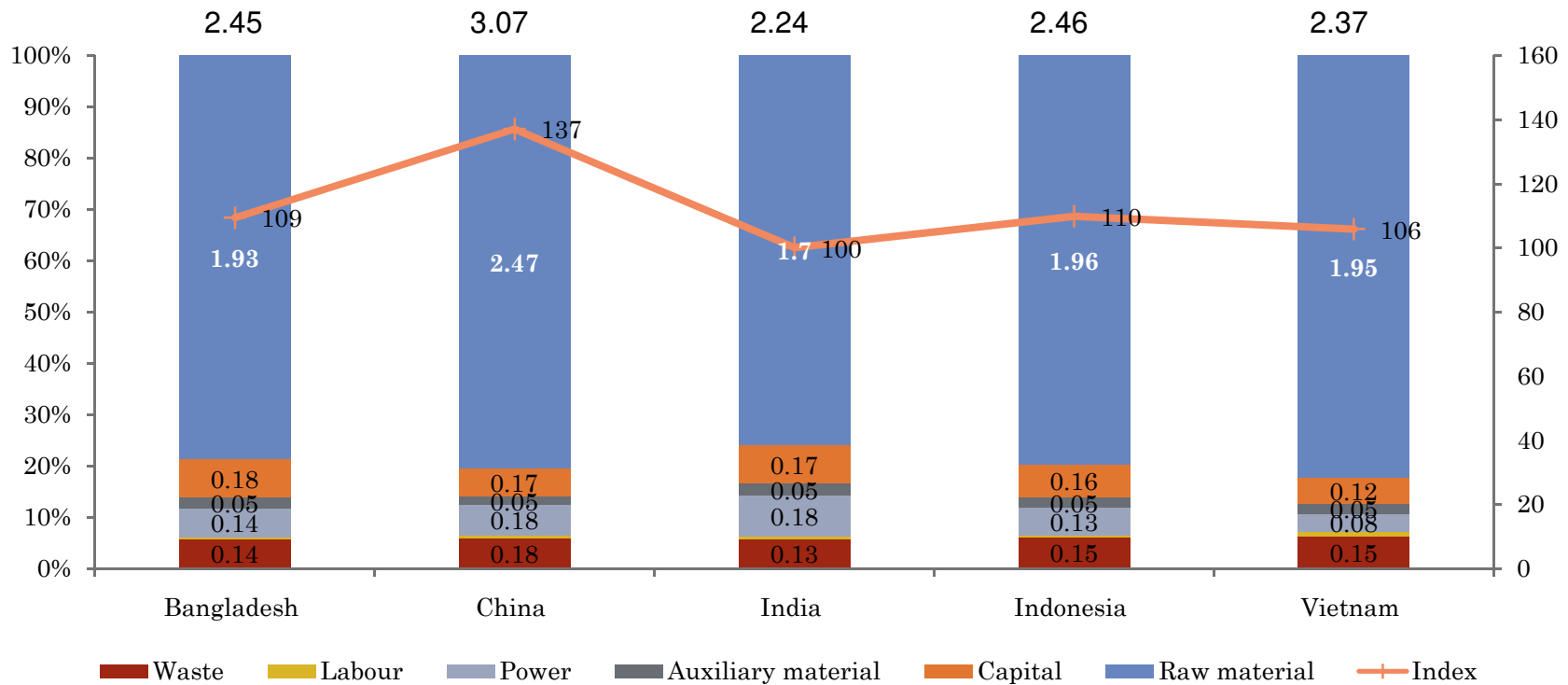
PRODUCT WISE MANUFACTURING COST – SPINNING RING NE 30 YARN (US \$/KG)



- The raw material cost is the major component of the manufacturing cost of Ring NE 30 yarn and varies from 60% in India to 68% in Viet Nam.
- Cost to Capital is the second major component in the manufacturing cost of Bangladesh (13%) and India (13%).
- Wastage is the second major component in case of Viet Nam (11%).
- Cost of capital as well as wastage is 10% in China
- In a nut shell, the production of ring yarn (NE30) is costlier in China, Bangladesh and Indonesia as compared to India by 30%, 6%, 6% respectively.

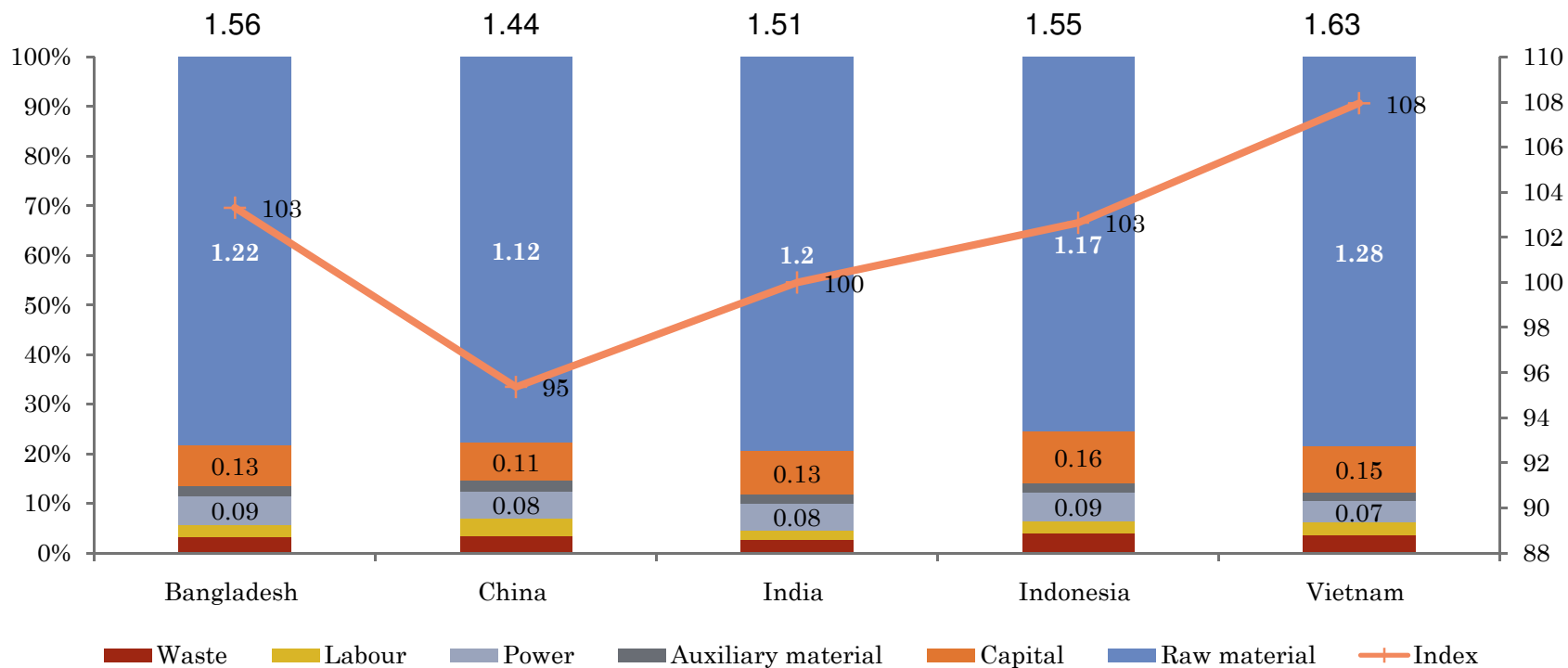


PRODUCT WISE MANUFACTURING COST – SPINNING RING NE 20 YARN (US \$/KG)



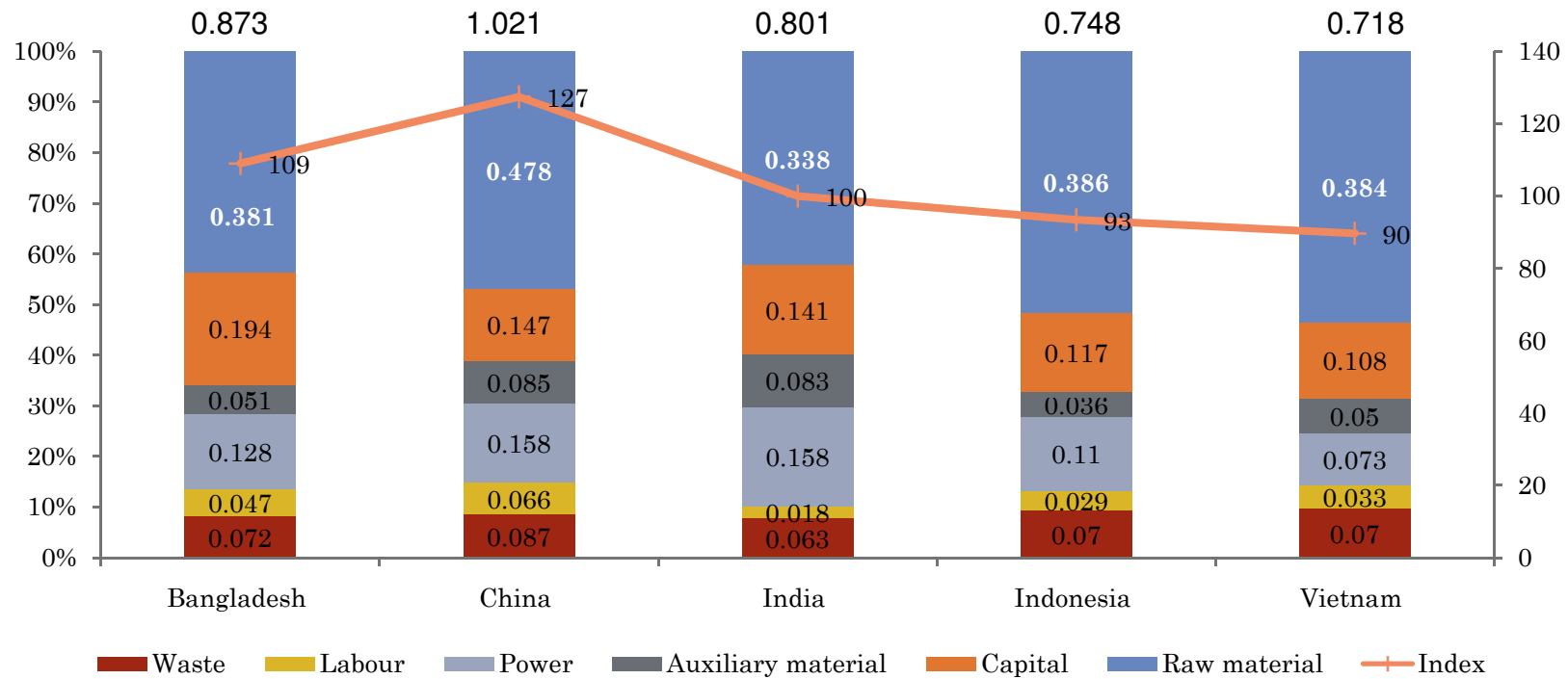
- The raw material cost is the major component of the manufacturing cost of Ring NE 20 yarn and varies from 76% in India to 82% in Viet Nam.
- Cost to Capital is the second major component in the manufacturing cost of Indonesia (7%), Bangladesh (7%). Capital cost and power cost in India is 8%. Cost of capital , power as well as wastage is 6% in China.
- Over all, the production of ring yarn (NE 20) is costlier by 37% in China, 10% in Indonesia, 9% in Bangladesh and 6% in Viet Nam as compared to India.

PRODUCT WISE MANUFACTURING COST – TEXTURING (75DEN/72F) (US \$/KG)



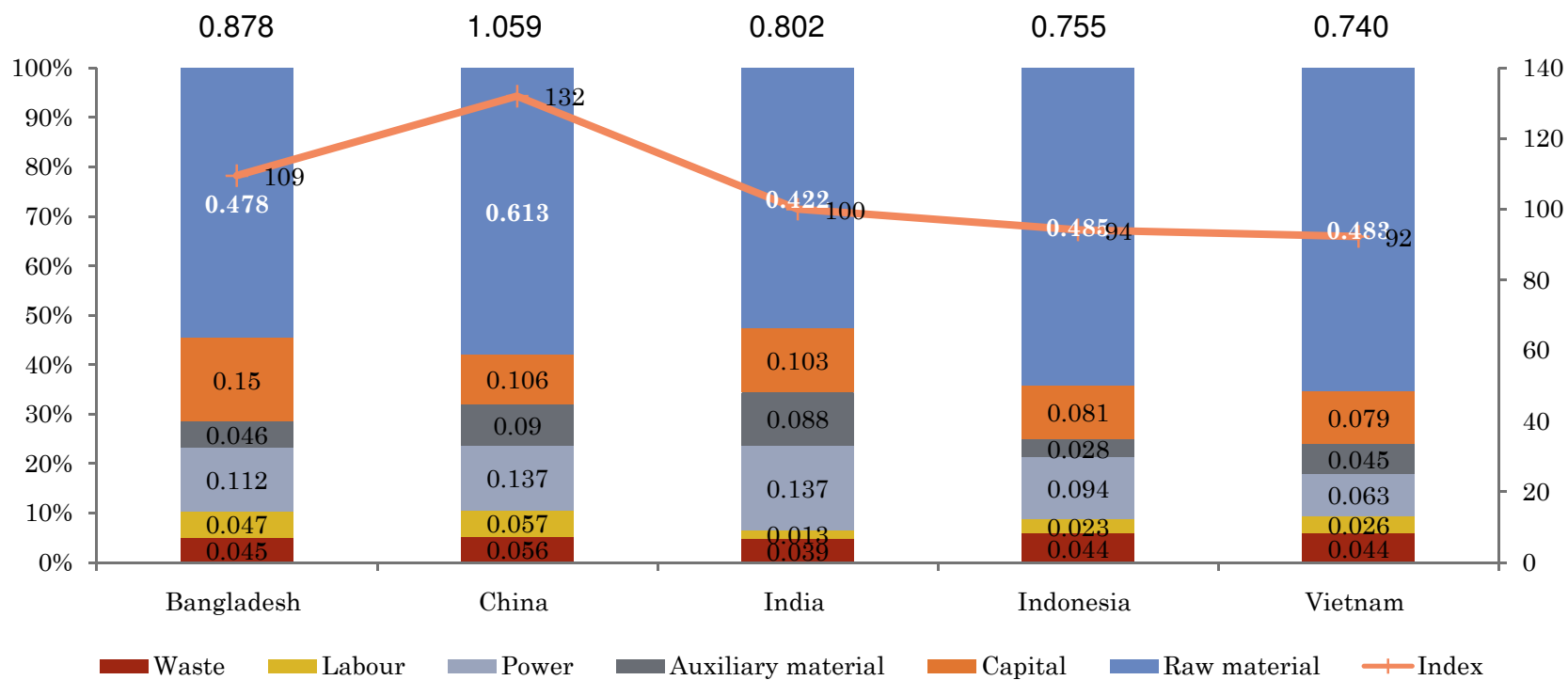
- The raw material cost is the major component of the texturing cost of Polyester (75den/71F) and varies from 75% in Indonesia to 79% in India & Viet Nam.
- Cost to Capital is the second major component in the manufacturing cost followed by power in all these nations..
- Over all, the production of textured yarn is costlier in Viet Nam, Indonesia and Bangladesh by 8%, 3% and 3% respectively. In China the manufacturing cost is less by 5% as compared to India.

PRODUCT WISE MANUFACTURING COST – RING YARN FABRIC (US \$/M)



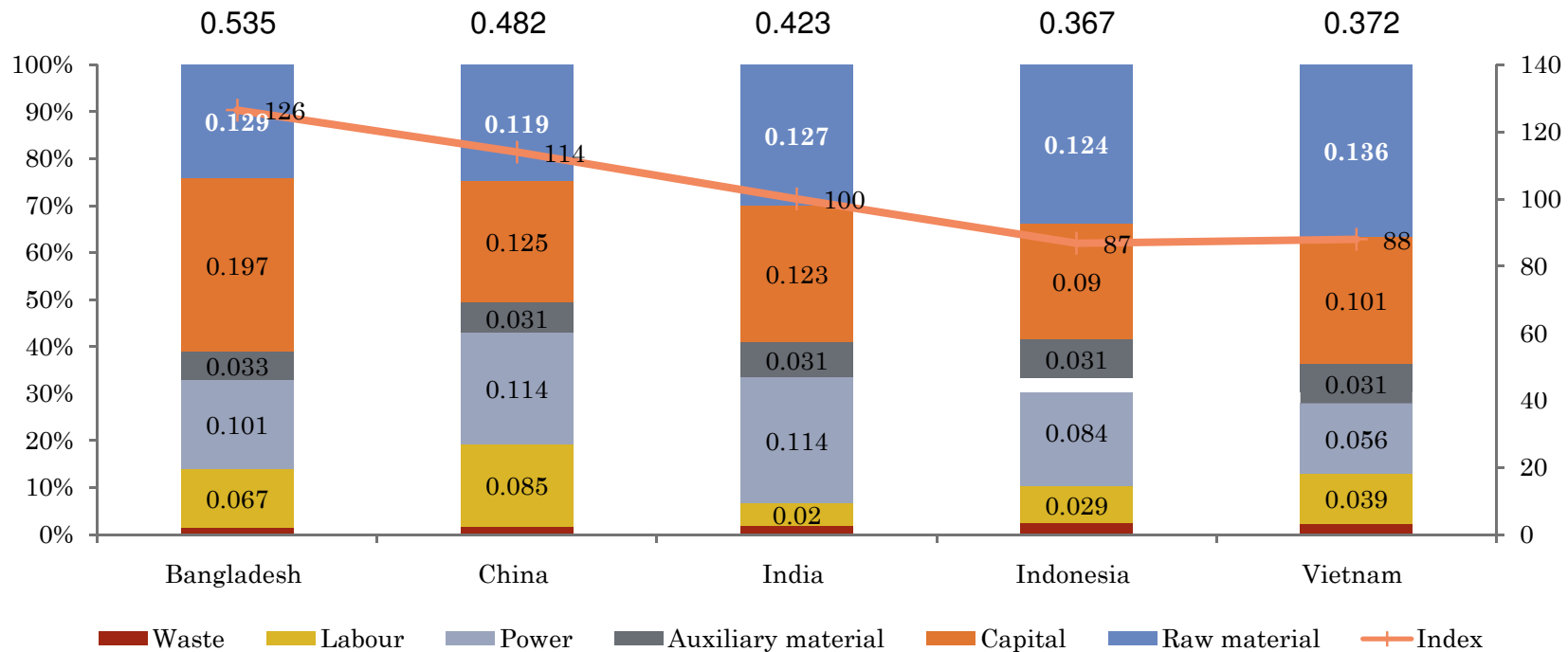
- The raw material cost is the major component of the manufacturing cost of Ring yarn fabric and varies from 42% in India to 53% in Viet Nam.
- Cost to Capital is the second major component in Bangladesh , Indonesia and Vietnam while power in India and China in the manufacturing cost.
- Over all, the production of ring yarn fabric is costlier by 27% in China and 9% in Bangladesh and it is less by 10% in Viet Nam and 7% in Indonesia as compared to that in India

PRODUCT WISE MANUFACTURING COST – ROTOR YARN FABRIC (US \$/M)



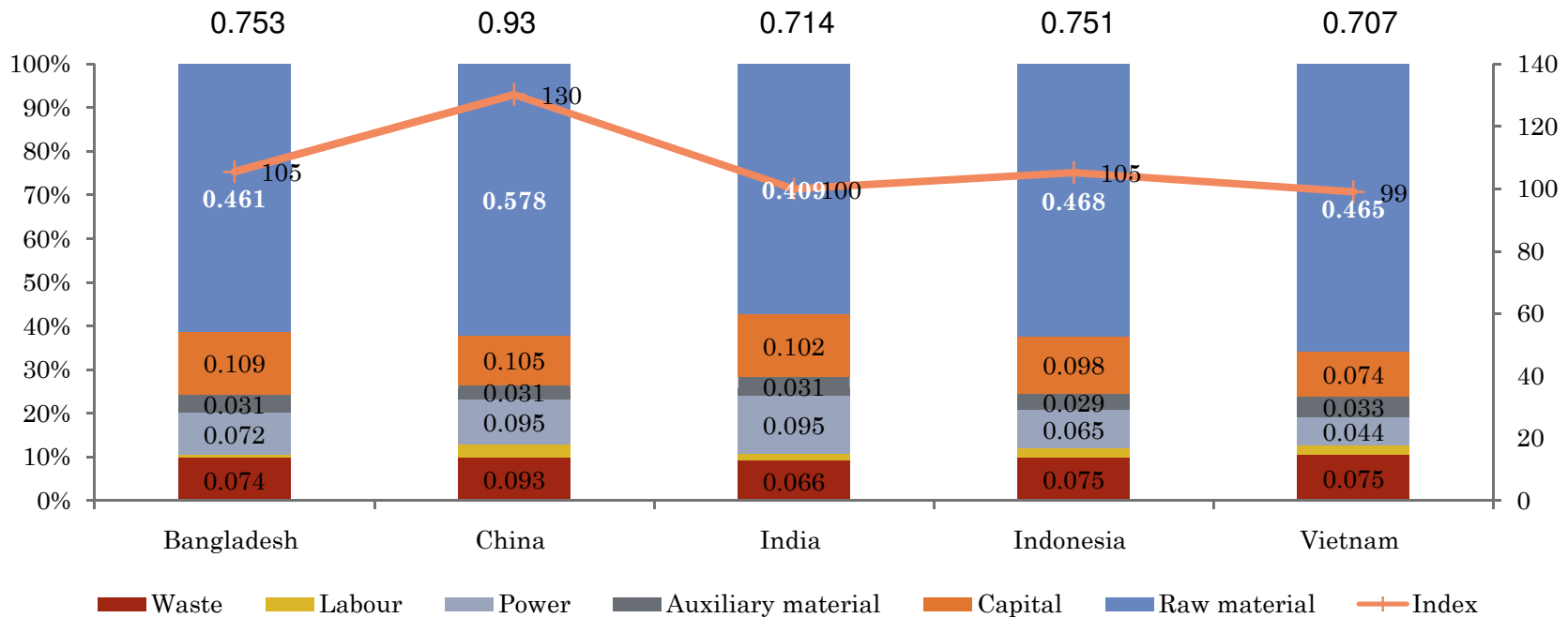
- The raw material cost is the major component of the manufacturing cost of rotor yarn fabric and varies from 53% in India and 64% in Indonesia.
- Cost to Capital is the second major component in the manufacturing cost in Bangladesh & Viet Nam while cost to power is the second component in the manufacturing cost in China, India and Indonesia.
- Over all, the production of rotor yarn fabric is costlier by 32% in China and 9% in Bangladesh and it is less by 8% in Viet Nam and 6% in Indonesia as compared to that in India.

PRODUCT WISE MANUFACTURING COST – TEXTURED YARN FABRIC (US \$/M)



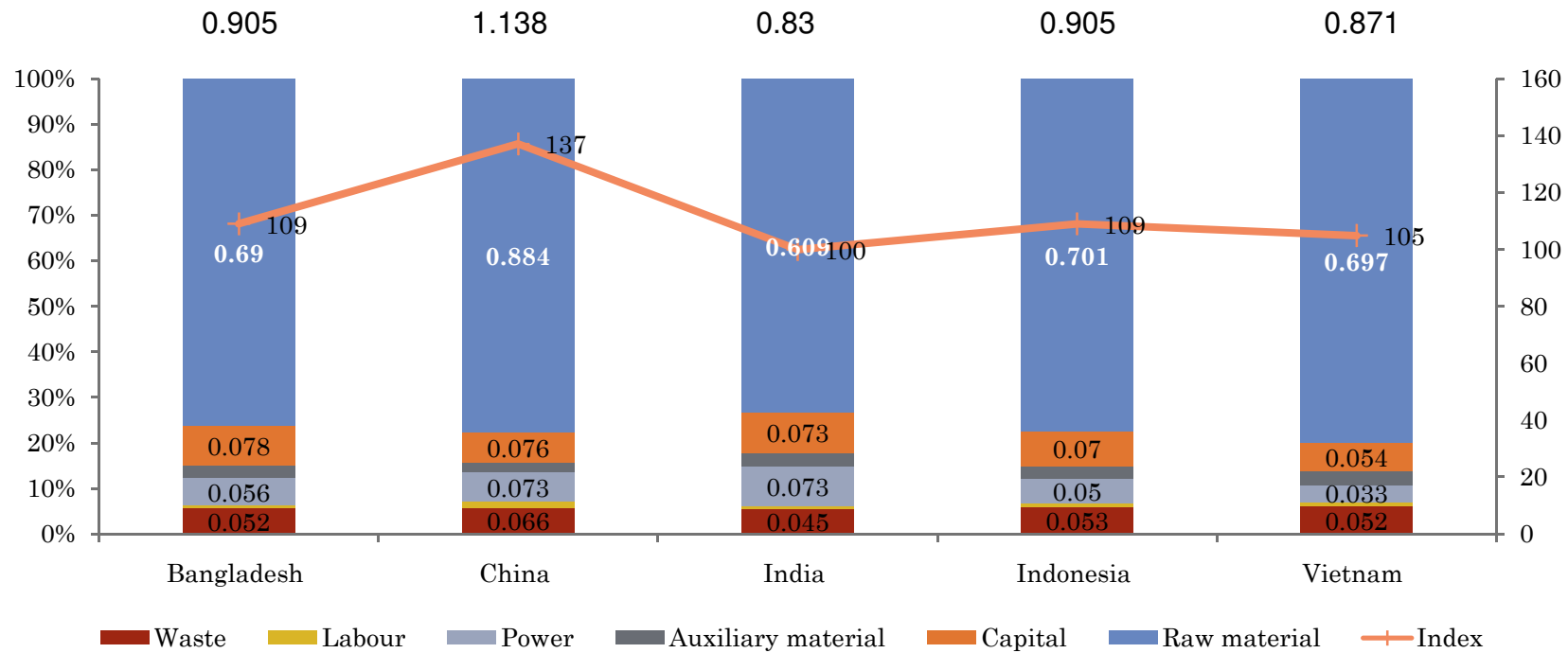
- The raw material cost is the major component of the manufacturing cost of textured yarn fabric on Viet Nam, Indonesia and India whereas cost to capital is the major component in Bangladesh and China.
- Over all, the production of textured yarn fabric is costlier by 26% in Bangladesh and 14% in China in Indonesia and Viet Nam it is less by 13% and 12% respectively as compared to that in India.

PRODUCT WISE MANUFACTURING COST – KNITTING RING YARN FABRIC (US \$/M)



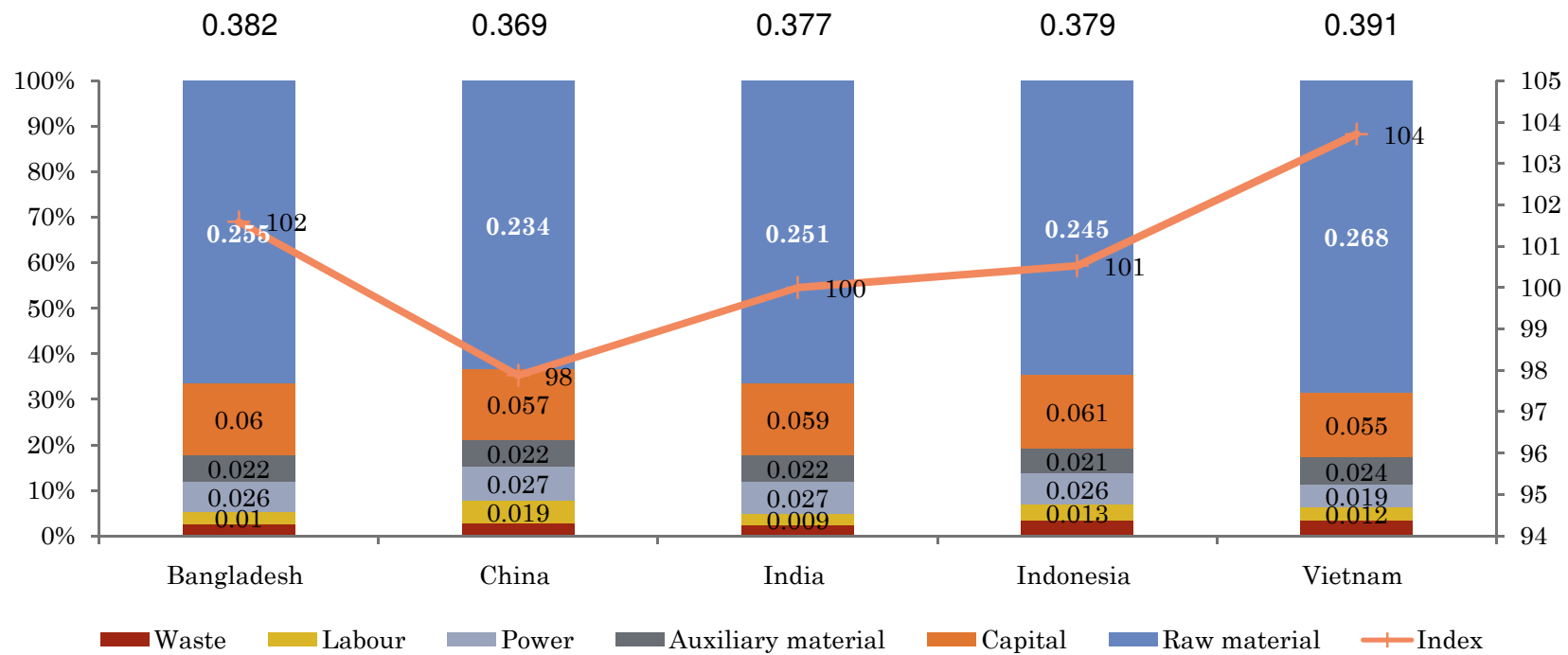
- The raw material cost is the major component of the manufacturing cost of knitting ring yarn fabric and varies from 57% in India to 66% in Viet Nam.
- Cost to Capital is the second major component in the manufacturing cost followed by power cost and wastage.
- Over all, the production of knitting ring yarn fabric is costlier by 30% in China and 5% each in Bangladesh & Indonesia and it is less by 1% in Viet Nam as compared to that in India.

PRODUCT WISE MANUFACTURING COST – KNITTING ROTOR YARN FABRIC (US \$/M)



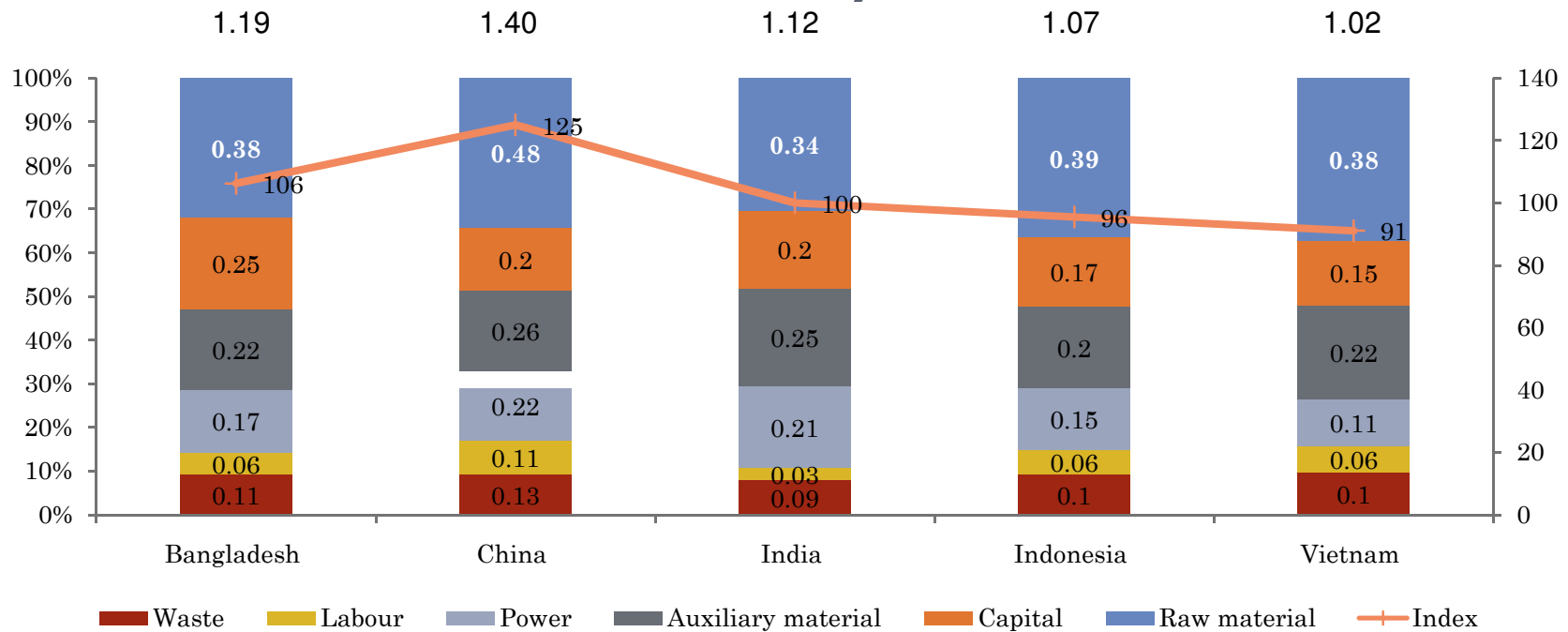
- The raw material cost is the major component of the manufacturing cost of knitting rotor yarn fabric and varies from 73% in India to 80% in Viet Nam.
- Cost to Capital is the second major component in the manufacturing cost followed by power and waste.
- Over all, the production of knitting rotor yarn fabric is costlier by 37% in China, 9% each in Bangladesh & Indonesia and by 5% in Viet Nam as compared to that in India.

PRODUCT WISE MANUFACTURING COST – KNITTING TEXTURED YARN FABRIC (US \$/M)



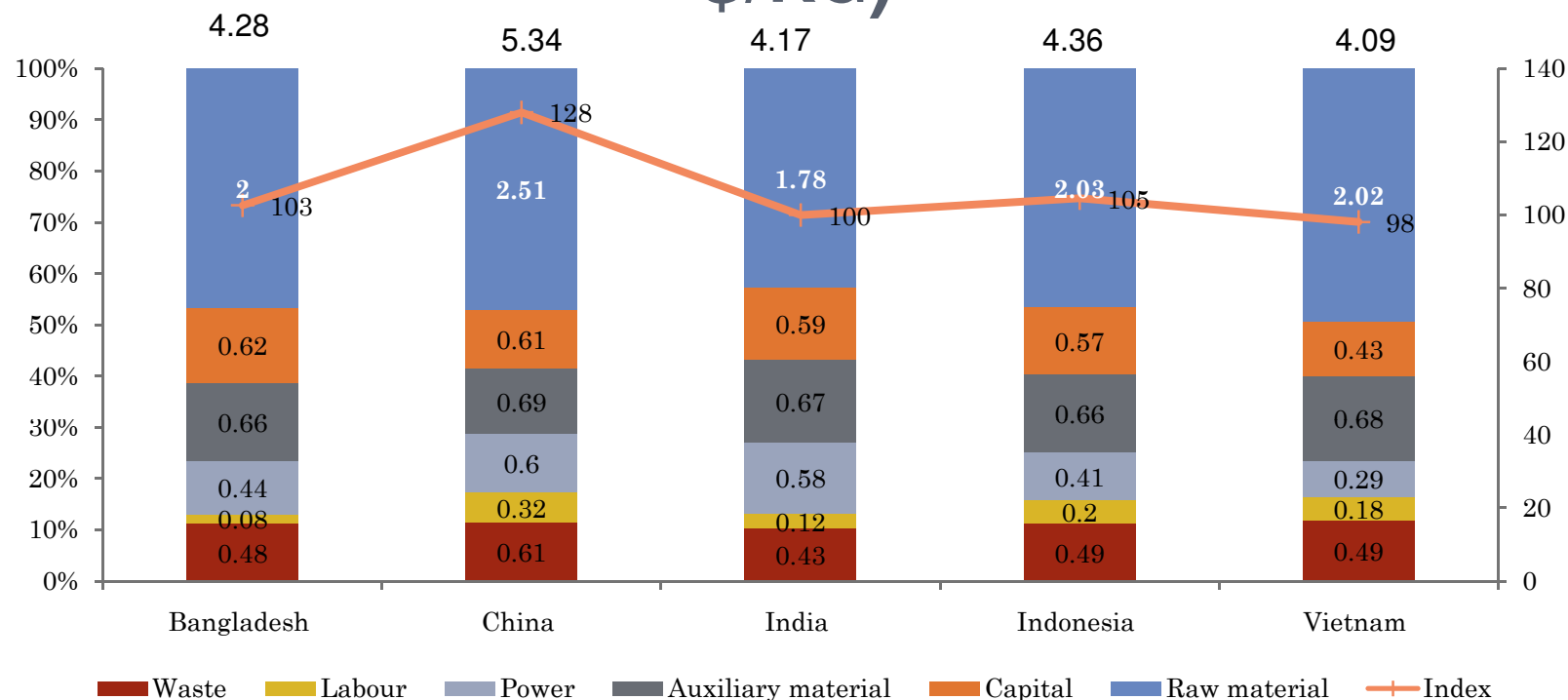
- The raw material cost is the major component of the manufacturing cost of knitting textured yarn fabric and varies from 63% in China to 69% in Viet Nam.
- Cost to Capital is the second major component in the manufacturing cost followed by power and auxiliary material.
- Over all, the production of textured yarn fabric is costlier by 4% in Viet Nam, 2% in Bangladesh and 1% in Indonesia and it is less by 2% in China as compared to that in India.

PRODUCT WISE MANUFACTURING COST – FINISHING WOVEN CONTINUOUS OPEN WIDTH (US \$/M)



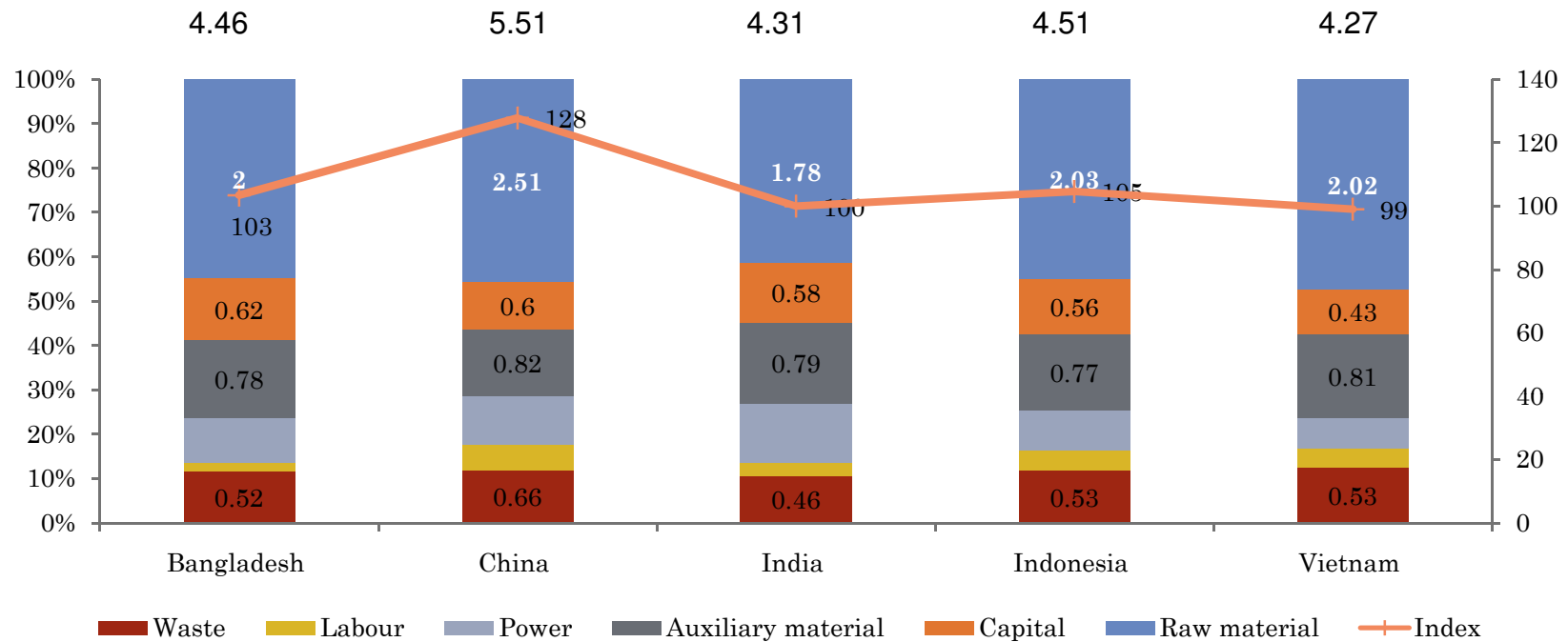
- The raw material cost is the major component of the manufacturing cost of continuous open width woven fabric and varies from 30% in India to 37% in Viet Nam.
- Cost to Capital is the second major component in the manufacturing cost in Bangladesh while cost of auxiliary material is the second component in the manufacturing cost in China, India, Viet Nam and Indonesia.
- Over all, the finishing of continuous open width woven fabric is costlier by 25% in China and 6% in Bangladesh and it is less by 9% in Viet Nam and 4% in Indonesia compared to that in India.

PRODUCT WISE MANUFACTURING COST – FINISHING KNIT CONTINUOUS OPEN WIDTH (US \$/KG)



- The raw material cost is the major component of the manufacturing cost of continuous open width knitted fabric and varies from 43% in India to 49% in Viet Nam.
- Cost of auxiliary material is the second major component in the manufacturing cost followed by cost of capital and waste.
- Over all, the finishing of continuous open width knitted fabric is costlier by 28% in China 5% in Indonesia and 3% in Bangladesh and it is less by 2% in Viet Nam as compared to that in India.

PRODUCT WISE MANUFACTURING COST – FINISHING DISCONTINUOUS (JET) (US \$/KG)

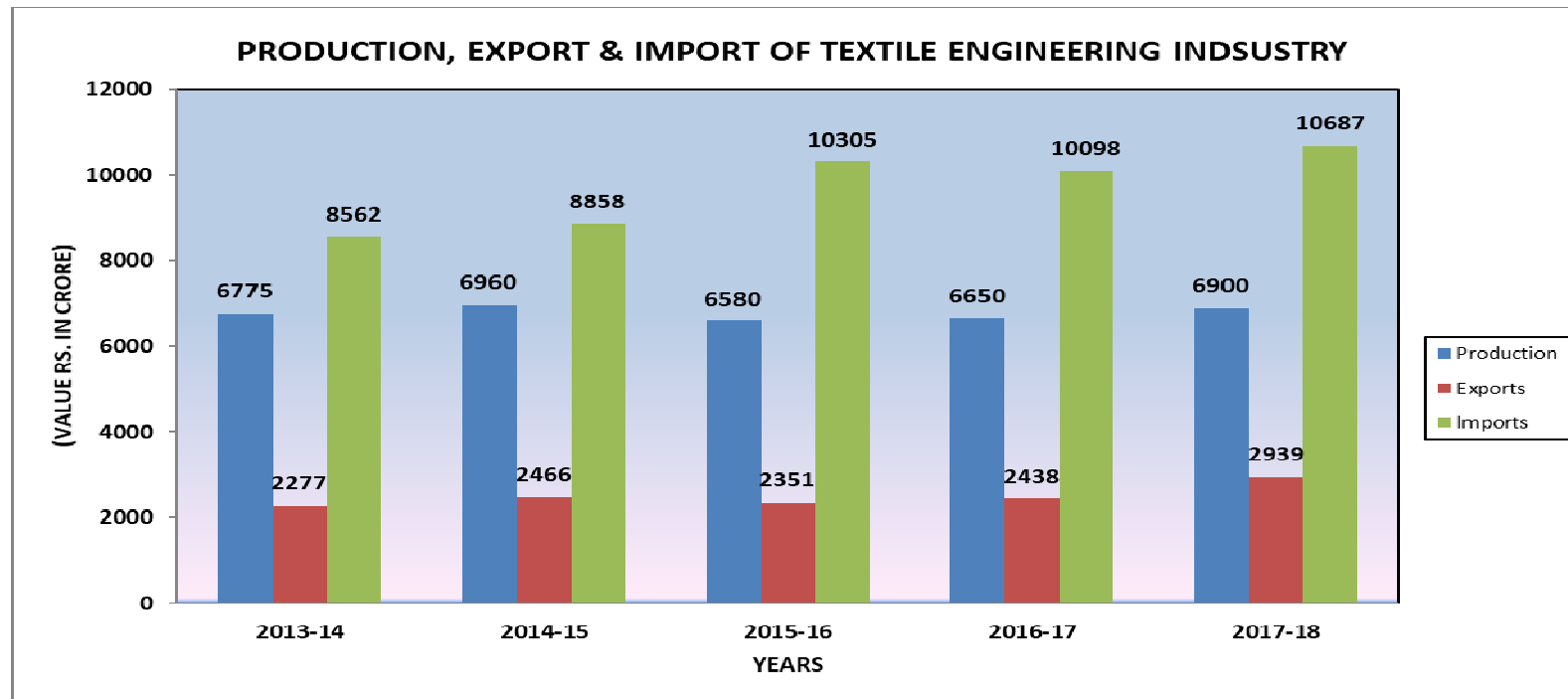


- The raw material cost is the major component of the manufacturing cost of discontinuous knitted fabric and varies from 41% in India to 47% in Viet Nam.
- Auxiliary material is the second major component in the manufacturing cost followed by cost of capital and waste.
- Over all, the finishing of discontinuous knitted fabric is costlier by 28% in China 5% in Indonesia and 3% in Bangladesh and it is less by 1% in Viet Nam as compared to that in India.

TECHNOLOGY & INNOVATIONS IN MMF SECTOR



TECHNOLOGY TREND IN MMF INDUSTRY



- Size of machinery industry is Rs. 10,000 cr in 2018 but highly unorganised SME based and mostly produces accessories.
- Number of units – up from 1450 (2008) to 3000 (2018).
- Industry relies on imported technology for growth.



MACHINERY SHIPMENT ('000 Nos)

Draw Texturising Machine

Countries	2010	2018	CAGR
China	409	351	-2%
India	54	9	-20%
Taiwan	2	2	0%
Indonesia	1	5	22%
Vietnam	21	17	-3%

Ring Spinning Machines

Countries	2010	2018	CAGR
China	99	104	1%
India	35	52	4%
Pakistan	11.4	14	2%
Bangladesh	5	13	11%
Indonesia	6	12	8%
Turkey	6.5	8	2%
Viet Nam	2.1	7.8	16%

Shuttle-less Weaving Machines

Countries	2010	2018	CAGR
China	588	951	7.10%
India	53	133	14.10%
Turkey	40	53	4.20%
Bangladesh	16	44	15.50%
Pakistan	27	39	5.50%
Vietnam	2	9	21%

Circular Knitting Machines

Countries	2010	2018	CAGR
China	143.5	201	4.90%
India	9.4	25.3	15.20%
Bangladesh	8.3	13.3	6.80%
Turkey	9.4	11.3	2.80%
Indonesia	4.2	9.3	12.00%
Vietnam	1.8	8.7	25.40%

INNOVATION & RECENT TRENDS IN MMF TEXTILES

- Polyester has proved to be cost-effective and adaptable fiber type due to.
 - Consumers prefer comfort with performance for fitness & health.
 - Very short fashion cycles; brands frequently introduce new products & styles.
 - Consumers expectation for quality products at affordable price.
 - Consumers in developed markets look for sustainable products
 - Increasing demand for low-cost & high-performance material for automotive & industrial use.
- Trends likely to contribute to growth of TT:
 - Industries such as automotive, healthcare, infrastructure, oil & petroleum require a large number of TT products.
 - With increasing investments & awareness of workers in these sectors regarding safety, consumption of TT is likely to increase significantly.
 - Increasing focus on consumer awareness about hygiene & safety will support growth of TT products like baby diaper, sanitary napkins, wipes, high visibility clothing etc in domestic markets.
 - Government of India has taken several initiatives to boost investment in TT sector.
 - TT products are easily available at competitive prices.



TECHNOLOGICAL ADVANCEMENT

Technology Changes	Key advantages
Spinning Technology Advancements	
Modern spinning systems like compact spinning, airjet spinning	Improvement in viscose in terms of smoother, clear appearance making it suitable for usage in fashion garments & replace cotton
Siro Spinning	Reduces pilling & shrinkage in viscose fibre which further makes it suitable to use in place of cotton
Core spinning technology	Helps in making advanced yarn like stretch yarns that includes combination of cotton/viscose & spandex which has helped in growth of stretch denims over conventional denims
Solvent spinning technology for viscose	Increases wet and dry strength, luster of fibre & makes it suitable to use instead of cotton in home textile, ladies tops etc.
Processing Technology Advancements	
Improved HTHP Soft-flow dyeing, Stenter with chemical padding /coating attachments	Ability to develop better product attributes (touch, feel, & comfort) from same fibre. Polyester fabrics treated/coated with wicking finish, breathable finishes etc. has replaced cotton consumption providing similar attributes of hand feel, breathability etc.

KEY FINDINGS & RECOMMENDATIONS



Strengthening Export of MMF Textiles

1. INCREASING PRODUCT BASKET FOR EXPORTS

- Global share of MMF to cotton is in ratio of 55:45, where as trend in India is 35:65. There is need to match contribution of MMF to that level.
- Out of 344 MMF products (HS 6 digit) exported across globe, only 89 products contribute more than 92% to India's export basket. Export basket needs to be diversified.
- Out of 89 top exported MM textile products in globe, India's share is only 2.47% in 2019
- India's share in MM Textile exports is 2.72% with small product basket. **Product basket needs to be diversified.**
- **India has a potential to increase export of MMF textiles by \$6.53 Bn. The product wise potential destinations need to be explored through specific policy initiatives to boost export**



2. STRENGTHENING CA FOR INDIA'S EXPORTS

- India enjoys comparative advantage on 53 products & gained advantage in 21 products in 2010-19
- India also lost Comparative advantage on 16 products & in disadvantage position in 180 products.
- Loss of advantage has been reflected in export performance in form of declined export
- **Cost benchmarking with china, Viet Nam, Indonesia and Bangladesh indicates that, cost of raw material, interest to capital is adversely affecting the competitiveness of MMF textile exports.**



Strengthening Export of MMF Textiles

INCREASING INTENSITY OF TRADE WITH EXISTING & POTENTIAL MARKETS

- India has high trade intensity in
 - Fabric, apparels, Made ups (including carpets) and Technical Textiles (including non-woven) with **USA and UK**.
 - Technical textiles and Other products with **France**;
 - Technical textiles, made-ups and Other products with **Italy**;
 - Technical textiles, apparel and other products with **Spain**; and
 - Technical textiles and made-ups with **Germany**.
- India's TII with top 10 export partners viz, Vietnam, China and Japan is less. Hence bilateral trade flow is smaller than expected.
- **India's TII with top 10 export partners viz, Vietnam, China and Japan is less. Hence bilateral trade flow is smaller than expected.**
- India should try to tap markets like **Japan, Vietnam, Bangladesh & China** through Regional Value Chain (RVC) integration .
- **Product and destination specific strategies needs to be evolved for enhancing the trade intensity in these nations.**

Strengthening Export of MMF Textiles

INCREASED INVOLVEMENT WITH CHINA TO ENHANCE EXPORT GROWTH

- India has highest competition with Spain in UK & France market .
- Turkey has emerged as major competitor to India in EU
- China is a major competitor in USA and Vietnam
- Having minimal competition with China in MM Textiles, India should try to tap China as
 - Market for MM Textile products
 - Collaboration on technology up-gradation & product diversification
 - Attracting investment

Regional Value chain Integration with BIMSTEC + Vietnam would be helpful for MM TVC to tap these emerging market



HIGHER LEVIES FOR MMF TVC

TVC	GST (%)
Fibre	18
Yarn	12
Fabrics	5
Garments (Non-Branded)	5 and 12
Garments (Branded)	5 to 12
Blended Textile products	12
Textile Machinery	12
Job Work like Embroidery etc	5

- GST for PTA & MEG, basic raw-material fibre & filament is 18%.
- Higher levies on raw-material than final products creates **inverted duty structure** for MMF TVC & adversely affects production and export.
- Very high differential GST for branded and Unbranded garments & Made ups adversely affects domestic brand creation.
- Blended textile, possible growth driver for industry is also adversely affected by it

Suggestion:

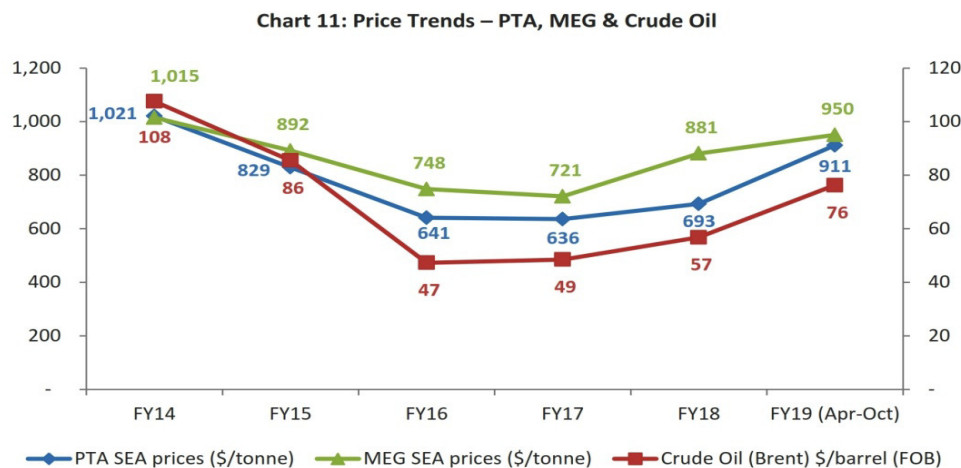
1. **Fibre Neutral Policy** would help to strengthen MM TVC & its integration with other fibre. It would also help in promotion of blended textiles OR
2. **Uniform GST at 5% or 12% in initial stage is necessary**



Higher Domestic Price of Raw-material

- MMF industry depends upon Petrochemical Industry for raw-material
- Price fluctuation in these derivatives of the petrochemical industry has potential to influence value chain.
- PTA & MEG prices registered a growth of 9 & 22 percent respectively in 2018 and 40 and 15 percent in 2019 leading to increased cost of raw-material for MMF TVC.

Prices



Suggestion

Domestic price of raw-material should be fully integrated with international Price. Benefits in fall in price could be transferred to different actors in TVC



Rationalisation of MM Fibre pricing

- Fibre manufacturing is accompanied with presence of few manufacturers (about 14 industries)
- Presence of few manufacturers creates constraints in competitive market scenario & encourages price fixing. Has potential to affect capacity utilisation
- Domestic price has always been higher than international price eroding competitiveness of the value chain. An illustration is as follows:

Landed Cost of Imports		Domestic Price	
Polyester Staple Fibre			
CIF (\$)	0.95	Domestic Price (Rs.)	89.50
R.O.E. (Rs.)	69.35	Discounts (Rs.)	10.50
CIF (Rs.)	65.38		
BCD 5% (Rs.)	3.30		
Cess (Rs.)	0.33		
Custom Clearing & Others (Rs.)	4.00		
Landed Cost (Rs.)	73.51		
Landed Cost – Rounded off (Rs.)	73.50	Net Domestic Price (Rs.)	79.00

Viscose Staple Fibre			
CIF (\$)	1.55	Export Yarn	124.77
R.O.E. (Rs.)	69.35		
CIF (Rs.)	107.50		
BCD 5% (Rs.)	5.37		
Cess (Rs.)	0.54		
Anti Dumping Duty @ US\$0.19/Kg	13.17		
Custom Clearing & Others (Rs.)	4.00		
Landed Cost (Rs.)	85.81		
Landed Cost – Rounded off (Rs.)	131.00	For Domestic Yarn	149.54

- Discount offered by manufacturers to user industries also varies from industry to industry

Suggestion

- **Rationalisation of Domestic price of basic raw-material is also equally important for the industry.**
- **Price monitoring mechanism for MMF would be helpful for Value Chain**

STRENGTHENING COST COMPETITIVENESS

- Cost benchmarking with countries like China, Indonesia, Vietnam indicates that India has been losing cost competitiveness due to followings:
 - Higher cost of rawmaterial affects MMF TVC
 - Higher cost to capital as compared to China
 - Higher power and fuel cost
 - Low average working hours leading to less productivity

Suggestions

- Effort should be made to bring cost of above factors at par with Peer countries.
- Availability of more working capital for MSMEs
- Policy intervention to diversify India's product basket is need of the hour.

TECHNOLOGICAL BOTTLE NECK ACROSS TVC

- Industry attracted investment of \$68.5 Bn under TUFs during 1999 to 2019 & additional \$ 6.85Bn as Pvt. investment.
- FDI \$3.19Bn during 2001 to 2019.
- MMF Value chain is experiencing obsolete technology level i.e
 - Spinning –Relatively modern as compared to other
 - Weaving – 95 % looms are old and outdated leading to low productivity & high defects. Mostly SMEs based.
 - Knitting-Mostly SMEs based and lack of modern technology. More focus on cotton based products. Productivity is less.
 - Processing: Weakest link and more than 90% units are using old and outdated technology.
 - Garmenting and Made-ups: SME based and need urgent technological upgradation.
 - Technical Textiles - Lack of indigenous technology leading to high cost of procurement.

Suggestions:

- Technology Upgradation should be given highest priority for MMF textile industry with specific focus on weaving, processing, garmenting and madeups.
- Clusters like Surat, Bhiwandi, Ichalkaranji, Ludhiana & Bhilwara should be given highest priority as they are uniquely placed & have presence in more than 1 segment of MMF TVC.
- Promote FDI

ATTRACTING INVESTMENT FOR MMF TEXTILES

- MM TVC need investment of \$138.31Bn during next 11 years
- FDI is limited due to SMEs nature of TVC
- Countries like Vietnam successfully attracted FDI for growth
- India should try to tap FDI from countries like **South Korea, China and Japan**, who are investing in Vietnam Cambodia & other emerging countries.
- Domestic govt. induced investment should be increased.

Suggestion

- Investment should be attracted through establishing sourcing hub, integrated Mega MMF textile parks preferably near present clusters to address.
- Establish Mega T&A Parks in clusters like Surat, Ludhiana, Bhiwandi/ Ichalkaranji
- FDI in Technical Textiles and processing industries need to be encouraged
- Promotion of Enhanced Scale in TVC is essential to achieve **Scale** economy in production

FOCUS ON TECHNICAL TEXTILE (TT)

- Global export of TT is expected to reach \$335Bn by 2025.
- Contribution of MM TVC is expected to be 85%.
- India's export of MMF based TT is expected to reach \$8.86 Bn in 2025 & \$31.65Bn in 2030.
- Major TT segments having potential for growth are Packtech (49%), mobiltech (14%), Indutech (11%), Non-woven (9%), etc.

Suggestion

- Policy Mechanism with focus on MMF based TT is need of hour.
- High end TT industry depends on import of rawmaterials like Aramids, Meta aramids, etc. Reduction of import duty may be explored.
- TT Export Promotion Cell/ council would be helpful to boost export in future
- Quality & Compliance architecture for integration of the industry to international quality eco-system wil help in long run.
- Priority should be given to TT value chain in mega parks



PROMOTING SUSTAINABLE MMF TEXTILE INDUSTRY

- Most of the International Brands are focusing on sustainable MMF textiles like
 - PUMA has set a target for use of 90% polyester originating from sustainable source
 - Paradise Textiles of Alpine Craeations announced Biofuzed a range of MM fibre having enhanced degradability in the life cycle.
 - Marubani Corporation decided to source products manufactured through sustainable recycled polyester rayon to export to USA &EU.
 - Most of the international brands have set a target to move towards sourcing of sustainable textile products entirely in next 5 to 10 years.

Specific Policy Mechanism for promoting sustainable MMF textiles with mechanism to incentivise industry adopting it is necessary

EXPLORING COLLABORATIVE INITIATIVE/ JV FOR MMF TEXTILES & MACHINERY

- Imported machinery increases cost of production
- India's machinery industry is in an infant stage.
- The growth of machinery industry require extensive R&D activity.
- India should plan Collaborative efforts/Joint Venture with the international manufacturers like
 - Teijin, Murata and Toray (TMT), the largest MMF textile machine manufacturers
 - Similar efforts should be made to explore the possibilities of JV for strengthening MMF textile machinery industry.
 - Selective reduction on import duty for specif segments like weaving, processing would help the industry.



AVAILABILITY OF WORKING CAPITAL & OTHERS

- **About 21% weaving and 17% Garments & Made up units have reported lack of working capital as a major issue for production and capacity expansion.**
- Facilitating scaling up of manufacturing base in MM TVC through policy initiatives like **availability of easy credit, establishing raw material banks** in major clusters, etc is required.
- Non-Tariff Barriers (NTBs) as trade distorting measures have been growing across the globe and hence Developing institutional mechanism on Non-Tariff Measures (NTMs) for curtailing cheap import to Indian market and supporting exporters in international market in need of the hour.
- Strengthening Market Intelligence in Textiles (MIT) of TC & Revival of ERMIU for quick access of real time data for policy initiatives will help MoT and Industry to help in drawing appropriate strategy.
- Developing Quality & Compliance Eco-system will help the industry to grow in longrun



RECOMMENDATIONS

- Based on Key Findings, the recommendations are classified as
 - Short Term
 - Medium Term
 - Long Term



SHORT TERM RECOMMENDATIONS

- Harmonisation of GST rates across the fibres. It will also address the issue of Inverted Duty Structure being created due to higher tax at raw material level.
- India should try to explore possibilities to link to potential market & products to increase export by \$6.53 Bn as identified by study
- Raw material pricing is affecting the entire value chain of MMF Textiles. Adequate pricing mechanism with higher capacity utilisation through Policy Intervention should be explored
- Domestic price of raw-material should be integrated with international Price. Benefits in fall in price could be transferred to different actors in TVC
- To bring cost competitiveness Refund of state & Central Taxes and Levies (RoSCTL) may be extended to MMF Value chain.
- Ensuring Quality of product & complying to international stds to be addressed through dedicated policy intervention.
- Lowering High interest on capital with higher working capital will help in restoring competitiveness.



MEDIUM TERM RECOMMENDATIONS

- **Technology Upgradation with focus on Processing, Weaving, Knitting & Garmenting**
- **Regional Value chain Integration with BIMSTEC + Vietnam would be helpful for MMF textile TVC to tap these emerging market**
- **Focus Product and Focus market initiatives may help the exporters**
- **Emphasis on trade promotion activities in potential market**
- **Emphasis on TT with technology development & acquiring new technologies**
- **Skill development initiatives for MMF textile sector with focus on Technical Textiles, Apparel & Made ups, Processing, weaving (new technology) will help the industry to enhance productivity.**
- **FDI in MMF textile sector/ promotion of Joint Venture through policy support**
- **TT Export Promotion Cell/ council would be helpful to boost export in future**
- **Strengthening Market Intelligence in Textiles (MIT) of TC & Revival of ERMIU for quick access of real time data for policy initiatives will help MoT and Industry to help in drawing appropriate strategy.**

LONG TERM RECOMMENDATIONS

- **Strengthening Textile Machinery Manufacturing in India**
- **Promotion of Sustainable Fibre based textiles**
- **Augmenting Scale economy by Promoting Mega MMF Textile Park at Surat, Ludhiana, Bhivandi/ Ichalkaranji, Paradip**
- Policy intervention to diversify India's product basket is need of the hour.
- Institutional Mechanism to address the issue of Non-Tariff Barriers (NTBs) in MMF textile export
- Promotion of Industry 4.0 and IoT as suggested by industry.
- Collective Branding of Indian Cotton textiles to provide an unique distinction from MMF and blends

Chapter 1

Introduction, Objective and Methodology

1.1 Introduction

The global Textile and Apparel (T&A) manufacturing is heterogeneous in nature and involves a complex value chain from production of fibre to finished products. The dynamism in the sectoral manufacturing and growing change in the preference and demand pattern of the consumers across the globe plays a crucial role in influencing manufacturing activities. The global T&A market was about \$1500 Bn in 2017 and expected to grow by 4% Compound Annual Growth Rate (CAGR) during next 8 years owing to increase in population and growing disposable income. The fast change in fashion and graduation of developing economies to develop and Least Developed Countries (LDCs) to developing brings structural changes in the Textile Value Chain (TVC) on one hand and brings about ever increased demand for T&A on the other hand.

The global production and trade of textiles is primarily dominated by two major fibre-based products namely cotton and Manmade Fibre (MMF) based products. Historically, the T&A production chain was dominated by natural based fibre products including cotton but in last few decades, the MMF based products have been dominating the global production and trade. The attribute is the range bound growth in production of natural fibre in one hand and availability of the MMFs & its close affiliation to the fashion oriented products on the other. The emergence of Technical Textiles (TT) as an important segment and its positive correlation to MMF has further strengthened the domination of MMF as key ingredient for growth of T&A industry in future. The favourable demand condition and growing preference pattern along with high performance characteristics of MMF based products have also helped this segment to increase its footprint from 32% in 1970 to 72% in 2017 in the global production and trade of textiles. It is expected that the production & trade of MMF based textiles will further grow in the world and act as major driving force for the industry in future. The country having robust manufacturing base in the MMF textiles is expected to excel and strengthen its position in the global market as compared to other/ natural fibre-based products. India having presence on almost all fibre-based manufacturing has always been a dominating force in the world.

Even if, global trade in T&A is dominated by MMF based textiles, Indian production and export based is dominated by cotton textiles. The cotton-based T&A contributes about 52.19 percent as compared to 33.13 percent by MMF

textiles in the export basket. However, the MMF T&A has grown at 3.7 percent CAGR during last 5 years as compared to 1.61% by cotton based products and hence enhancing its share in the export basket.

1.2 Context, Objectives, Scope of the Study

While Indian textile manufacturing sector has dominated by cotton-based product, it has its own limitation of growth considering ever increasing demand for food from populace of the country and shrinking land holdings for cotton cultivation. It is also anticipated that MMF based products accompanied with technological innovations have helped in bringing better product range with unique design textile products as per the comfort, desires and aspirations of the consumers. In this context, the scope of the MMF T&A in field of ever-increasing demand by the consumers has been growing rapidly. The growing global demand for MMF textiles has necessitated countries to enhance production base of it so as to strengthen their footprint in the global market. This study is conducted at the behest of Ministry of Textiles to prescribe policy measures for the strengthening of MMF sector of the country. The study has also analysed production and trade competitiveness of MMF textile industry of India vis-a-vis competitors in the global market. The study also analysed the possible contribution of this segment in achieving Government of India vision of realising \$ 350 Bn of domestic market and US \$ 300 Bn of export by 2024-25 by analysing three different scenario's and suggesting measures need to be adopted through policy option for achieving the target.

1.2.1 Scope of the Study

- The study comprehensively analysed the “MMF Textile Value Chain (TVC)” from raw materials to finished products including blends thereof such as fibres/ filaments, yarn, fabric and made ups. It also covers technical textiles.
- The study covers various stakeholders across the value chain such as fibre/filament manufacturers, organized textile mills and manufacturers in decentralized sector, importers and exporters, etc.
- The study analysed the major trends shaping the global textile industry and identifies major implications for the MMF value chain in India.

1.2.2 Terms of Reference (ToR)

The Terms of Reference of the study are as follows:

- Enhancing production of MMF Textiles including blends and technical textiles.

- Enhancing domestic consumption and exports of MMF Textiles including blends and technical textiles.
- Bringing innovations to cater to consumer requirements.
- Increasing/ attracting investments in the MMF sector to achieve the Textile Vision of US\$350 billion for which value of MMF production needs to be at least doubled in the next five years.
- Improve the competitiveness of Indian MMF textiles both in domestic and export markets. Also enhance its competitiveness in terms of product and process to achieve global standards.

1.3 Methodology

In order to achieve study objectives, the following methodology was adopted.

1.3.1 Coverage on the Study

The entire Value Chain of the MMF sector including blends and Technical Textiles (TT) is covered under the study. The target group covered in the value chain were (i) Fibre and filament/ spun yarn manufacturers; (ii) Weaving industry; (iii) Knitting industry; (iv) Technical Textiles Industry; (v) Made-ups manufacturers. As a part of examining India's competitiveness in the global market the study has also taken into consideration Exporters/importers for the purpose.

The methodology adopted for the study was three pronged: (i) Desk research and data analysis; (ii) Primary Survey of the stakeholders associated with the entire value chain of MMF textile industry ; and (iii) Focused Group Discussion (FGD) with major stakeholders to understand key constraints employed by the industry.

The status of value chain of MMF sector, international trade and product level competitiveness in the global market is engaged. Another important component of the study was to map the MMF value chain by identifying the key actors and its role in value chain both in domestic and international market.

The manufacturing units in MMF industry identified enough secondary research was used as sample frame for selecting manufacturing units for enumeration in the primary survey.

1.3.2 Desk Research

In the first phase of study, a comprehensive database of manufactures of fibre, filament yarn manufacturers, exporters, fabric manufacturers of MMF sector was compiled from secondary sources. Also, a list of products belonging to technical textiles was compiled from secondary sources. It formed frame for data collection. The secondary data on export and import were collected from secondary sources. To assess the export competitiveness, the standard indices such as Revealed Comparative Advantage (RCA), Trade Intensity Index (TII) and Export Similarity Index (ESI) were adopted. The details of these indices are as follows:

(i) Index of Revealed Comparative Advantage (IRCA)

The index of revealed comparative advantage is used in international economics for calculating relative advantage or disadvantage of a certain country in certain class of goods or services as evidenced by trade flows. The index of revealed comparative advantage was initially developed by Balassa (1965) and was modified by subsequent scholars in 1977. The study examined the pattern in the IRCA enjoyed by major exporters of manmade textile and apparel in the world. The analysis of the comparative advantage was used to identify the potential competitors in the world market. The index for country *i* commodity *j* is calculated as follows:

$$IRCA_{ij} = \frac{(X_{ij}/X_{wj})}{(X_{it}/X_{wt})}$$

where:

X_{ij} = *i*th country's export of commodity *j*

X_{wj} = world exports of commodity *j*

X_{it} = total exports of country *i*

X_{wt} = total world exports

If IRCA is more than unity, the country is said to have a comparative advantage in the commodity/industry and vice-versa.

(ii) Trade Intensity Index (TII)

Trade Intensity Index (TII) is a measure of a country's export competitiveness in a specific partner's market. Similar to IRCA, it uses a country's current trade flows to measure its competitiveness. Trade Intensity of *i*th country with respect to the *j*th country for commodity *k* can be calculated as follows:

$$T_{ijk} = (X_{ijk} / X_{itk}) / (X_{wjk} / X_{wtk})$$

where:

X_{ijk} is the values of country i's exports of country j in commodity k

X_{wjk} is the values of world exports to country j in commodity k

X_{itk} is the country i's total exports in commodity k

X_{wtk} is the country i's total world exports in commodity k

An index of more than one indicates a bilateral trade flow that is larger than expected, given the partner country's importance in world trade. While an index of less than one indicates a bilateral trade flow that is smaller than expected, given the partner country's importance in world trade.

(iii) Export Similarity Index (ESI)

Export Similarity Index (ESI), developed by Finger and Kreinin (1979), is intended to measure the similarity between exports of any two countries to a third market. The index is based on the share of each product in each country's total exports and is calculated as the sum of the minimum value for each product. Formally,

$$ESI(ab, c) = \sum_j \min \left[\frac{X_{j(a,c)}}{\sum X_{j(a,c)}}, \frac{X_{j(b,c)}}{\sum X_{j(b,c)}} \right]$$

where $ESI(ab,c)$ refers the export similarity index of countries a and b in the common market (c), $X_{j(a,c)}$ refers the exports of product j from country a to country c and similarly $X_{j(b,c)}$ refers the exports of product j from country b to country c, $\sum X_{j(a,c)}$ and $\sum X_{j(b,c)}$ are total exports of country a and b to country c, respectively.

Therefore, the first term in the formula is the share of product i in country's exports to country c while second term states the share of product i in country b's exports to country c.

An index value very close to unity can be interpreted to suggest that the two countries in question i.e., (a and b) are perfect competitors in the common market (c). An index value very close to zero can be interpreted to suggest that there is no competition at all between two countries. Hence, the index can given an index about competitors in a destination country, as the competing countries may differ from country to country, the model will be helpful in identifying and devising appropriate policy instrument in enhancing the competitiveness of the country keeping competing countries in mind.

ESI is sensitive to the chosen level of data such that its value increases with the higher level of aggregation and vice versa. By keeping this in mind in interpreting the results, we have made our calculations at the disaggregated

level in order to see the heterogeneities across/within industries. ESI is also not affected by the relative sizes of the exports. Finger and Kreinin (1979) stresses this issue in their original article that

“Since the index is intended to compare only patterns of exports across product categories, it should not be influenced by the relative sizes or scales of total exports. To remove the scale effect, the exports of, say a must be rescaled so that they are equal in total to those of b.” (Finger and Kreinin, 1979: 906)

Therefore, considering the effects of differences in the absolute export sizes between the countries, the index which is based on absolute export values is calculated.

1.3.3 Export Potential of India’s MMF Textiles

The export potential assessment of International Trade Centre (ITC) has been used as one of the indicator for estimating the potential market size of manmade fibre textiles in the international market. It is based on decomposition of a country’s potential exports of a product to a given target market into three factors: supply, demand and easiness to trade. Depending on country’s need, two approaches have been explored viz (i) The Export Potential Indicator (EPI) and (ii) Product Diversification Indicator (PDI). It is based on a decomposition of country’s potential exports of a product to a given target market into three factors: (i) supply (ii) demand and (iii) easiness to trade. Depending on India’s requirements and present market penetration, the Export Potential Indicator (EPI) serves countries that aim to support established export sectors in increasing their exports to existing and new markets.

The study has most precisely used to ascertain the additional export potential for Indian Man Made Fibre Textiles Products in the world by identifying potential export value for any export in a given product and target market based on an economic model that combines the exporter's supply with target market's demand and market access conditions. For existing export products, supply is measured through historical information on export performance. Potential export values are compared with actual export values to find exporters, products and markets with room for growth.

1.3.4 Development of Study Instruments

Drawing cues from the desk research and in consultation with various stakeholders like Synthetic and Rayon Textile Export Promotion Council (SRTEPC) or Association of Synthetic Fibre Industry (ASFI), appropriate survey instruments like structured questionnaires were developed and pre-tested. Based on the feedback, suitable improvements were made in the questionnaire before data collection.

1.3.5 Identification of the Key Stakeholders and Data Collection

The Textiles Committee in consultation with the SRTEPC or ASFI and other relevant organisations & key stakeholders/manufacturing units in representative categories were identified for enumeration and data collection. A team of researchers and experts from textile sector were deployed to carry out the data collection from the identified stakeholders. The data collection was done from the Trade & Industry Associations of the MMF manufacturing centres, technical textile manufacturers, exporters, etc. through the structured questionnaire.

1.3.6 Primary Survey

The study focussed on the stakeholders of the MMF industry. Reasonable samples of each categories of stakeholders such as prominent manufacturers, end users, etc were contacted from the sampling frame. Table 1 shows the number sample covered in the study. The category wise sample size covered under the study is as given below:

S No.	Respondent category	Units covered in the study	% Coverage
1	Fibre, specialty fibre and filament yarn manufacturer	13	1.78
2	Spun yarn manufacturer	100	13.66
3	Weaving Industry	201	27.46
4	Knitting Industry	43	5.87
5	Technical Textiles manufacturers	19	2.60
6	Made-ups manufacturers	137	18.72
7	RMG Manufacturers	188	25.68
8	Others (Embroidery Work)	31	4.23
	Total	732	100.00

In addition, most of the developmental agencies working for the development of the MMF sector are also consulted for the study. Efforts were made to identify the missing link, if any, in the supply chain in consultation with SRTEPC or ASFI and other key stakeholders for enumeration and interaction and recording their views. The list of units covered under the study is given at **Annexure A** and the questionnaire used for collecting the data from different stakeholders is given in **Annexure – 1**.

1.3.7 Focused Group Discussions (FGDs)

In addition to the primary and secondary data, Focused Group Discussion (FGD) were conducted at the production centres with the producers, exporters, importers and their associations and other stakeholders for understanding their perceptions and constraints including the technological bottlenecks in terms of availability of modern machinery and resources in MMF. FGDs also focussed on to examine the strengths of the MMF sector for assessing the competitiveness of the Indian products. A total of 7 FGDs at Mumbai, Coimbatore, Tirupur, Surat, Bhilwara, Ludhiana & New Delhi with 600 stakeholders from the states/UT of Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, Gujarat, Rajasthan, Punjab, Haryana, Delhi, West Bengal & Silvassa were organised. The FGDs provided useful insights about possible action areas for strengthening the MMF sector.

Further, FGDs and one-to-one interactions, including industry visits, also included an element of understanding the extent of modernization, changing customer preferences and benchmarking of technological aspects in major exporting nations vis-à-vis India.

1.3.8 Data Analysis

The data analysis involved analysis of data collected from the identified key stakeholders through primary survey as mentioned above, and analysis of product-level export/import data of the major trading countries classified according to HS 2017 nomenclature at 6-digit level. The World Integrated Trade System (WITS)/ ITC Trade Map databases were used to collect export and import data. The detailed statistical tools used for achieving the desired objectives are as given below:

The 10 years' time series data on export & import and production on MMF, technical textiles and made-ups were collected. The following aspects were covered while analysing the trade data.

- Trends in international trade in the MMF textiles sector.

- Estimating the demand of MMF textiles in the global market.
- Identifying the major export destinations for MMF textiles based on global trade in terms of region and country.
- Trend and performance analyses at product level for India as well as competitors in major export destinations of the world.
- The analysis of competitiveness of the MMF textiles at the product level by using indices like Index of Revealed Comparative Analyses (IRCA) and Trade Intensity Index (TII), Export Similarity Index (ESI), etc. for MMF textiles as per the requirement.

1.3.9 Benchmarking with competing countries

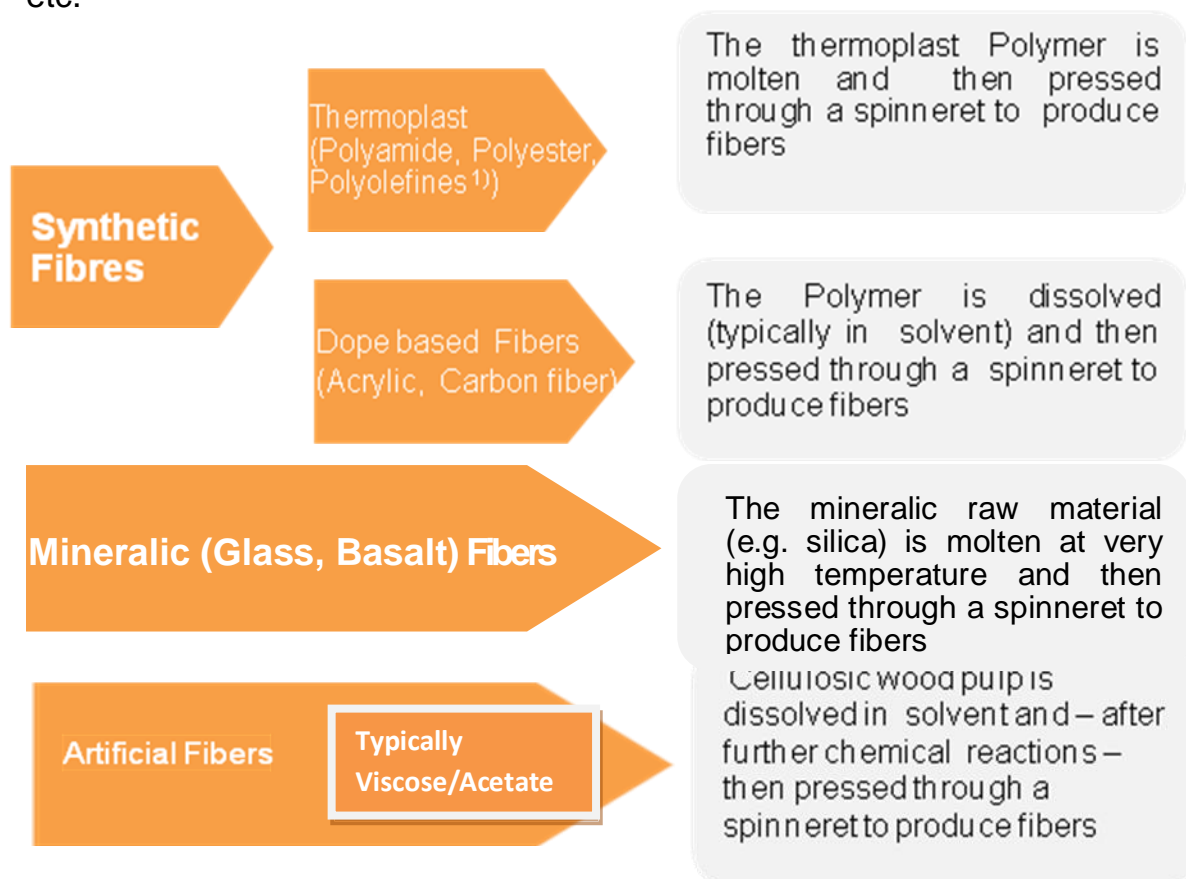
The study undertook extensive interaction/FGDs with the trade & industry associations having trade with China, Vietnam, Bangladesh, and Indonesia besides collecting country specific data on MMF textile industry. Based on the collected information, the bench marking of the manmade textiles industry of these countries with respect to cost of production in the process of manufacturing is also studied. The Tariff and Non-Tariff Barriers being experienced in different markets including the issues like tariff peaks, tariff escalation and high tariffs, etc also examined while examining the competitiveness of the MMF Textiles.

Chapter 2 Global Production of the MMF Textiles

2.1 Global Manmade Fibre

Manmade fibres are produced by combining polymers or small molecules of raw materials, mainly of petroleum-based chemicals and can be classified into organic and inorganic. Organic MMFs are made either by transforming natural polymers or from synthetic polymers. Currently, the natural polymers include Acetate, Triacetate, Alginate, Lyocell, Modal and Viscose. On the other hand, the synthetic polymers include Acrylic, Modacrylic, Aramid, Chlorofibre, Elastane², Elastodiene², Fluorofibre, Polyamide, Polyimide, Polyester, Polyethylene², Vinyl etc.

The other type of MMF in the market is the inorganic ones which are Carbon, Ceramic, Glass, Metal. Also they are produced by bi/multi-component fibers etc.



Among the manmade fibres, synthetic fibre revolutionised the textile manufacturing across the globe, the addition of cellulosic fibre has further strengthened the scope of the MMF textile industry in form of product development and diversification, blending with other fibre and other

characteristics. Among synthetic fibres, polyester, acrylic and polypropylene dominate the structure and composition of the industry and influence the overall production and growth of the Textile and Apparel (T&A) industry.

On the other hand, Cellulosic fibres like viscose, modal, etc are generating trend for the industry and has a potential to influence the overall growth of the industry in future.

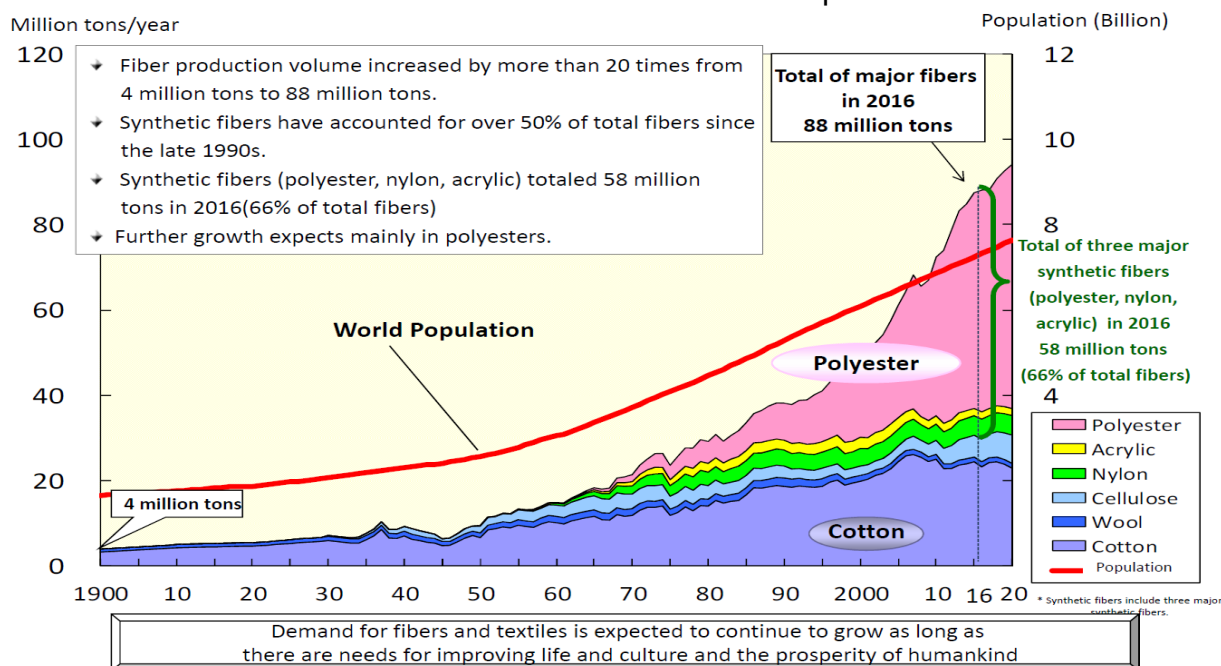
The latest addition to this segment is mineral based fibre produced from glass, basalt and silica, etc and these are mostly used in manufacturing of Technical Textiles. In addition to the pure man-made fibre-based textiles, its blended with other fibres mainly cotton and wool. The demand for this type of fibre is increasingly steadily both in domestic and international market.

2.2 Global Production of MMF Textiles

The global production of fibre has increased by 20 times from 4 million tons in 1900 to 88 million tons in 2016 and 98 million tons in 2017. With the increase in global population and growing preference of the consumers towards manmade fibre-based fashion-oriented products, it has a potential to create more demand for MMF textiles.

Figure 2.1 shows a comparative analysis of the growth in world population vis-à-vis growth in fibre production and share of synthetic fibres. The synthetic fibres (polyester, nylon, acrylic) have accounted for over 50 percent of total fibre since late 1900s, and have increased its share in the global production to 66 percent in 2016.

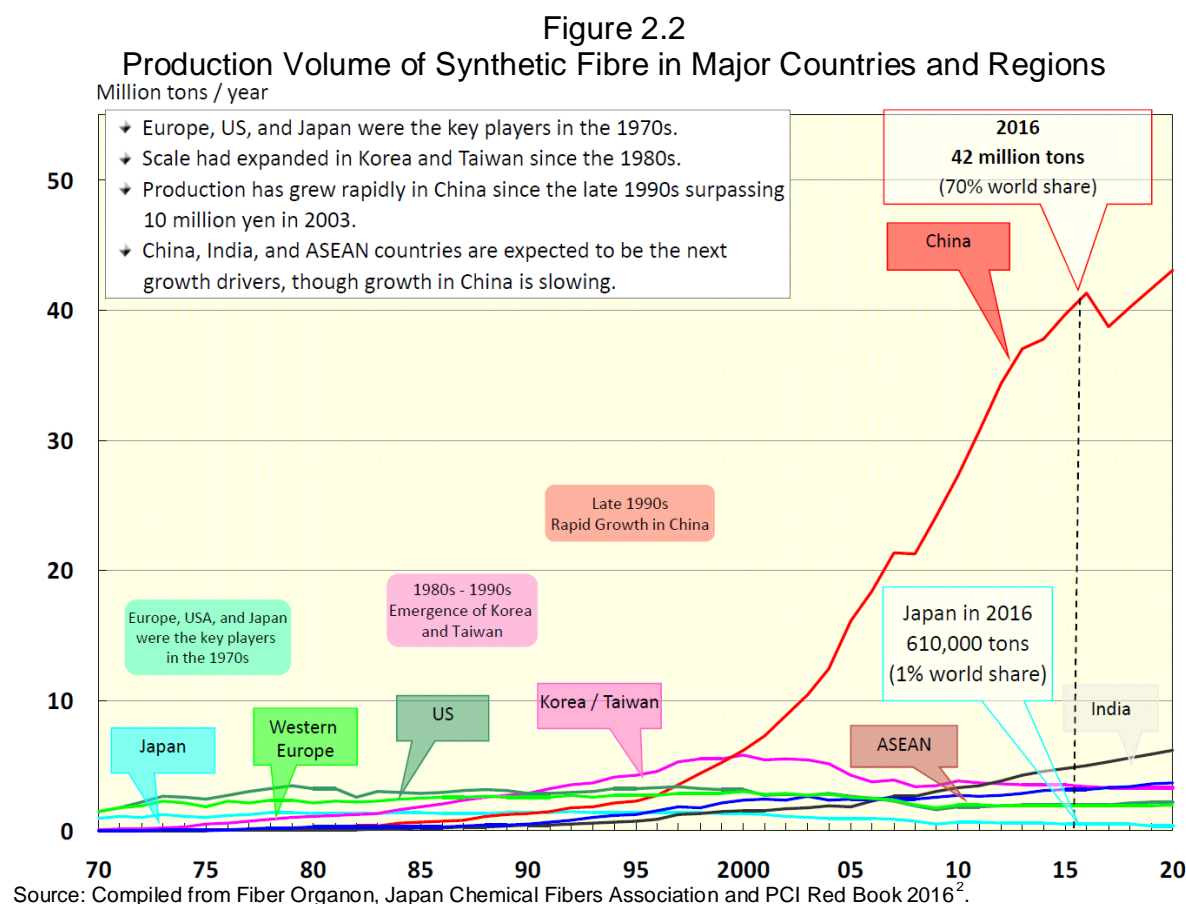
Figure 2.1
Global Fibre Productions and World Population



Source: Based on the estimation by the Japan Chemical Fibers Association, Fiber Organonand PCI Supply/Demand Report 2016. World's population trend is from the US Bureau of the Census International DB¹.

Figure 2.2 shows the production volume of synthetic fibre in major countries and regions. In 1970s, Europe, US and Japan were the key players while 1980s Korea and Taiwan also expanded their scale. In future, China, India and ASEAN countries are likely to be the next growth drivers in synthetic fibre segment. India's contribution in world production of synthetic fibre is still less than 10 percent.

¹Retrieved from https://www.toray.com/ir/pdf/lib/lib_a430.pdf accessed on September 9, 2019.



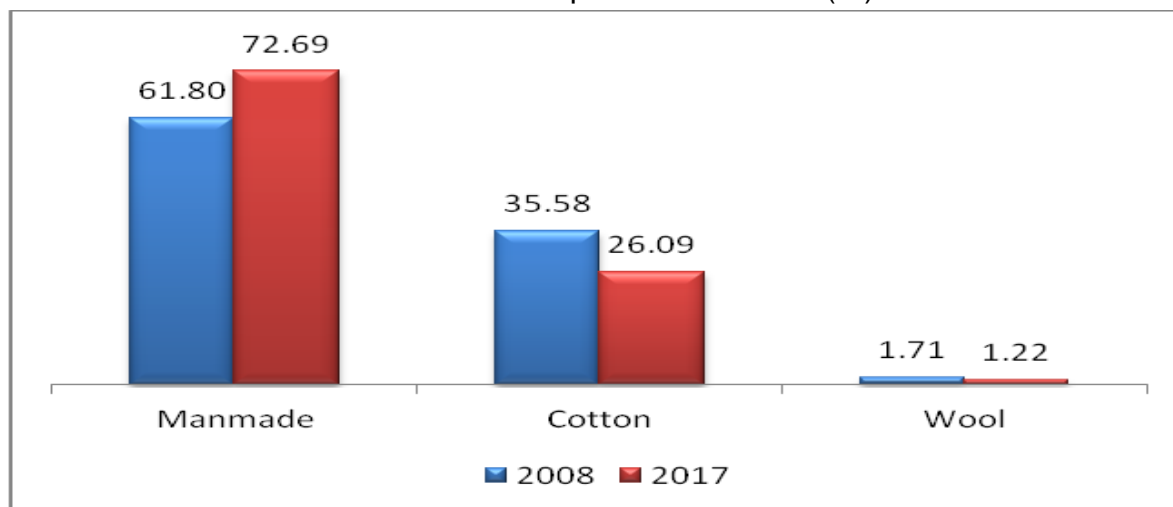
The global production of fibres was 98 million tons in 2017. The manmade fibre contributes 72.69 percent, cotton accounts for 26.09 percent and wool contributes 1.22 percent (Table 2.1 and Figure 2.3) of total production of fibre. Of the MMF production, the share of synthetic fibres (such as polyester, polyamide, acrylic etc.) was 90.65 percent and cellulosic fibre was 9.35 percent. In last 10 years, the growth trend of production indicates that the global production of MMF has grown with a CAGR of 4.94 percent, at a much higher growth rate than cotton fibre (CAGR: 0.10 percent). Thus, the share of MMF in total global fibre production has grown over the years and has a potential to grow further in future.

Fibres	2008	2012	2017
Manmade	44203	60517	71600
Cotton	25448	23563	25700
Wool	1221	1166	1200
Total	71521	85641	98500

Source: ASFI & CIRFS, EU & IVC, Germany

²Retrieved from https://www.toray.com/ir/pdf/lib/lib_a430.pdf accessed on September 9, 2019.

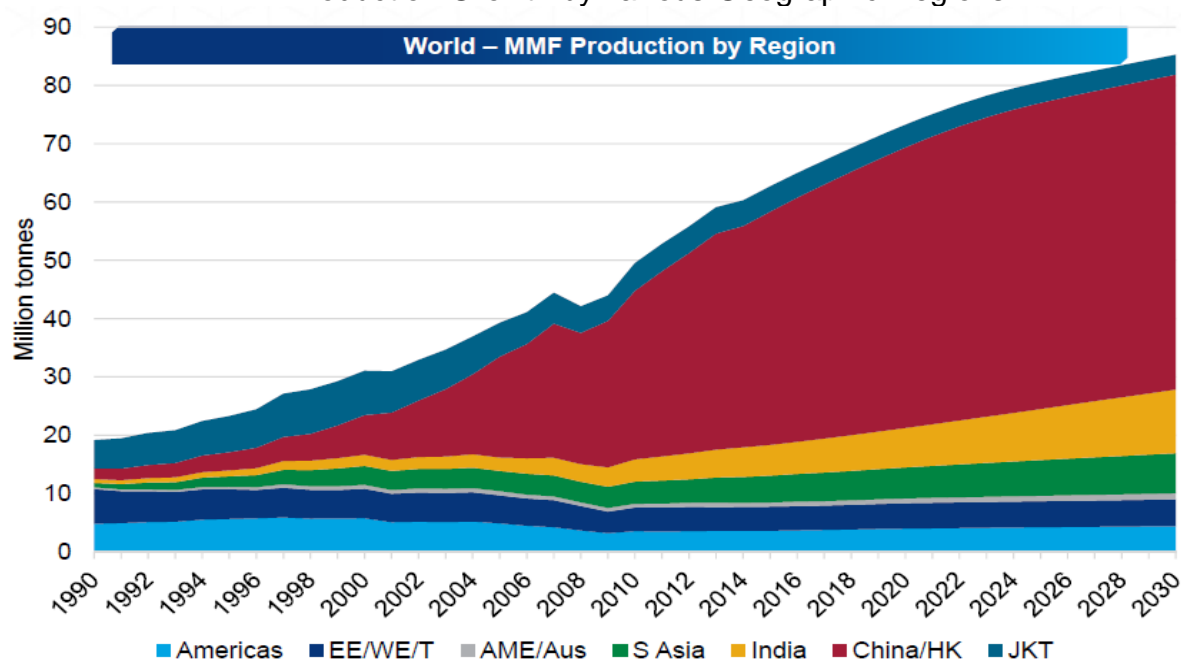
Figure 2.3
Global Fibre Composition in Textile (%)



Source: ASFI & CIRFS, EU & IVC, Germany

It is important to note that China's contribution is highest in MM fibre production and is expected to continue in future too. India is the second largest producers of MMF, after China with a share of 7 percent in 2017 as depicted in the Figure- 2.4. Even though India's share in MM fibre production is too less compared to China, it can play a significant role in this sector by increasing its production share in the world.

Figure 2.4
MMF Production Growth by various Geographic Regions



Note: EE=Eastern Europe; WE=Western Europe; T=Turkey; AME=Africa and Middle East; Aus.=Australia; S. Asia= South Asia; HK= Hong Kong; JKT= Japan, Korea, Taiwan.

Source: PCI Wood Mackenzie

2.3 Global Consumption of Fiber (Million Tons)

The global fibre consumption has increased substantially which have contributed to the increased share of manmade fibres in total fibre basket. The fibre consumption has increased from 70 million tons in 2005 to 101 million tons in 2016 at a Compound Annual Growth Rate (CAGR) of about 3.4%. While the share of natural fibre has declined from 43% in 2005 to about 30% in 2016, share of manmade fibre in the aggregate consumption basket has increased substantially from 55% in 2005 to about 72% in 2016. It is important to note that while the natural fibre is dominated by cotton, the manmade fibre segment is mostly dominated by synthetic. The contribution of the synthetic fibre to the consumption basket is about 64% and constantly growing. Among manmade fibres, the contribution of the synthetic fibre is about 74% followed by Cellulosic with 9% share in the consumption of the fibre as shown in Table-2.2.

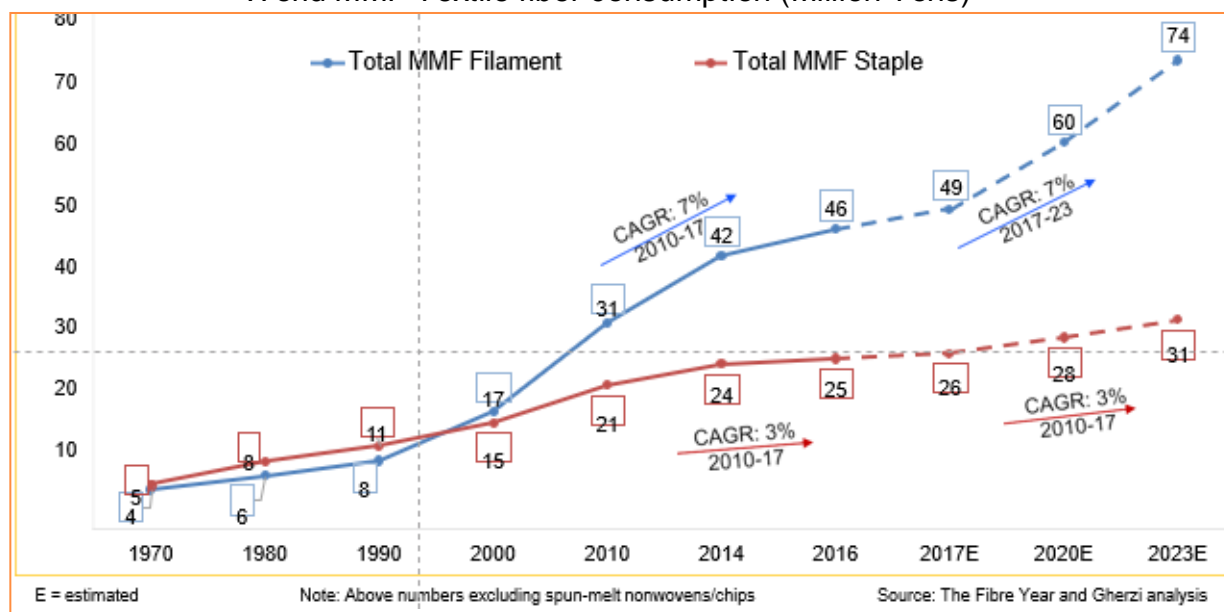
Fibre	2005	2016	CAGR(2005-16)
Natural	30.00 (43%)	30.42 (30%)	0.13
Synthetic	35.00 (50%)	70.00 (64%)	6.50
Cellulosic	5.00 (7%)	6.00 (6%)	1.67

Source: ASFI & CIRFS, EU & IVC, Germany

2.4 Key Trends in Production & Consumption

The consumption and production of man-made fiber has been increasing substantially during last 18 years. The share of the manmade fibre in the overall production basket has gone up significantly, suggesting the dominance of this segment. The trend indicates that consumption of filament has increased significantly. The consumption of MMF filament has gradually increased from 17 million tons in 2000 to 49 Million tons in 2017 with a CAGR of 7% during the period. It has been estimated that it is likely to further increase to 74 Million tons by 2023. On the other hand, the manmade staple fiber consumption has increased from 15 Million tons in 2000 to 26 Million tons in 2017 at the CAGR of 3% from 2010-17. It is estimated that the consumption of Man-Made staple fibers will grow at the same rate by 2023 and will reach 31 Million tons. This indicates that the use of MMF filaments has been increasing day by day leading to more scope for MMF textile industry. The growth of manmade staple is also equally promising.

Fig 2.5
World MMF Textile fiber consumption (Million Tons)

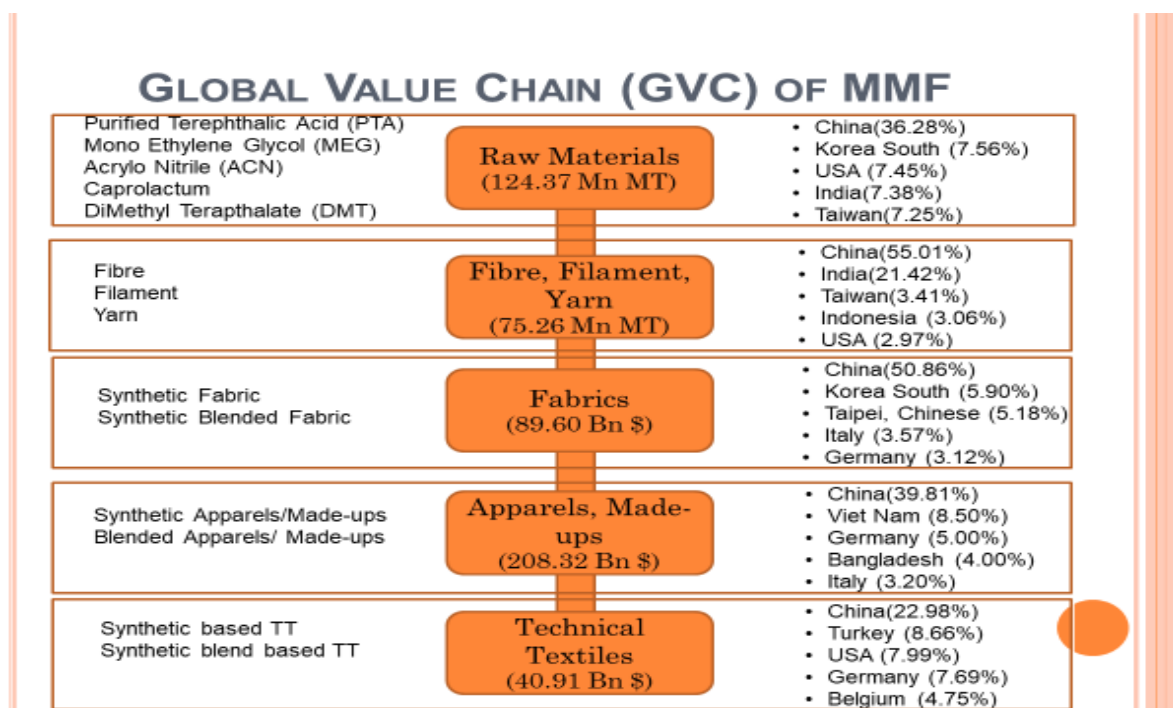


2.5 Production in Manmade Fibre Textile Value Chain (TVC)

The global value chain of MMF starts with the component of raw material manufacturing to the end use products namely fabrics, apparels, made-ups and technical textiles. India plays an important role in the production of raw materials like Purified Terephthalic Acid (PTA), Mono Ethylene Glycol (MEG), Acrylo Nitrile (ACN), Caprolactum and Dimethyl/Terephthalate (DMT) and fibre/filaments and ranks amongst top 5 players of the world. In case of end use products, though India features in all the components of the value chain there are many countries which perform better than India in the world market.

China is the top producer of the above-mentioned raw materials with 36.28% share of the total capacity of 124.37 Mn MT. followed by South Korea (7.56%), USA (7.45%), India (7.38%) and Taiwan (7.25%). Similarly, the world production capacity of fibre, filament, yarn is 75.26 Mn MT with China being the major contributor with 55.01% capacity followed by India (21.42%), Taiwan (3.41%), Indonesia (3.06%) and USA (2.97%).

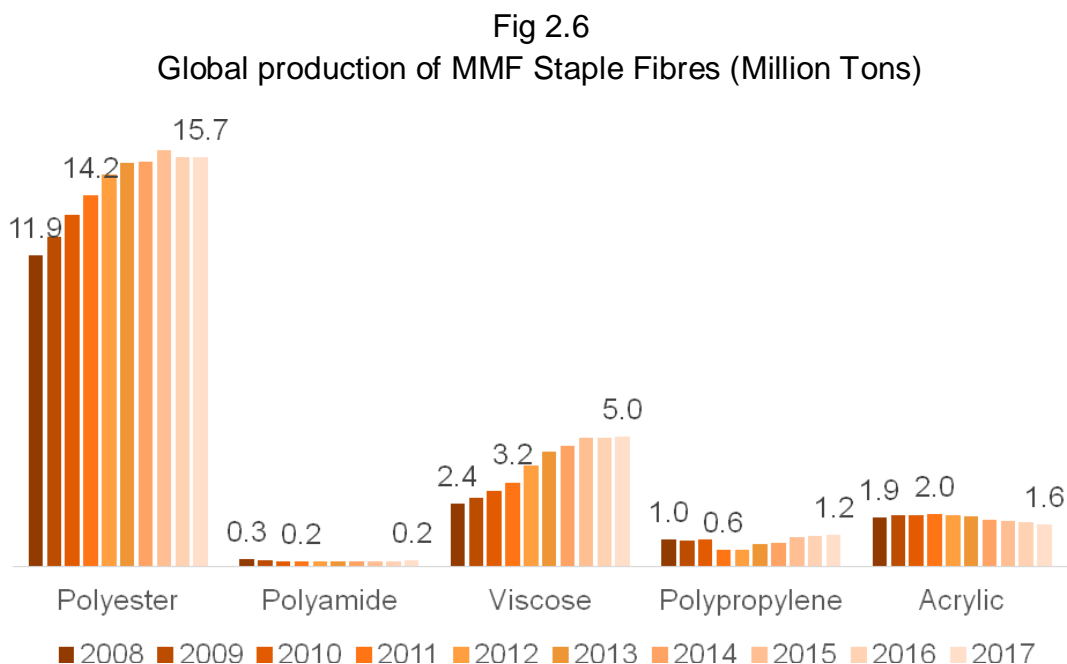
It is observed that the production of end use products viz fabrics, apparels, made-ups and technical textiles is spread across the globe and the major players are the ones which do not have any production capacity of fibre/filament yarn. Most major players import the fibre/yarn and carry out value additions in the form of weaving, knitting, garmenting, etc and market their goods across the globe and outperform the countries which produce raw material. The GVC is depicted below:



2.6 Production Trend of MMF Staple Fibres (Mn. Tons)

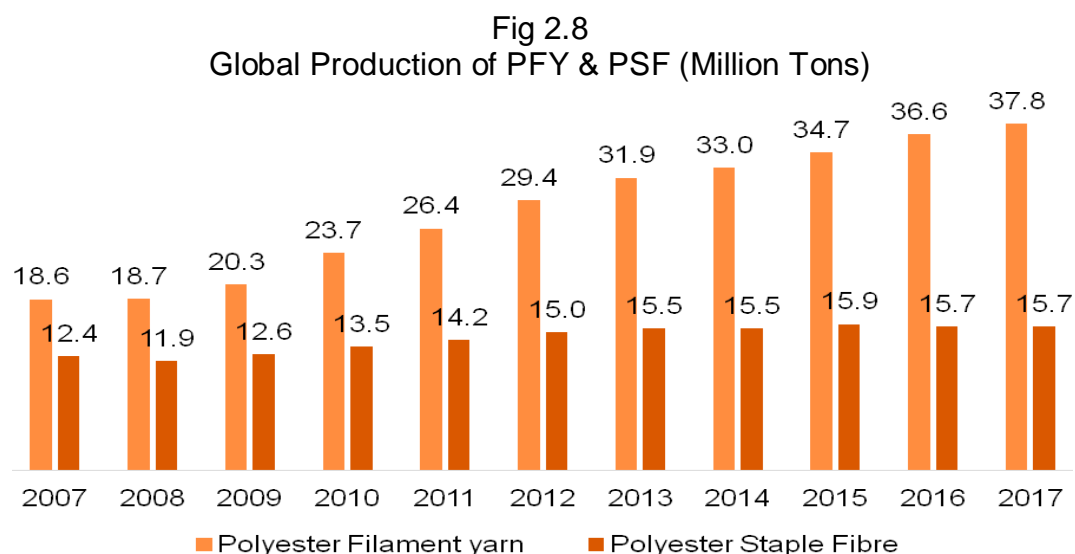
Among different manmade staple fibres, the global production of the polyester staple fibre is dominating followed by viscose. The polyester staple fibre has emerged as most important in the production basket. The key reason for such growth may be the increased preference towards the use of polyester staple fibre as compared to other MMF. The global production of Polyester staple fibre has increased from 11.9 Mn tonnes to 15.7 Mn tons in 2017 at a CAGR of 3%.

The other major demanded fibre is Viscose staple fibre and its production has increased from 2.4 Mn. tons since 2008 to 5 Mn tons in 2017 due to increased consumer awareness about the benefits of using cellulose fibres. Another category of staple fibre is polypropylene and its global production has reached to 1.2 Mn tons in 2017 from 1 Mn tons in 2008. Polypropylene's inherent qualities make it the fibre of choice for many geosynthetic applications. On the other hand, Global acrylic fibre production declined from 1.9 Mn tons in 2008 to 1.6 Mn tons in 2017 (roughly 2% decline). Lastly, global production of Polyamide has come down by 3% annually with 0.2 Mn tons in 2017.



2.6.1 Trends in Global Production of PFY & PSF

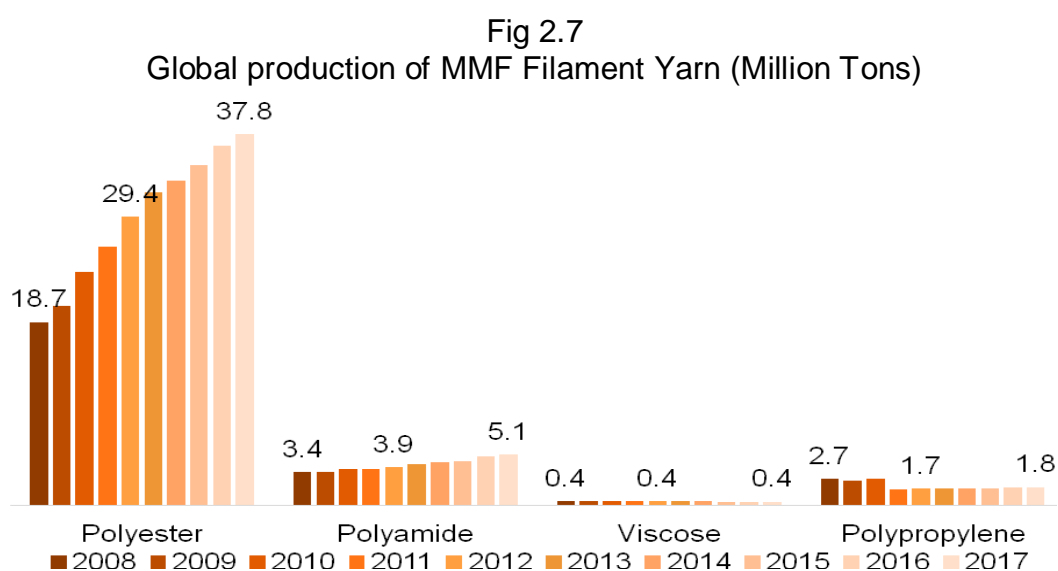
India is the second largest producer of polyester fiber and filaments. Polyester being the major segment of the manmade fibre based textile industry; efforts were made to analyze the production pattern of PFY and PSY from 2007 to 2017. The figure 2.8 indicates that the global production of polyester filament has experienced significantly higher growth than polyester staple fibre. The global output of polyester staple fiber (PSF) was 12.4 Mn ton in 2007 which increased to 15.7 Mn tons in 2017, registered a CAGR of 2.39%. The polyester filament yarn production has increased from 18.6 Mn tons in 2007 to 37.8 Mn tons in 2017 with a CAGR of 7.35%.



2.6.2 Global Production of MMF Filament Yarn (Mn. Tons)

The trend in the production of MMF filament yarn indicates that it is expected to dominate the global production base of manmade fibre textiles in coming years. The polyester filament yarn production has increased from 18.7 Mn tons in 2008 to 37.8 Mn tons in 2017 with CAGR of 8%. Increasing demand for polyester may be one of the key reasons for increase in production of polyester filament yarn. The global production of polyamide has increased from 3.4 million tons in 2008 to 5.1 million tons in 2017 with CAGR of 5%. Polyamide filament yarn, which is used extensively to manufacture technical textile products like sports apparels and accessories, adventure equipment, and travel accessories, has also witnessed positive growth during last ten years. The increasing demand for sportswear and production of lightweight vehicles may have contributed to the growing in demand of polyamide.

On the other hand, the global production of viscose filament yarn has almost remained stagnant at 0.4 Mn tons from 2008 to 2017. The lack of technological advancement in production of viscose filament yarns and increased concern towards environment may be some of the reasons for less than expected production of viscose filament yarn in the world. The global production PP filament yarn has declined at a CAGR of 4%, from 2.7 Mn in 2008 to 1.8 Mn in 2011.



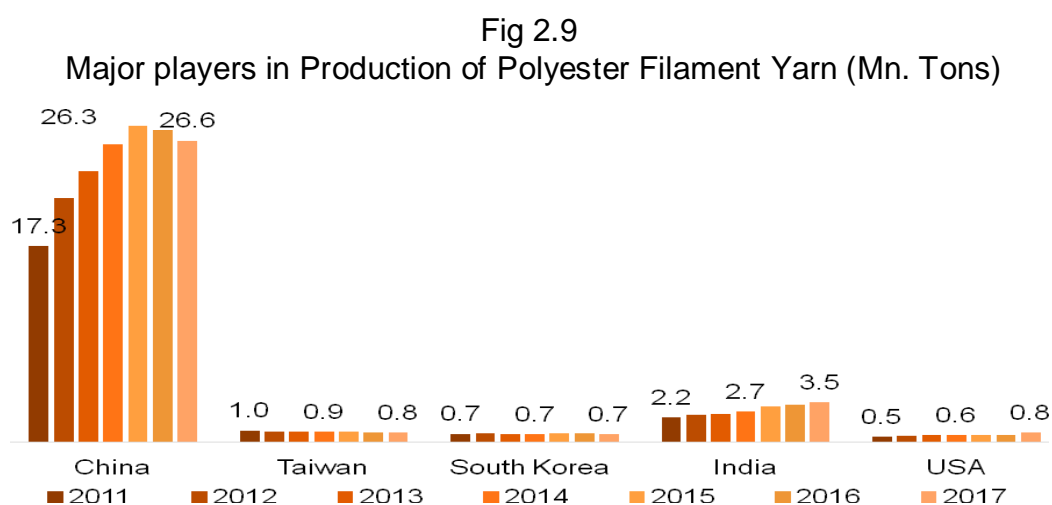
2.7 Major Producers of MMF Textiles

2.7.1 Polyester Filament Yarn

The demand for polyester filament yarn is largely driven by the textile industry growth in countries like China and India. China is key producer of polyester filament yarn. In 2017, production of polyester filament yarn in China accounted for 70% of the global production of polyester filament yarn. India expanded its global production share to 9% in 2017, which stood 3.5 Mn tons.

Countries like Taiwan, South Korea and USA have also experienced positive growth in the past few years, holding about 2% share of the world's total production of polyester filament yarn. The USA production of polyester filament yarn has grown at a CAGR of 9% valued at 0.8 Mn tons in 2017. This growth was mainly caused by growth in carpet industry.

On the other hand, in Taiwan, the production of polyester filament has declined from 1.0 million ton in 2011 to 0.8 Mn tons in 2017 with negative CAGR of -4% whereas the production of polyester filament yarns in South Korea remained stagnant to 0.7 Mn tons during the same period.



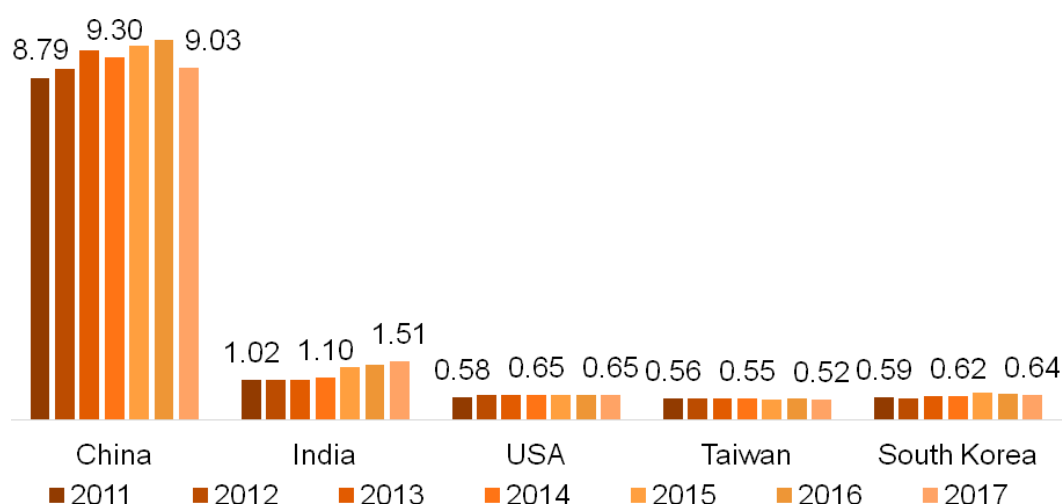
2.7.2 Polyester Staple Fibers

China also dominates in the production of polyester staple fibre with 58% of global share. India is distance second with a share of 10% in the global production of polyester staple fibre. It is important to note that the production of polyester staple fibre has been steadily in China from 8.7 Mn tons in 2011 to 9.03 Mn tons in 2017 whereas the production in India has increased from 1.02 million tons in 2011 to 1.51 million ton in 2017 with a moderate growth rate. India has a potential to influence the production in the entire value chain.

The production of polyester staple fibre in USA increased from 0.58 Mn tons in 2011 to 0.65 Mn tons by 2015, representing a CAGR of 2%. In Korea, the production of polyesters staple fibre has grown at a CAGR of 1% between 2011 and 2017. In 2017, around 0.64 Mn tons of polyesters staple fibre was produced in South Korea, increased from 0.59 Mn tons in 2011; which contributed about 4% of the world's total production of polyester staple fibre.

On the other hand, Taiwan production of polyester staple fibre has declined at a CAGR of 1% valued at 0.52 Mn tons in 2017, having global share of 3% in world's total production of polyester staple fibre.

Fig 2.10
Major players in Production of Polyester Staple Fibers (Mn. Tons)

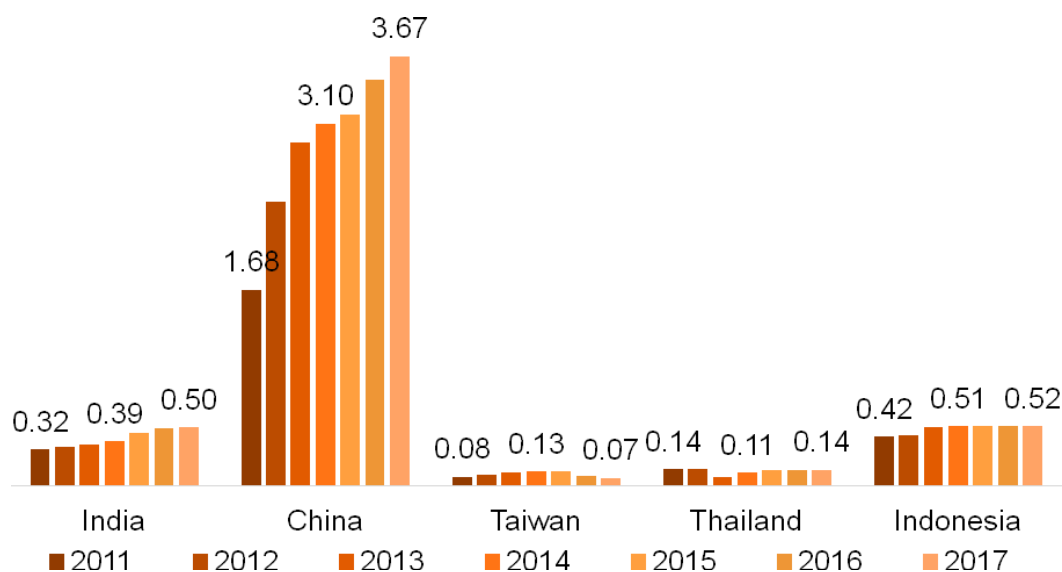


2.7.3 Viscose Staple Fibers

The viscose staple fibre is one of the major growing categories of the manmade fibre textile. The global production has increased to 3.67 Mn tons in 2017 from 1.68 Mn tons in 2011 at a CAGR of 14%. Globally, China is the largest producer as well as consumer of the viscose staple fiber. The country accounts for 60% of total globally produced viscose staple fiber owing to rapidly increasing yarn production. India is the second largest producer with 0.50 Mn tons of production in 2017 as compared to 0.32 Mn tons in 2011, registering a CAGR of 8% per annum. The other major players include Indonesia, Thailand and Taiwan, etc.

The viscose staple fiber production in Indonesia has increased from 0.42 Mn tons in 2011 to 0.52 Mn tons in 2017 at CAGR of 8%. On the other hand, the production of Thailand has remained static to 0.14 Mn tons throughout period. Taiwan's overall production of viscose staple fibre has dropped at a CAGR of -1% to 0.07 Mn tons in 2017 after touching a peak of 0.13 Mn tons in 2014 and having a global share of 1% in world's production of viscose staple fibre.

Fig 2.11
Major players in Production of Viscose Staple Fibre (Mn. Tons)

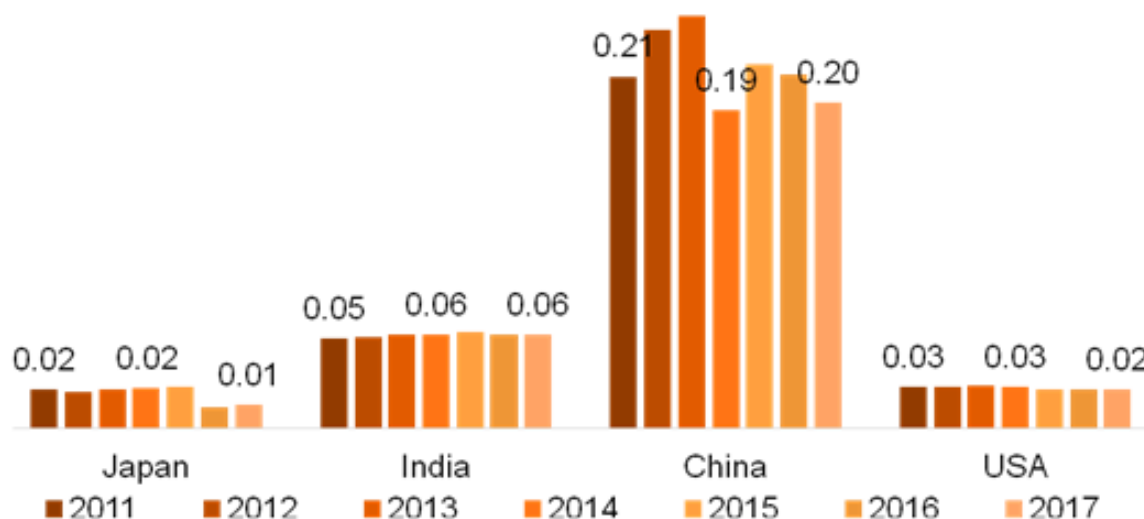


2.7.4 Viscose Filament Yarn

China is world's largest viscose filament yarn producing country and its production share has grown in the past few years. In 2017, China accounted for 72% of the global total production which declined to 0.20 Mn tons after touching a peak of 0.25 Mn tons in 2013. India is the second largest producer of viscose filament yarn accounting for 21% share of the world's production. India's production has increased to 0.06 Mn tons in 2017 from 0.05 Mn tons in 2011 with a CAGR of 1%.

Among other countries, USA's production of viscose filament yarn has declined from 0.03 Mn tons in 2011 to 0.02 Mn tons in 2017, with a share of 8% of global production. Similarly, Japan's overall production of viscose filament yarn has dropped at a negative CAGR of 8% to 0.01 Mn tons in 2017 with a global share of 5% in world's total production.

Fig 2.12
Major players in Production of Viscose Filament Yarn (Mn. Tons)

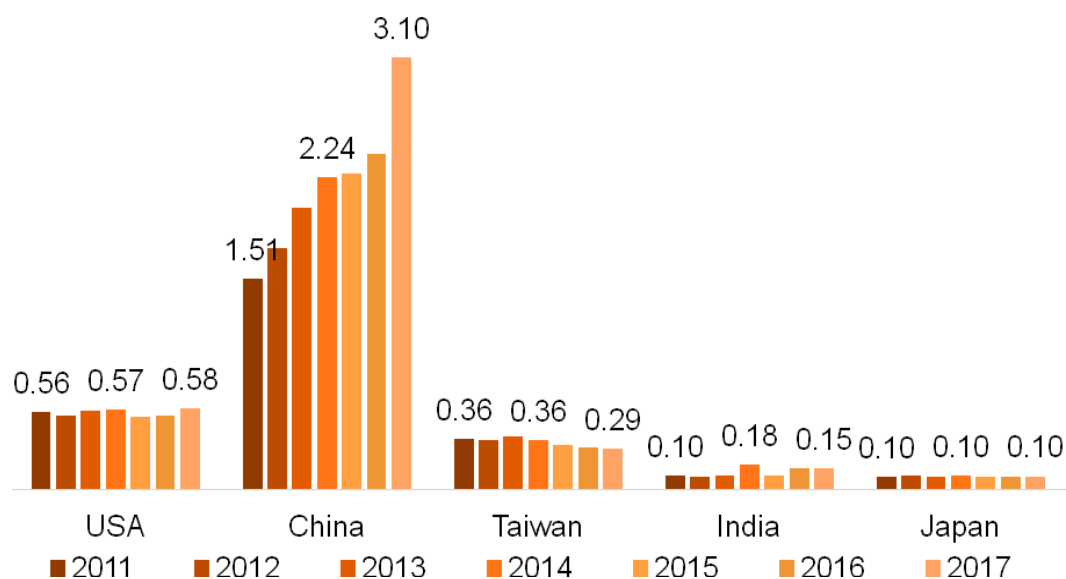


2.7.5 Polyamide filament yarn

The production growth of polyamide filament yarn from 2011 to 2017 experienced sharply higher shares due to textile and industrial growth in China and improved carpet and automotive markets across the global including USA. With a growth of about 13% CAGR, Chinese production of polyamide filament yarn has increased to 3.10 Mn tons in 2017 from 1.51 Mn tons in 2011 and accounted about 60% of global production. India's production of polyamide filament yarn has declined from 0.18 Mn tons in 2014 to 0.15 Mn tons in 2017.

USA's production of polyamide filament yarns has increased to 0.58 Mn tons in 2017 from 0.56 Mn tons in 2011. The production of polyamide filament of Taiwan has declined from 0.36 Mn tons in 2011 to 0.29 Mn tons in 2017. The production of polyamide filament yarn of Japan is stagnated at 0.10 Mn tons during the same period. Japan has 2% share of the world's production of polyamide filament yarn.

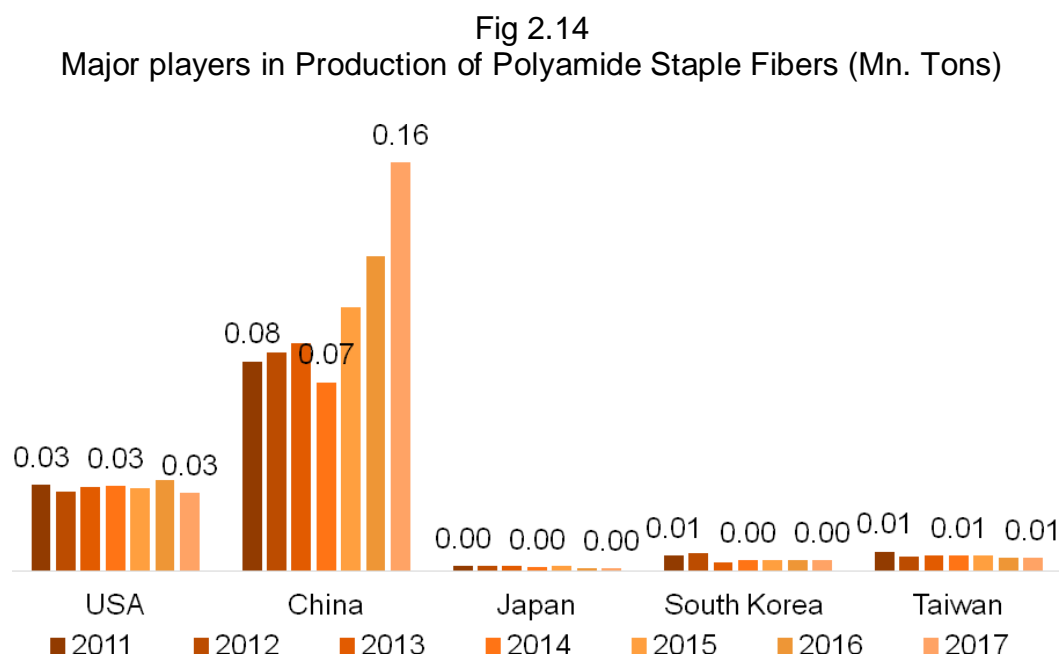
Fig 2.13
Major players in Production of Polyamide Filament Yarns (Mn. Tons)



2.7.6 Polyamide Staple Fibers

The polyamide staple fiber production of China has increased from 0.08 Mn tons in 2011 to 0.16 Mn tons in 2017. Currently, the fibers supply is very much dependent on the Chinese industry as contributes a majority share of 73% in the world's total production of polyamide staple fibre.

USA production of polyamide staple fibre remained stagnate at 0.03 Mn tons between 2011 and 2017, contributed 14% share of the world's production of polyamide staple fibre. South Korea and Taiwan are the third and fourth largest producer of Polyamide staple fibre of world's total production of polyamide staple fibre, respectively. However, South Korea's production of polyamide staple fibre has declined at a CAGR of 7%, from 0.01 Mn tons in 2011 to 0.004 Mn tons in 2017. On the other hand, the fibre production of Taiwan has remained static at 0.01 Mn tons during the same period.

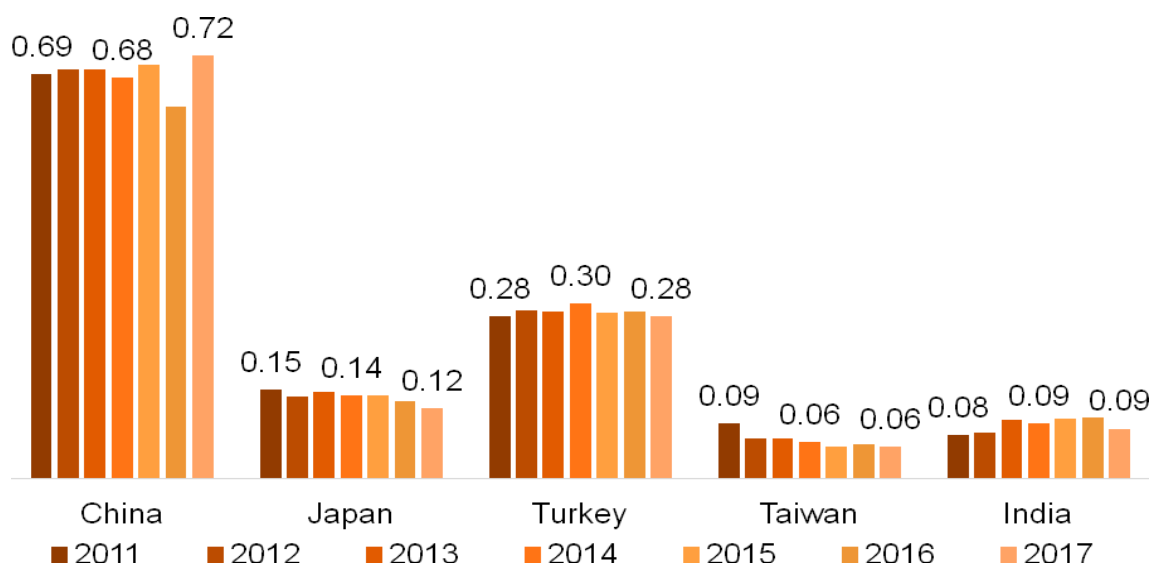


2.7.7 Acrylic Fibers

Like other categories of fibre, China is the major producer of acrylic fibres contributing about 45% of world production followed by Turkey with 17% share. The Acrylic staple fiber production of China has grown from 0.69 Mn tons in 2011 to 0.72 Mn tons in 2017. Turkey's production of acrylic staple fibre remained stagnant at 0.28 Mn tons during the period. On the other hand, the production of acrylic staple fibre in Japan declined by 4% from 0.15 Mn tons in 2011 to 0.12 Mn tons in 2017, contributed 7% share in world's total production.

India is the fourth largest producer of acrylic fibres accounting for about 5% share of the world production. India succeeded to increase its output to 0.09 Mn tons in 2017 from 0.08 Mn tons in 2011, with a CAGR of 2%. On the other hand, the production of acrylic staple fibre in Taiwan has declined from 0.09 Mn tons in 2011 to 0.06 Mn tons in 2017. Taiwan has 3% share in global market of acrylic fibre.

Fig 2.15
Major players in Production of Acrylic fibres (Mn. Tons)



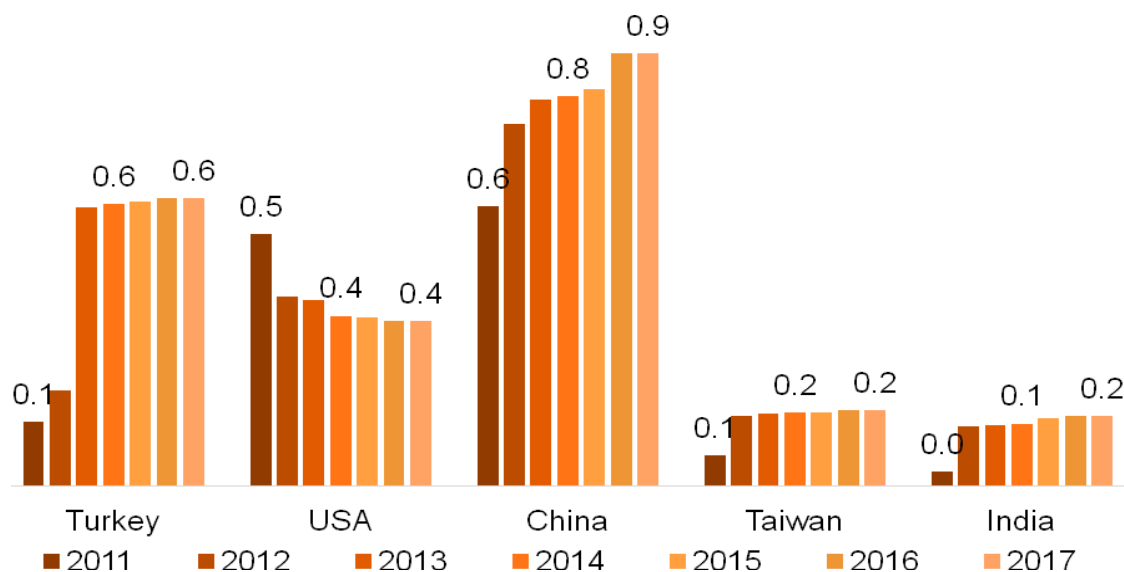
2.7.8 Polypropylene Filament Yarn

The global demand of polypropylene has been growing steadily due to the increased production of polypropylene filament yarn. China has 20% share in the global market of polypropylene and its production from 0.6 Mn tons in 2011 to 0.9 Mn tons in 2017. Turkey and USA are the second and third largest producer of PP filament yarn, contributing 14% and 8% in the global production, respectively.

The PP filament yarn production of Turkey has grown from 0.1 Mn tons to 0.6 Mn ton between 2011 and 2017. However, during the same period the production of PP filament yarn in USA has declined from 0.5 Mn tons in 2011 to 0.4 Mn tons in 2017, registering a negative CAGR of 7%.

Moderate increase in the production of PP filament yarn compared with 2011 has been observed in Taiwan and India with a share of 4% and 3% respectively. The production of Taiwan has increased from 0.1 Mn tons in 2011 to 0.2 Mn tons in 2017; whereas production of PP filament in India stood at 0.2 Mn tons in 2017, and have grown at a CAGR of 31% between 2011 and 2017.

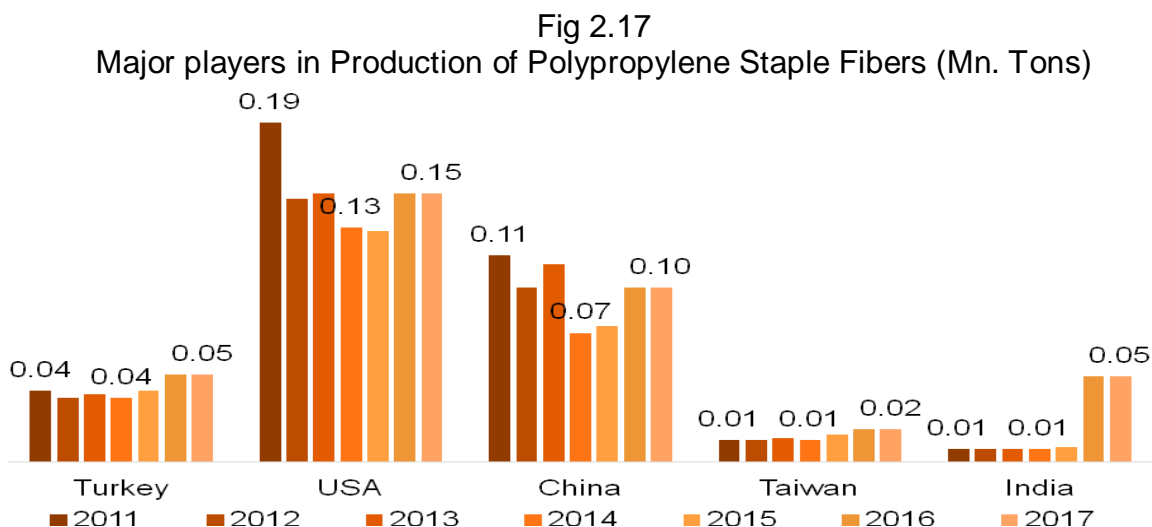
Fig 2.16
Major players in Production of Polypropylene Filament Yarn (Mn. Tons)



2.7.9 Polypropylene Staple Fiber

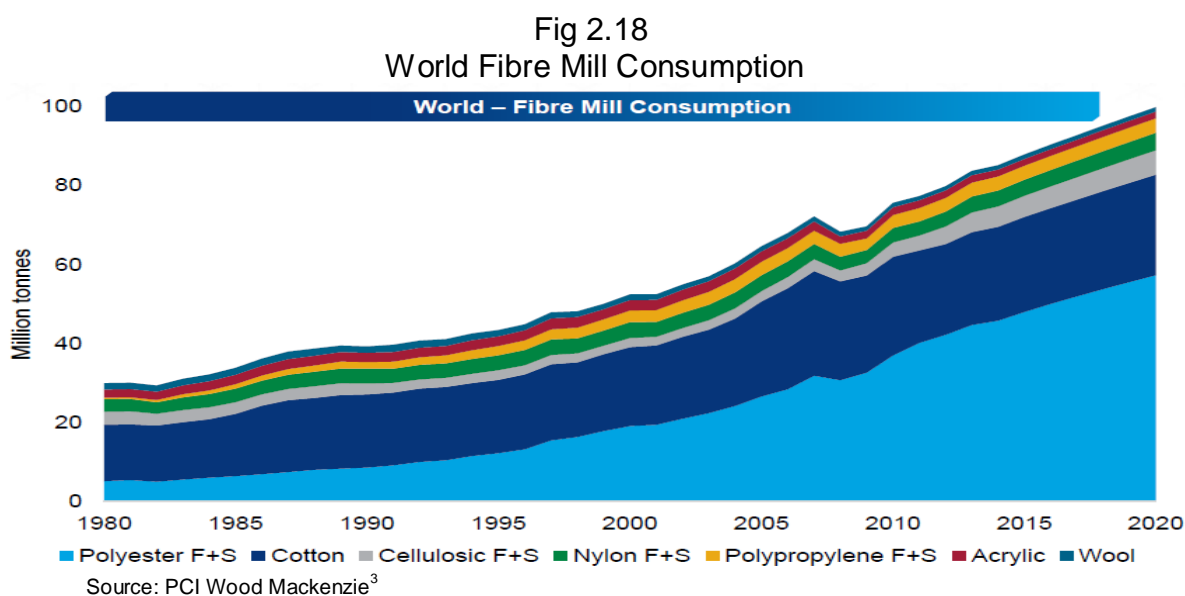
The production of the polypropylene staple fibre has experienced negative growth in USA & China between 2011 and 2017, with a share of 15% and 10% in the global production, respectively. USA's production of polypropylene staple fibre has dropped to 0.15 Mn tons in 2017 from 0.19 Mn tons in 2011 whereas the production of polypropylene staple fibre in China has dropped at a CAGR of 3% to 0.10 Mn tons in 2017.

The polypropylene staple fibre production of Turkey has increased from 0.04 Mn tons in 2011 to 0.05 Mn tons to 2017. Turkey contributes 5% of the world's production of polypropylene staple fibre. On the other hand, the polypropylene staple fibre production in India has grown steadily from 0.01 Mn tons in 2011 to 0.5 Mn tons in 2017 registering a CAGR of 37%. It contributed about 5% in the global production of polypropylene staple fibre. A minor increase in the production of polypropylene staple fibre is observed between 2007 and 2011 and it was valued 0.02 Mn tons in 2017 with a share of 2% in global production.



2.8 Global Consumption of MMF Textiles

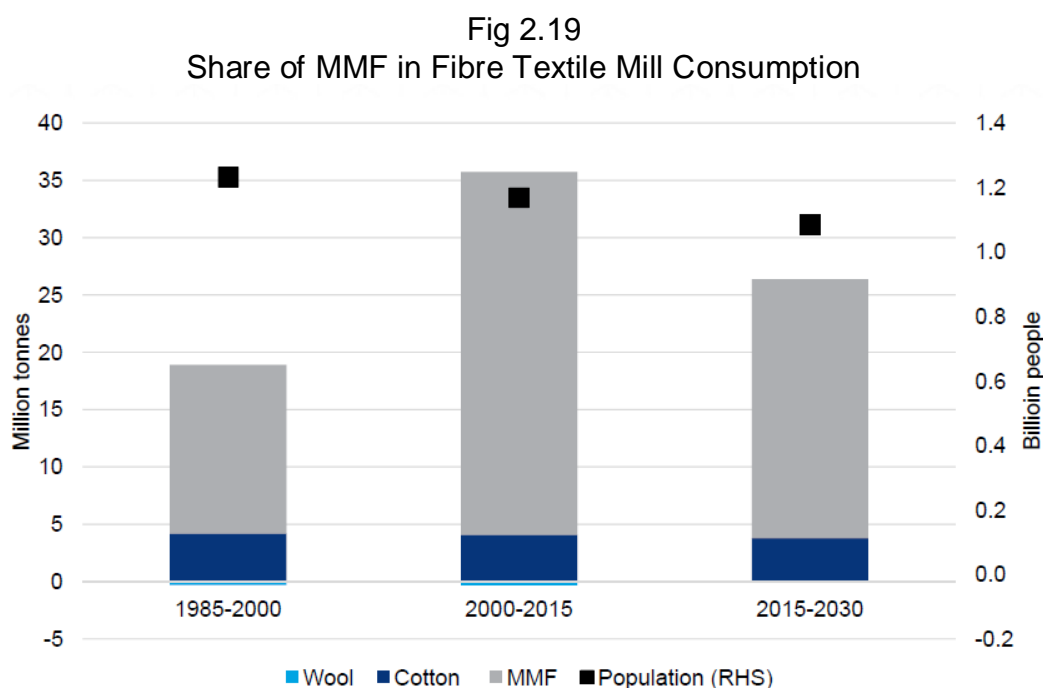
Globally, the share of the manmade fibre in the overall consumption of the fibres has been increasing over the years. The share of manmade fibres has grown to 60 percent of the overall fibre consumption and is expected to grow further in future with population growth. It is expected that polyester filament is expected compete with all staple fibres. Further, the application base of MMF fibre-based products is also widening substantially in the areas of technical textiles, apparel, home textiles and industrial products, etc leading to further growth in demand of the MM fibre. The key trend of the consumption growth of different fibres can be seen in Figure-2.18.



³ Adapted from <https://baumwollboerse.de/wp-content/uploads/2016/03/SII-Angel-Abstract.pdf> accessed on September 9, 2019.

Manmade fibre will be the major contributor to the textile industry while the contribution of cotton is likely to remain stable. As per the research firm PCI Wood Mackenzie's estimates, it is expected that during 2015-30, MMF will contribute more than 20 million tonnes out of total mill consumption.

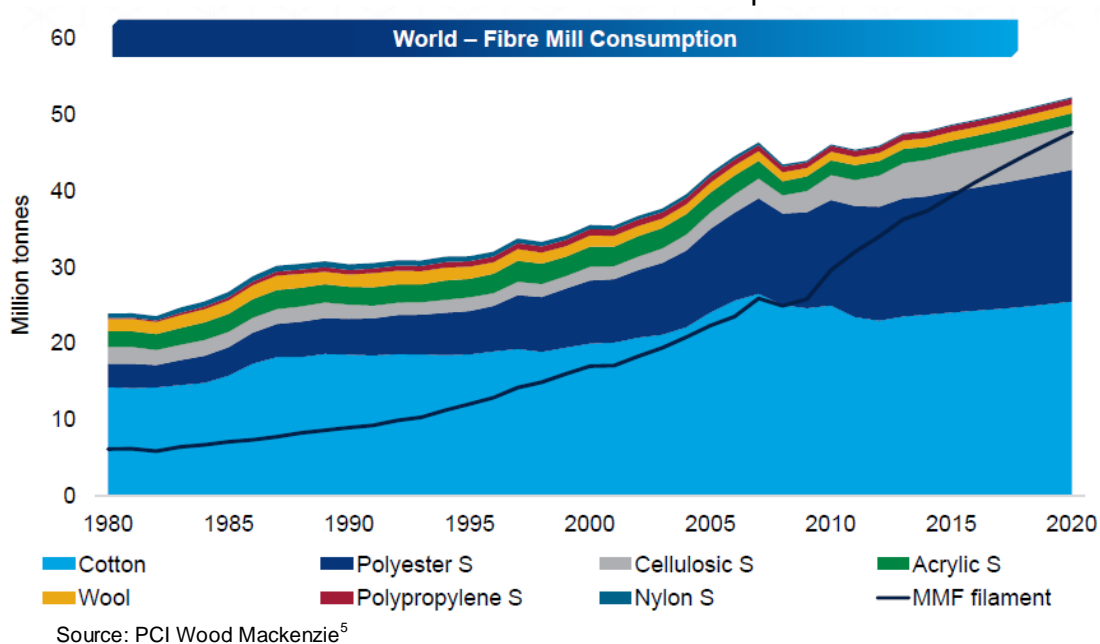
Fig 2.19 reports the growth of MMF filament vis-à-vis other fibres till 2020. MMF filament is expected to take over the cotton to some extent. Thus, it can be said that the future growth in fibre mill consumption is likely to come from MMF filament segment.



Source: PCI Wood Mackenzie⁴

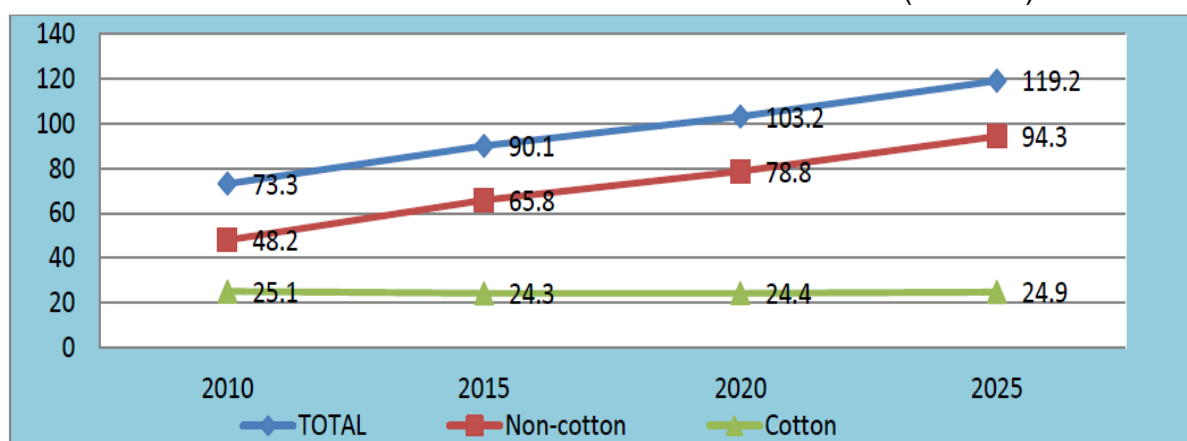
⁴ Adapted from <https://baumwollboerse.de/wp-content/uploads/2016/03/SII-Angel-Abstract.pdf> accessed on September 9, 2019.

Fig 2.20
Growth of MMF Filament versus Staple Fibres



It is also expected that the overall growth in manmade fibre is likely to come from developing countries, mostly Asian countries. The global end-use demand for textile fibres is projected to expand by an average of 2.8 percent per annum between 2015 and 2025, from 90.10 million tons to 119.20 million tons and global end-use demand for man-made fibres is expected to increase by 3.7 percent in 2025 from 65 million tons in 2015 to 94.3 million tons in 2025 as shown in figure- 2.21.

Fig 2.21
Global End-use Demand for Textile Fibres 2010-25 (Mn. Tons)



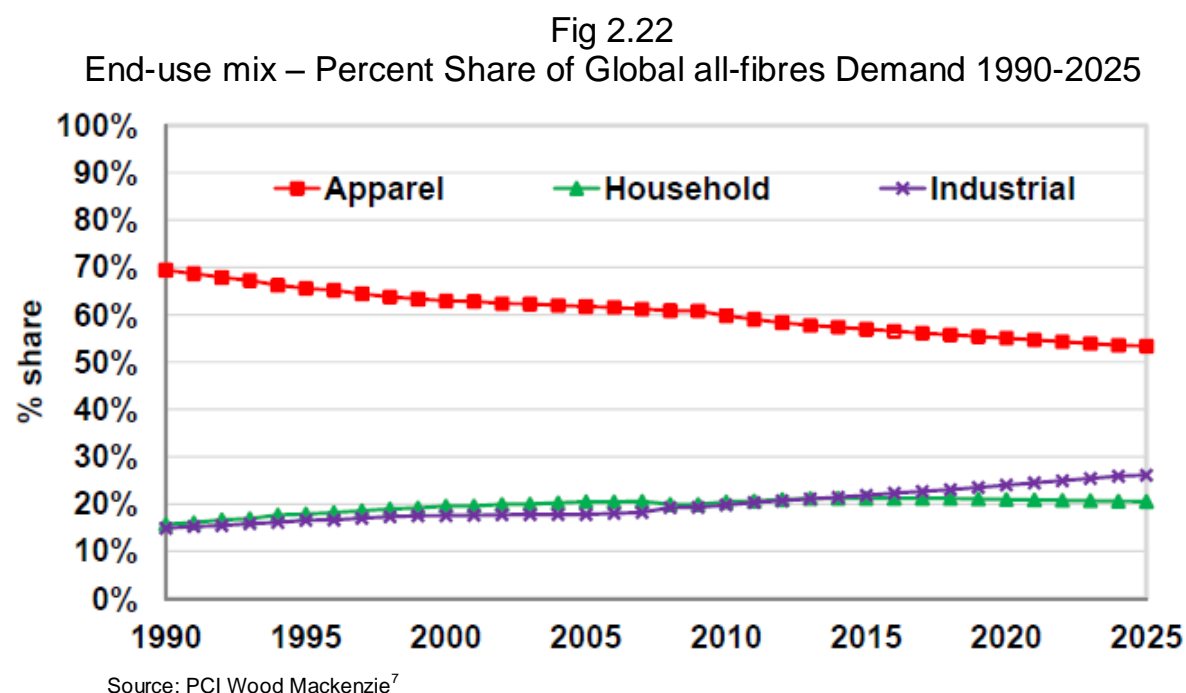
Source: International Cotton Advisory Committee (ICAC)⁶

⁵ Adapted from <https://baumwollboerse.de/wp-content/uploads/2016/03/SII-Angel-Abstract.pdf> accessed on September 9, 2019.

⁶ Adapted from http://texmin.nic.in/sites/default/files/Indian%20Manmade%20fibre%20textile%20industry_0.pdf, on September 9, 2019.

Hence, the fibre consumption is experiencing a structural change due to growing demand for more diversified products and increased demand for new pattern design and fashion oriented traditional products. The growth in population is also contributing to it. An important trend is emerging from the present structural changes in the direction and the composition of the consumption/demand of the fibre in terms of end use is that, industrial sector will overtake household sector very soon and in future, the contribution of industrial segment will be more than household sector (PCI Wood Mackenzie).

In 1990, household and industrial sectors contributed about 15.7 percent and 14.9 percent, respectively, to total fibre demand which likely to increase up to 20.5 percent and 26.1 percent respectively in 2025. Further, the share & contribution of apparels will decline gradually from a high base of 69.4 percent in 1990 to about 53 percent by 2025 of the total fibre demand and the remaining 47 percent to come from both household and industrial sector (see Figure- 2.22).



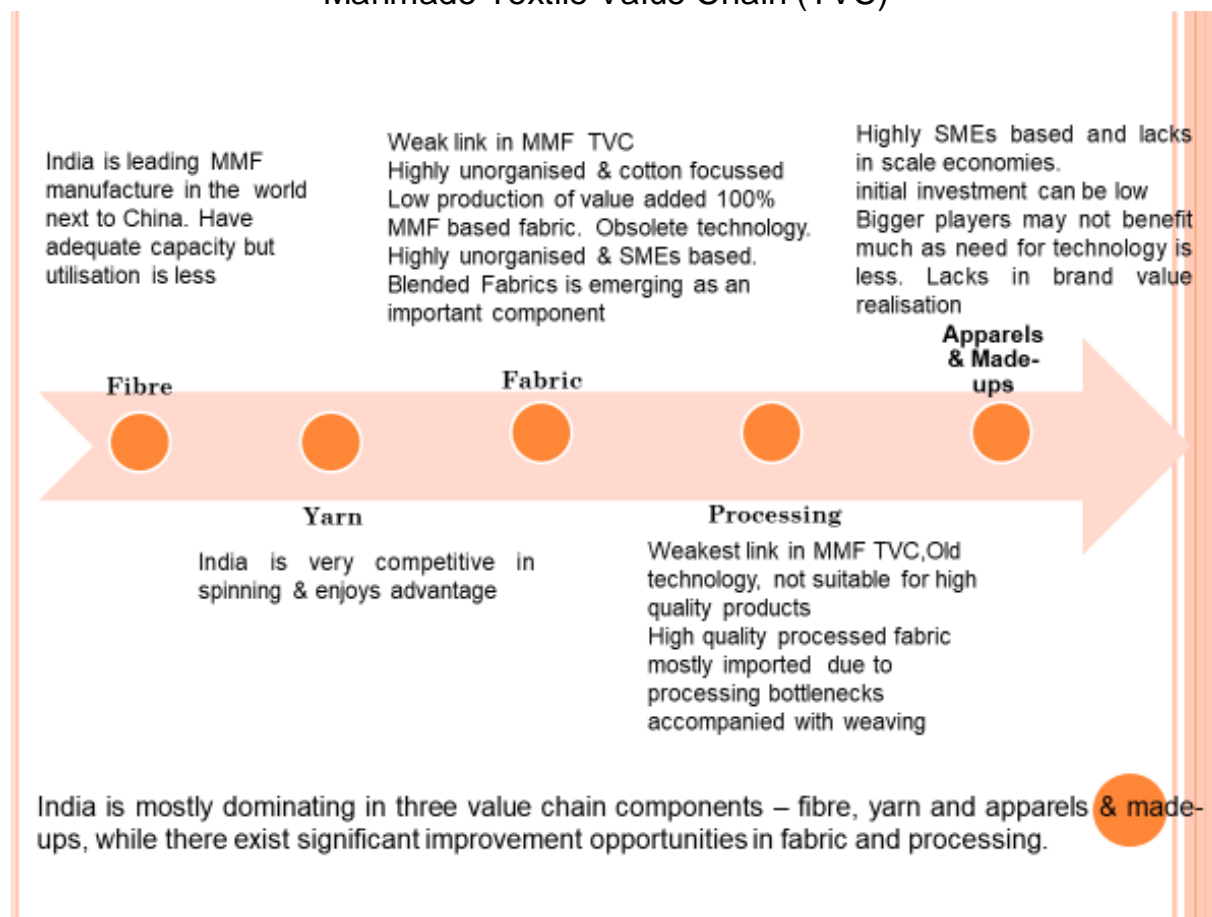
2.9 Fibre Production Trend in India

Before discussing the fibre production scenario in India, it would be useful to examine the MMF Textile Value Chain (TVC) as given in the Figure 2.23. In

⁷Adapted from <https://baumwoollboerse.de/wp-content/uploads/2016/03/SII-Angel-Abstract.pdf> accessed on September 9, 2019.

the manmade TVC, India mostly dominates in three value chain categories – fibre, yarn and apparels and made-ups, while there exist significant improvement opportunities in fabric and processing.

Fig 2.23
Manmade Textile Value Chain (TVC)



India produces almost all types of synthetic fibres such polyester, viscose, nylon or acrylic and cellulosic fibres like viscose, acetate, etc. Currently, India is the 2nd largest producer of both polyester and viscose globally. The availability of adequate feedstock reduces India's dependency on other countries for raw materials and able to produce MMF textiles of international standard to meet the global demand.

2.9.1 Production of MMF textiles in the TVC

China is the largest manufacturer of MMF with 45.70 mn MT production followed by India with 5.48mn MT, USA with 1.99 mn MT, Taiwan with 1.90 mn MT and South Korea with 1.37mn MT. However, India has an advantage of having both forward and backward linkages to the MMF textile industry.

India is a leading manufacturer of PTA (Purified Terephthalic Acid), MEG (Mono Ethylene Glycol), the basic raw-material used by MMF industry for production of fibre and filament in the value chain. The production of these raw materials being derived from petroleum refining industry is mostly contributed by the industries like Reliance Industries Limited (RIL), Indian Oil Corporation, MCC PTA India Corporation Pvt. Ltd., SVC Super Chem Ltd., SM Dyechem Ltd., JBP industry, etc.

The production, availability and pricing of these basic raw materials has a potential to influence the entire MMF textile value chain. It may be noted that China with a production of 36.21mn MT of PTA and 6.79 mn MT of MEG is the leading player in the world, whereas Saudi Arabia is a leading manufacturer of MEG with 6.90 Mn MT production in 2018.

Year	Rayon grade wood pulp	Caprolactum	MEG	Acrylonitrile	PTA
2009	169.8	115.6	723.6	38.3	2964.9
2010	182.8	122.4	751.7	37.5	3109.8
2011	190.2	124.7	763.0	37.9	3277.9
2012	173.7	111.3	1035.0	35.3	3362.7
2013	176.0	108.0	1067.0	36.0	3480.9
2014	178.3	120.0	1049.0	38.0	3553.0
2015		120.0	1094.0	38.0	4367.0
2016		86.0	1108.0		5180.8
2017		85.3	1408.5		5641.0
2018		88.25	1935.5		4517.1
CAGR (%)	0.98	-2.96	11.55	-0.13	4.79

Source: Handbook of Statistics on Manmade/Synthetic Fibre/Yarn Industry, Part-I, 2017-18, ASFI;
Note: MEG: mono ethylene glycol; PTA: purified terephthalic acid

India produced 4517.10 thousand tonnes PTA in 2018, 1,935.5 thousand tonnes of MEG in the same year. The production of PTA and MEG have registered a CAGR of 4.79 percent and 11.55 percent, respectively, between 2009 and 2018 which is a good indication for the MMF TVC as a whole.

2.9.2 Forward Linkage of the MMF Textile Value Chain (TVC)

In the forward linkage of MMF TVC, India's production of yarn and fabrics have grown between 2014-15 and 2018-19.

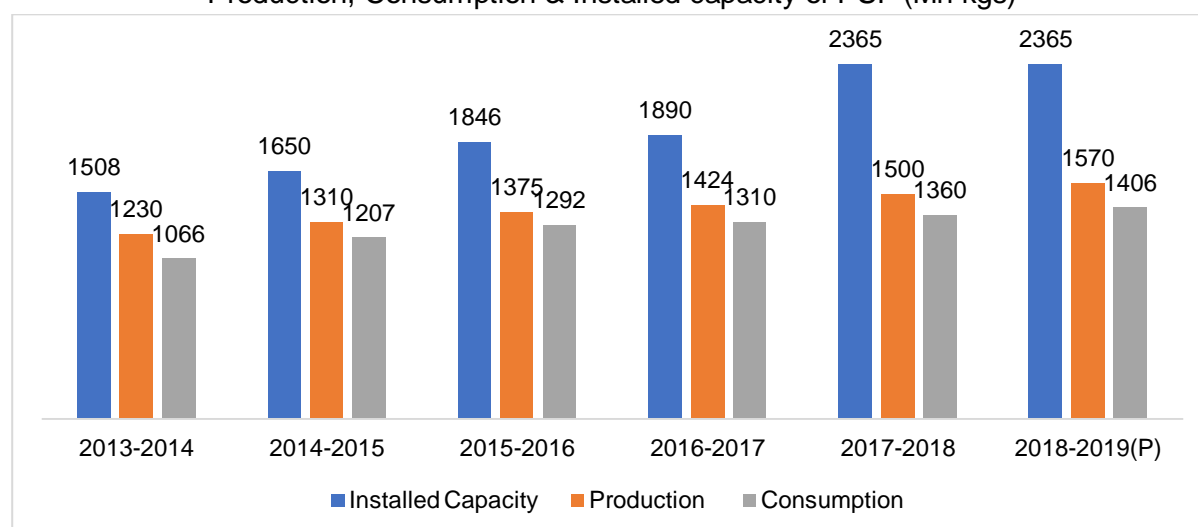
(i) Production trends of MMF Staple Fiber

India's total MMF staple fiber production stood at 2217 Mn kg in 2018-19 and is anticipated to post robust growth by 2023, owing to the growing consumer shift towards sustainable fashion due to rising environment-consciousness. Sustainable fashion refers to as the adoption of environment friendly fibres such as the polyester stable fibre and viscose staple fibre that can act as an alternative to cotton at a much lesser price. Moreover, the increasing use in home furnishings, high demand from the automotive industry and competitively cheaper price of manmade staple fibres as compared to cotton is expected to drive the growth of the market in the next five years. Additionally, the flourishing apparel industry coupled with increasing awareness of versatile properties such as lightweight, wrinkle-free, and resistant to light and weather are altogether increasing the India's production of MMF staple fibres.

(ii) Polyester Staple Fiber

Fig. 2.24

Production, Consumption & Installed capacity of PSF (Mn kgs)

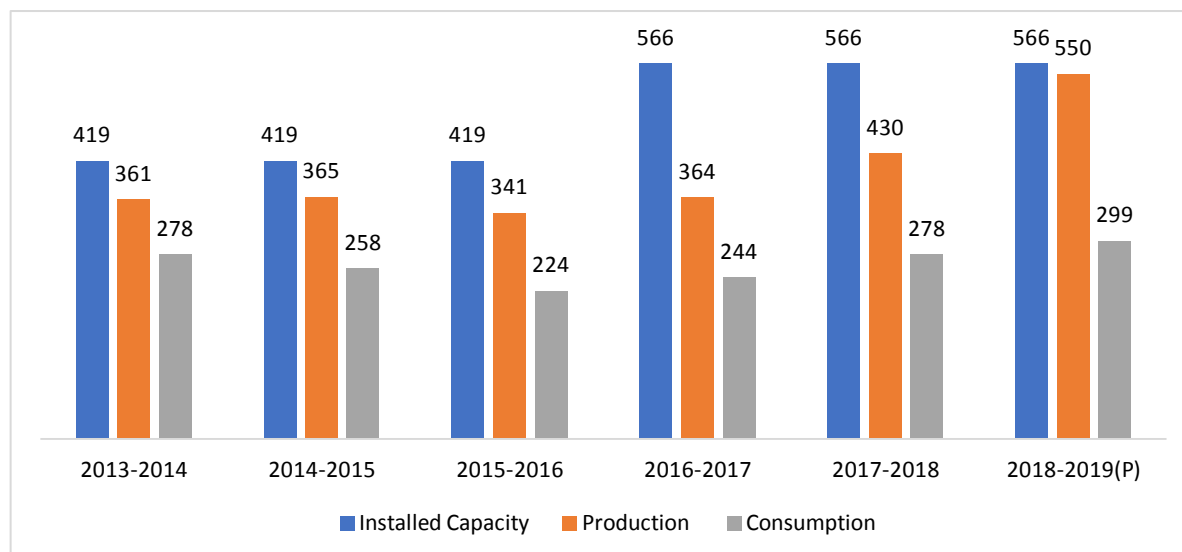


India is the second largest producer of polyester and viscose staple fibre in the world. The total production of polyester staple fiber has grown from 1230 Mn Kg to 1570 Mn Kg at CAGR of 6% during 2013-14 to 2018-19. The country has an installed capacity of 2365 Mn kg in 2018-19, indicating low utilization level. Also, the consumption has registered slow growth from the 1292 Mn Kg in 2015-16 to 1406 Mn kg in 2018-19. With an improvement in global economy, increased demand for technical textiles and limited cotton availability in the long term, the consumption of polyester staple fibre is expected to pick up.

(iii) Viscose Staple Fiber

Fig. 2.25

Production, Consumption & Installed capacity of VSF (Mn Kgs)

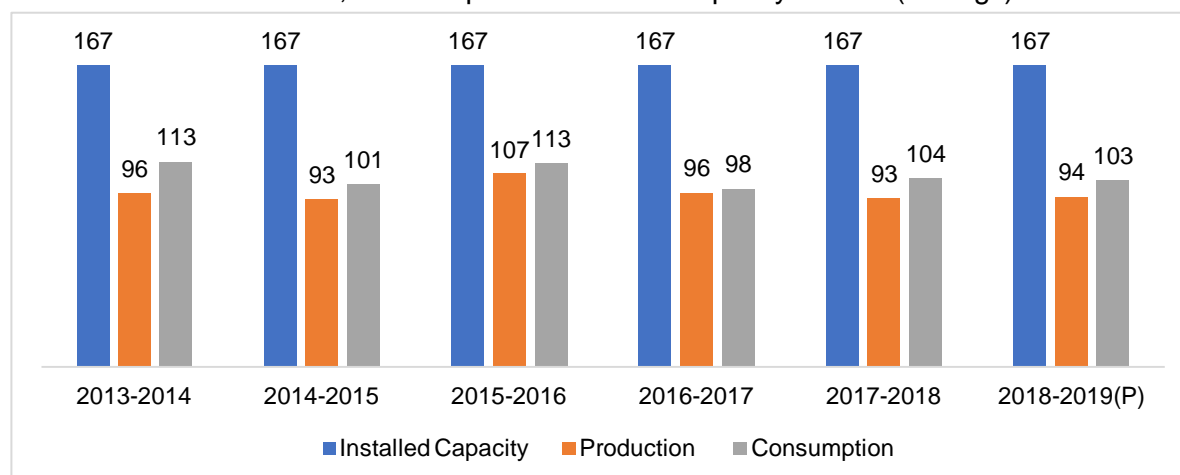


The production of viscose staple fibre has increased at a CAGR of 11% to 550 Mn Kg in 2018-19 from 361 Mn Kg in 2013-14. The country has an installed capacity of 566 Mn kg in 2018. The demand for viscose has increased steadily due to its versatility and comfort, leading to its increased consumption. The viscose staple fibre consumption has increased from 278 Mn kg in 2013-2014 to 299 Mn kg in 2018-2019.

(iv) Acrylic Staple Fibre

Fig. 2.26

Production, Consumption & Installed capacity of ASF (Mn Kgs)



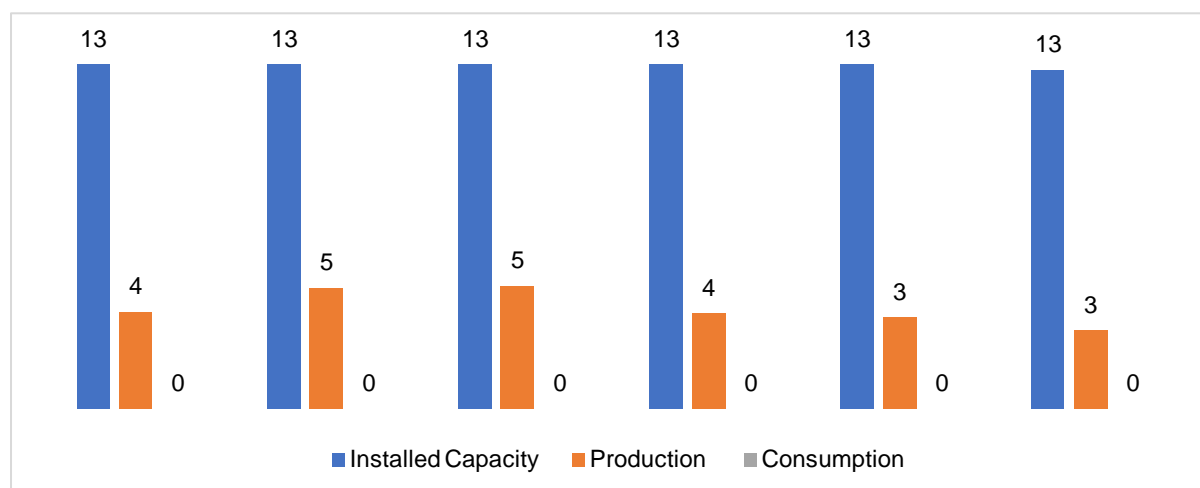
Acrylic staple fibre is soft, warm, lightweight, hypoallergenic, easily pigmented and less expensive compared to natural fibres. Its application and demand have increased in different sectors replacing wool and cotton. India's Acrylic

staple fibre production grew at a CAGR of 5% for the period 2013-2016, from 96 Mn Kg to 107 Mn Kg but declined by 4.23 % to 94 Mn kg in 2018-2019. The total installed capacity is 167 Mn kg. The consumption of acrylic staple fibre has also declined after reaching its peak of 113 Mn Kg in 2015-16 to 103 Mn kg in 2018-19.

(v) Polypropylene Staple Fibre

Polypropylene fibers are cheap and abundantly available. Polypropylene staple fibres offers a superior feature due to its lowest specific gravity resulting into better relative coverage, high dimensional stability, excellent recovery properties namely elasticity and resiliency, low thermal conductivity, lowest static charge and its inertness to chemicals. The production of the Polypropylene staple fiber in India was almost stagnant during the year 2013-14 to 2018-19 from 4 Mn kg to 3 Mn kg as compared to installed capacity of 13 Mn kg. The total consumption of polypropylene staple fibre in India is limited but with a pickup in the automotive sector and the properties mentioned earlier, it is expected to rise in the coming years. Moreover, increasing modernization and improving living standards are also expected to have a positive impact on the Indian polypropylene market.

Fig. 2.27
Production, Consumption & Installed capacity of PPSF (Mn Kgs)



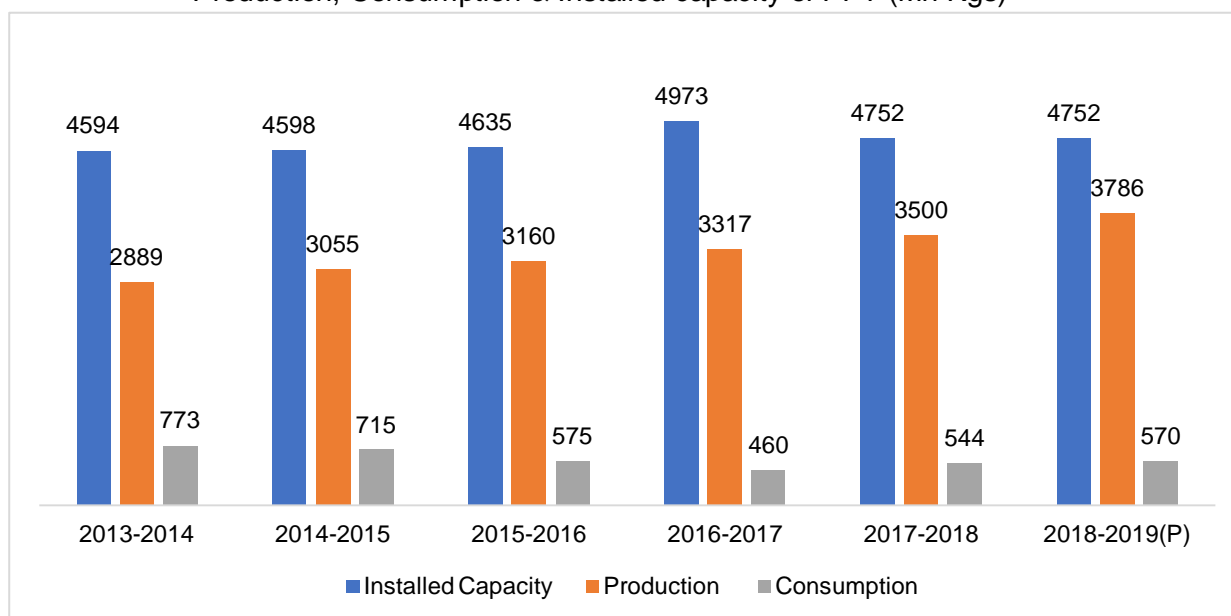
Source: ASFI & Fiber Year

(vi) Production trends in MMF Filament Yarn, Polyester Filament Yarn

The usage of filament in the textile and other allied industry has grown since last few years and has taken over the share of staple fibres. This is largely due to improved quality and change in the consumption pattern leading to

product innovation with functional properties. Polyester is one of the most versatile of synthetic fiber and cost competitive. The total production of polyester filament yarn in India has increased at CAGR of 7% from 2889 Mn Kg in 2013-14 to 3786 Mn Kg in 2018-19. This segment had an installed capacity of 4752 Mn kg in 2018.

Fig. 2.28
Production, Consumption & Installed capacity of PFY (Mn Kgs)



Source: ASFI & Fiber Year

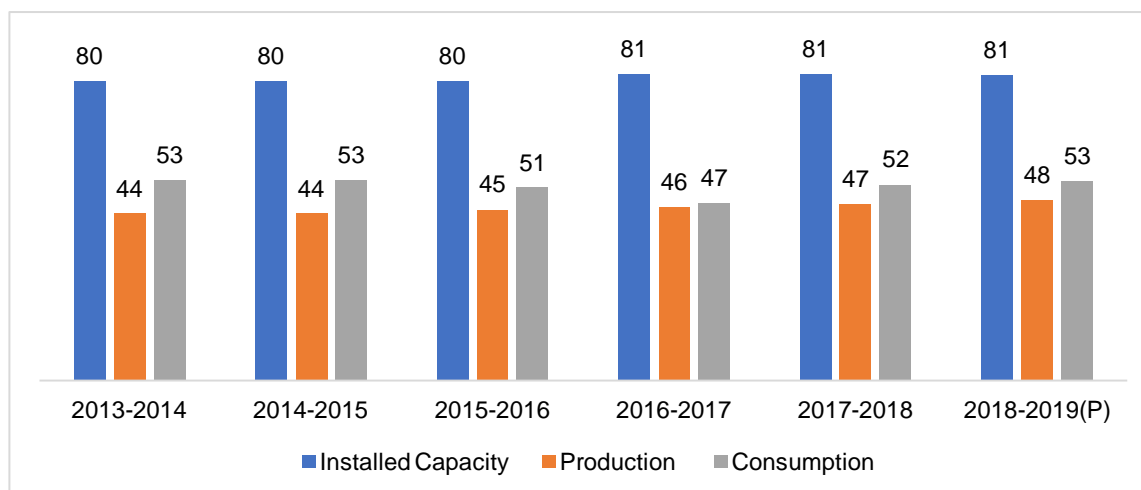
India being the cotton dominated market has not seen growth in the consumption of polyester filament yarn. Its consumption declined at CAGR of 6% from 773 Mn Kgs in 2013-14 to 570 Mn Kgs in 2018-19. The increased production is balanced through its export. However, polyester filament is used extensively in technical textiles sector and opens new areas of application in the country. In next two decades, Indian polyester filament yarn industry may continue to grow along with the growth in world's crude oil supply.

(vii) Viscose Filament Yarn

Viscose filament yarn production is negligible when compared to its staple fibre production due its limited usage. Its production has slightly increased over the last few years from 44 Mn Kg to 48 Mn kg at CAGR of 2%, mainly due with an installed capacity of 81 Mn kg in 2018. Low priced imports have also adversely effected utilization of capacity in India.

The production of viscose filament yarn is lower than its consumption due to increase in cheap import. The consumption of viscose filament yarn is almost stagnant from 2013-14 to 2018-2019 to 53 Mn kg.

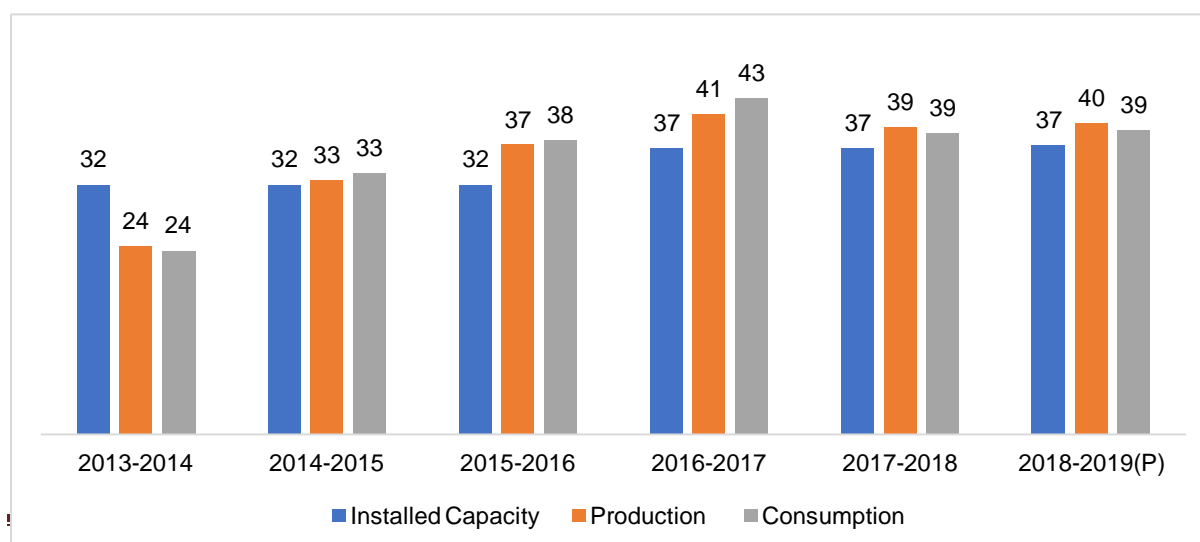
Fig. 2.29
Production, Consumption & Installed capacity of VFY (Mn Kgs)



(viii) Nylon Filament Yarn

The installed capacity of nylon in India has increased from 32 Mn kg in 2015 to 37 Mn kg in 2018-19. The production of nylon filament yarn in India has also increased to 39 Mn Kg in 2018-19 from 24 Mn Kg in 2013-14 at CAGR of 13% annually owing to vast application of nylon filament in different sectors and the benefit of its high tenacity. The consumption of nylon filament yarn rose from 2013 to 2018 in Indian market due to its improved application in carpet and automotive industries. The consumption value has risen at a CAGR of 11% from 24 Mn kg in 2013-14 to 39 Mn kg in 2018-19.

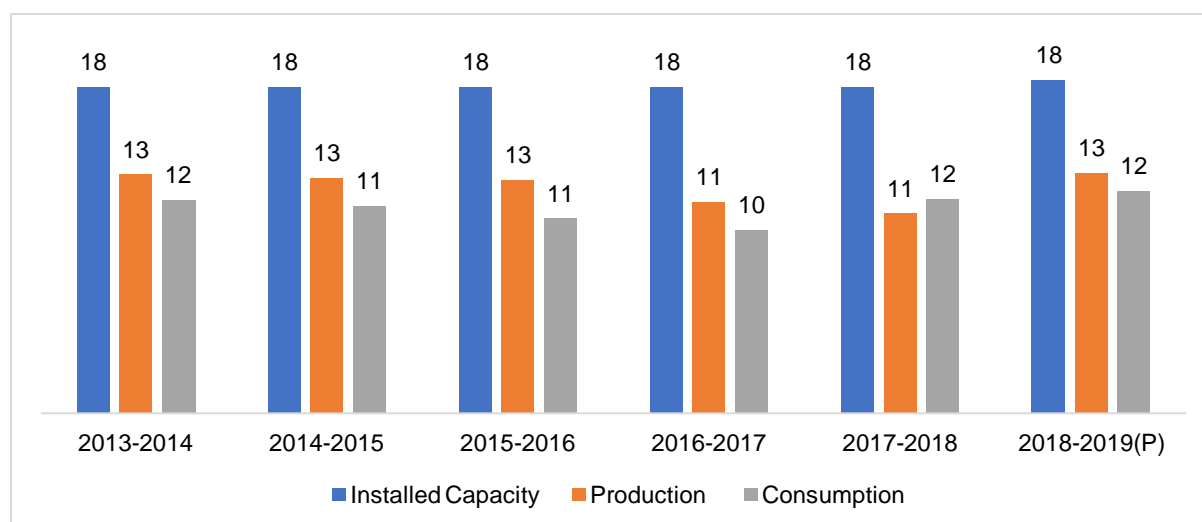
Fig. 2.30
Production, Consumption & Installed capacity of Nylon FY (Mn Kgs)



(ix) Polypropylene Filament Yarn

India has an installed production capacity of around 18 Mn kg to produce Polypropylene Filament Yarn (PPFY). PPFY is an interesting yarn for several applications due to properties such as high tensile strength, low weight compared to other materials and its resistance against mildew and the noxious effects of water. However, over the years its production remains stagnant at around 13 Mn Kgs. The factors that are hampers the development of polypropylene filament market is the lower liquefying temperature when compared with cotton, nylon, and other fabrics. This factor is limiting these products from being utilized as a part of clothing and home textiles. Polypropylene filament yarn consumption in Indian market remain flat over years with 12 Mn kgs in 2018.

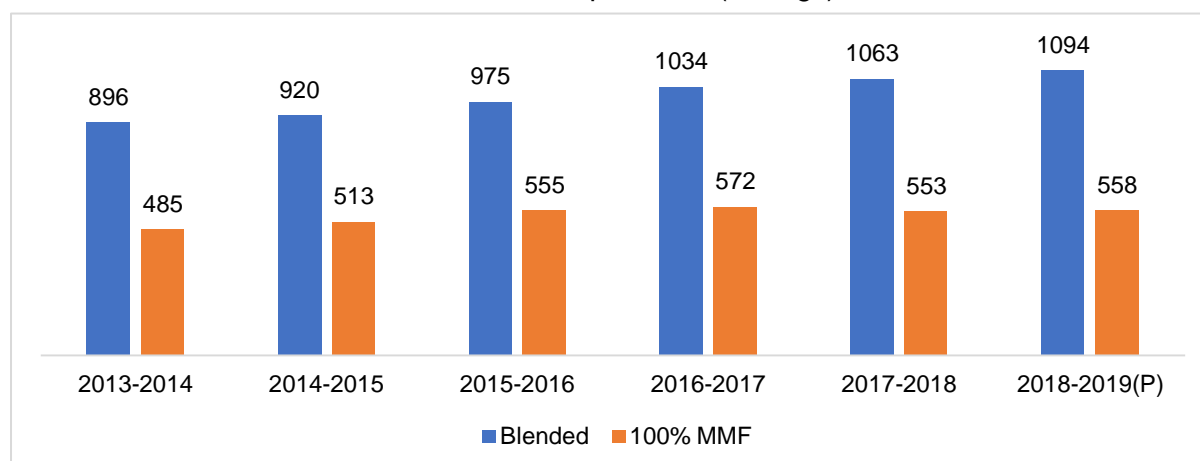
Fig. 2.31
Production, Consumption & Installed capacity of PPFY



(x) Production of Spun Yarn

India is a major producer, consumer and exporter of spun yarns, mainly cotton and its blends. The major types of blended yarns exported from India are polyester/cotton and polyester/viscose yarns. The market trend shows that demand for blended yarn will outpace the demand for other yarns in near future. Presently poly/cotton and poly/viscose are the major yarn types produced and exported from India. Other major blend yarn types exported are cotton/viscose, acrylic/cotton, poly/acrylic, poly/wool etc. Most of the blended yarns produced are binary (two component yarns).

Fig. 2.32
Production of Spun Yarn (Mn Kgs)

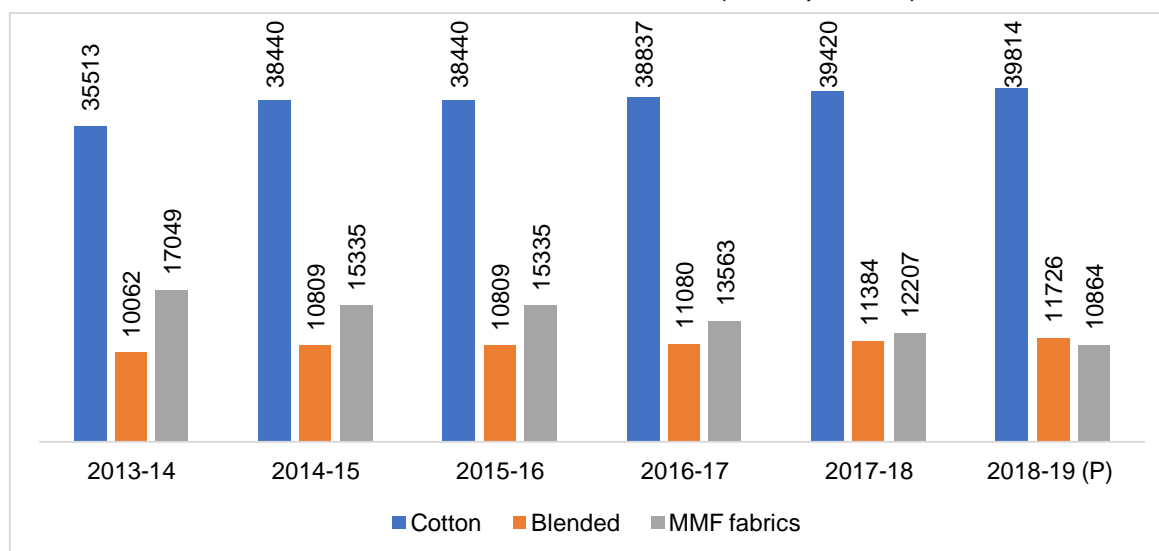


The India's production of blended yarns is on the rise, it has increased to 1094 Mn kg in 2018-2019 from 896 Mn Kg in 2013-14 at CAGR of 5%. On the other hand, 100% MMF spun yarn majorly composed of polyester spun yarn, viscose spun yarn and acrylic spun yarn. Its production grew at a CAGR of 4% for the period 2013-19 from 485 Mn kg to 558 Mn kg largely due to increased consumption of viscose spun yarn.

(xi) Production of MMF based fabrics

The Indian weaving sector, represented by capital intensive mill sector with modern weaving machines on the one hand and decentralized handlooms, power looms and hosiery sectors on the other hand is facing multiple headwinds during the past few years. Besides demand-side pressures arising from subdued exports of apparels and fabrics, the sector experienced challenges owing to demonetization as well as transition to the GST regime. Accordingly, India's fabric production has witnessed slow growth at CAGR of 1% during 2013-19 wherein cotton fabrics have the majority share of 64% while manmade fabrics and blended fabrics have a share of 19% and 17%, respectively. The production of cotton fabric improved 2% to 39814 Mn. Sq. Mtrs. whereas production of blended fabric rose by 3% to 11726 Mn. Sq. Mtrs. and production of 100% MMF fabric declined by 9% to 10864 Mn. Sq. Mtrs. during 2013-19.

Fig. 2.33
Production of MMF based fabrics (Mn Sq meters)



The share of cotton fabrics is likely to remain high, because of abundant cotton availability in the country and the sustained firmness in prices. Also, a shift in domestic demand towards premium apparel products, which are typically made from cotton and blended fabric, is also likely to continue to support the growth in cotton fabric production over the longer term. Amongst India's total fabric production, mills accounted for 3.56%, the power loom sector 56.19%, hosiery 27.62%, and handlooms 12.61%. While fabric production by mills and power looms over the last 3-4 years has remained almost unchanged, production in the handloom and hosiery sectors has picked up significantly due to strong government support for these sectors.

Fabric Segment	Share (%)
Mill Sector	3.56
Power Loom	56.19
Hosiery	27.62
Handloom	12.61

Table 2.5 reports the trends in the production of cotton, blended and 100% non-cotton for last 10 years in power loom sector. The growth of blended fabrics is highest with CAGR of 7.39 percent while the growth in cotton is 4.22 percent. In the power loom sector, cotton contributes second highest share (36.62 percent) in the entire production after 100% non-cotton (37.39 percent). In the hosiery sector (Table 2.8), the production of cloth is dominated by cotton (93.47 percent) and in this sector; the second largest category is

blended (3.56 percent) with about 2.97 percent contribution from 100% non-cotton. In the last 10 years, the cotton has grown at rate (5.32 percent), 100% non-cotton has grown by 0.08 percent.

Year	Cotton	Blended	100% Non- Cotton	Total
2009-2010	10128	5487	21382	36997
2010-2011	11883	5853	20279	38015
2011-2012	12027	6302	19116	37445
2012-2013	13955	6655	17428	38038
2013-2014	14320	7117	15353	36790
2014-2015	15241	7511	14997	37749
2015-2016	15696	7826	13462	36984
2016-2017	15730	8197	11745	35672
2017-2018	16018	9090	13837	38945
2018-2019 (P)	14693	10424	15002	40119
CAGR	4.22	7.39	-3.86	0.90
% share in 2018-19	36.62	25.98	37.39	100.00

Source: Handbook of Statistics on Manmade/Synthetic Fibre/Yarn Industry, Part-I, 2018-19, ASFI; P: provisional

Year	Cotton	Blended	100% Non- Cotton	Total
2009-2010	11464	1661	577	13702
2010-2011	12258	1756	620	14634
2011-2012	10798	1524	624	12946
2012-2013	11992	1838	711	14541
2013-2014	13256	1982	961	16199
2014-2015	13699	2042	1153	16894
2015-2016	14413	2144	1090	17647
2016-2017	14490	2085	962	17537
2017-2018	15428	1437	777	17663
2018-2019	18278	697	581	19555
CAGR	5.32	-9.20	0.08	4.03
% share in 2018-19	93.47	3.56	2.97	100.00

Source: Handbook of Statistics on Manmade/Synthetic Fibre/Yarn Industry, Part-I, 2018-19, ASFI; P: provisional

Table 2.6 shows the trends in the production of cotton, blended and 100% non-cotton for last 10 years in hand loom sector. In the hand loom sector, the production is heavily skewed towards cotton (92.49%) with the remaining

contribution from 100% non-cotton (6.58%) and blended (0.92%). The entire hand loom sector has grown by 2.31% in the last 10 years with major growth coming from cotton sector (3.13%). Table 2.10 reports the trends in the production of cotton, blended and 100% non-cotton for the last 10 years in mill sector. The growth of blended fibre is highest with CAGR of 3.57 percent while the growth in other two categories is either insignificant or negative. However, cotton fibre dominates in the mill sector with about 63.12 percent contribution to the entire production.

Year	Cotton	Blended	100% Non- Cotton	Total
2009-2010	5857	137	812	6806
2010-2011	5973	143	791	6907
2011-2012	6021	121	759	6901
2012-2013	6239	115	598	6952
2013-2014	6315	145	644	7104
2014-2015	6427	88	688	7203
2015-2016	6827	106	705	7638
2016-2017	7117	109	781	8007
2017-2018	7266	155	659	8080
2018-2019(P)	7732	77	550	8360
CAGR	3.13	-6.20	-4.24	2.31
% share in 2018-19	92.49	0.92	6.58	100.00

Source: Handbook of Statistics on Manmade/Synthetic Fibre/Yarn Industry, Part-I, 2018-19, ASFI; P: provisional

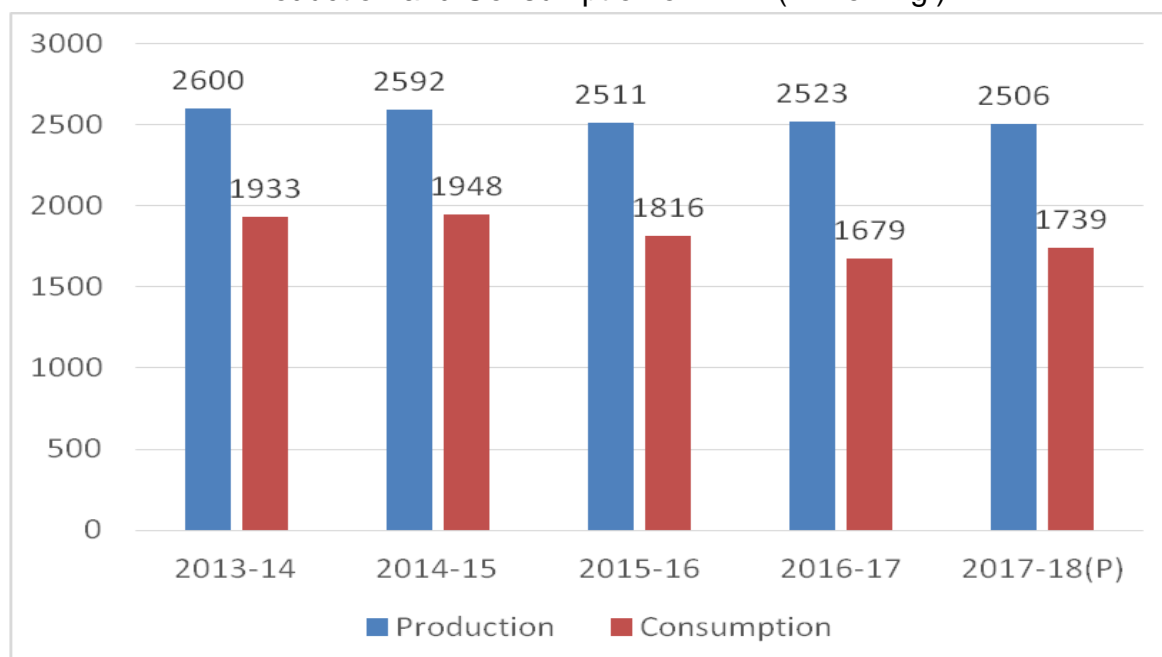
Year	Cotton	Blended	100% Non- Cotton	Total
2009-2010	1465	482	69	2016
2010-2011	1604	526	75	2205
2011-2012	1724	521	68	2313
2012-2013	1684	674	60	2418
2013-2014	1622	818	91	2531
2014-2015	1592	808	86	2486
2015-2016	1504	733	78	2315
2016-2017	1500	689	75	2264
2017-2018	1345	726	107	2178
2018-2019(P)	1270	661	81	2012
CAGR	-1.57	3.57	1.80	-0.02
% share in 2018-19	63.12	32.85	4.03	100.00

Source: Handbook of Statistics on Manmade/Synthetic Fibre/Yarn Industry, Part-I, 2018-19, ASFI; P: provisional

2.10 Consumption of MMF Textiles in India

In 2018, the production of domestic MMF industry in volume terms stood at 2,506 million kgs with a marginal decline from 2017. Compared to 2017, the domestic MMF demand increased by about 3.6 percent in 2018.

Fig 2.34
Production and Consumption of MMF (Million Kg.)



Source: ASFI

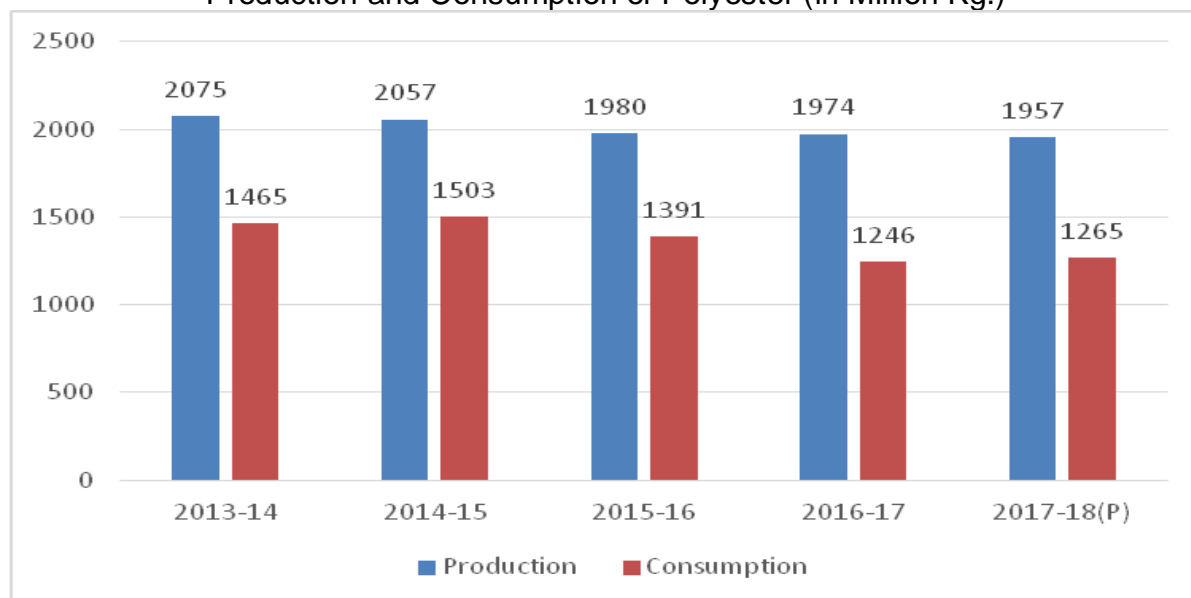
In financial year 2018, in polyester category, polyester staple fibre (PSF) and polyester filament yarn (PFY) accounted for 43.6 percent and 55.7 percent of total products, respectively, while in polypropylene staple fibre (PPSF) and polypropylene fibre yarn (PPFY) contributed the remaining 0.2 percent and 0.6 percent, respectively.

In financial year 2019 (April – August), consumption declined by over 18 percent year-on-year basis due to higher prices. Crude oil prices during this period witnessed a sharp increase of over 47 percent thereby leading to a sharp increase in the input cost for polyester - purified terephthalic acid (PTA) and mono ethylene glycol (MEG) by over 33 percent and 23 percent respectively. Also, higher availability of substitute cotton in the market at comparatively lower prices led to subdued demand for polyester during the period⁸.

⁸Care Ratings, Industry Research, MMF Update, 2018.

In financial year 2018, production of polyester declined by about 1 percent compared to previous year and had 1,957 million kgs of production on overall muted demand, while, in the same timeframe, the consumption of polyester increased marginally by 1.5 percent (1,265 million kgs).

Fig 2.35
Production and Consumption of Polyester (in Million Kg.)



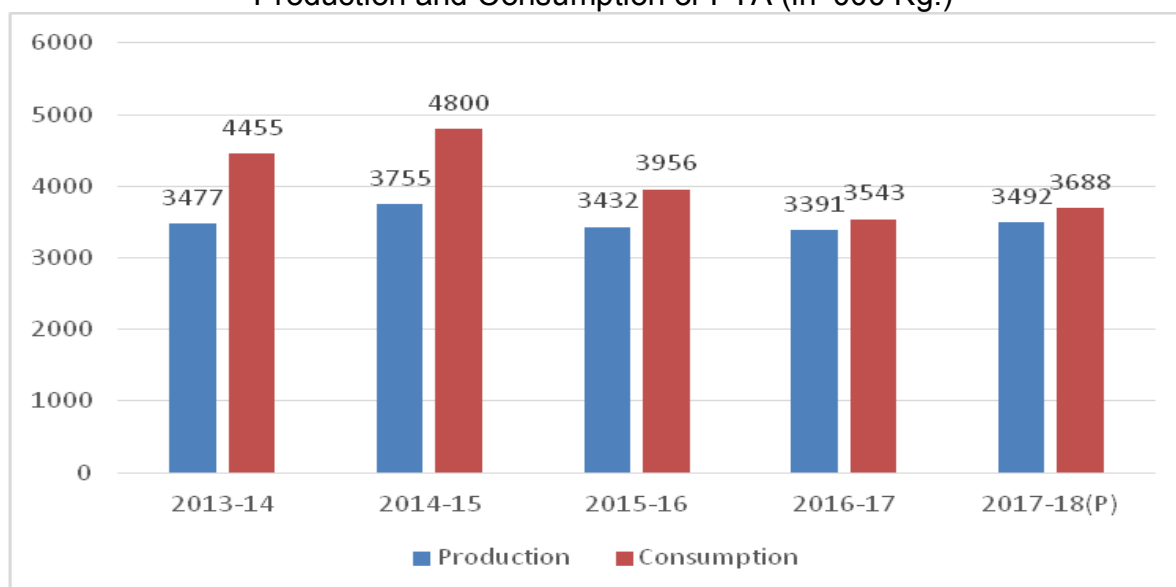
Source: Office of Textile Commissioner

2.11 Production of Basic Raw Material for MMF Production

PTA is a key raw material component in the polyester value chain and reacts with mono ethylene glycol (MEG) in the process of continuous polymerisation for producing polyester. For production of every 1MT of polyester melt, produced via the process of continuous polymerisation, 0.86MT of PTA is required. The largest application for PTA is in polyethylene terephthalate (PET) for the polyester industry to produce industrial & textile fibres, PET bottles and film & moulded product applications. The PTA industry is a highly organised industry, with Reliance Industries (~70 percent), Mitsubishi (21 percent) and IOCL (9 percent) being the only PTA manufacturers in India⁹.

⁹Care Ratings, Industry Research, MMF Update, 2018.

Fig 2.36
Production and Consumption of PTA (in '000 Kg.)

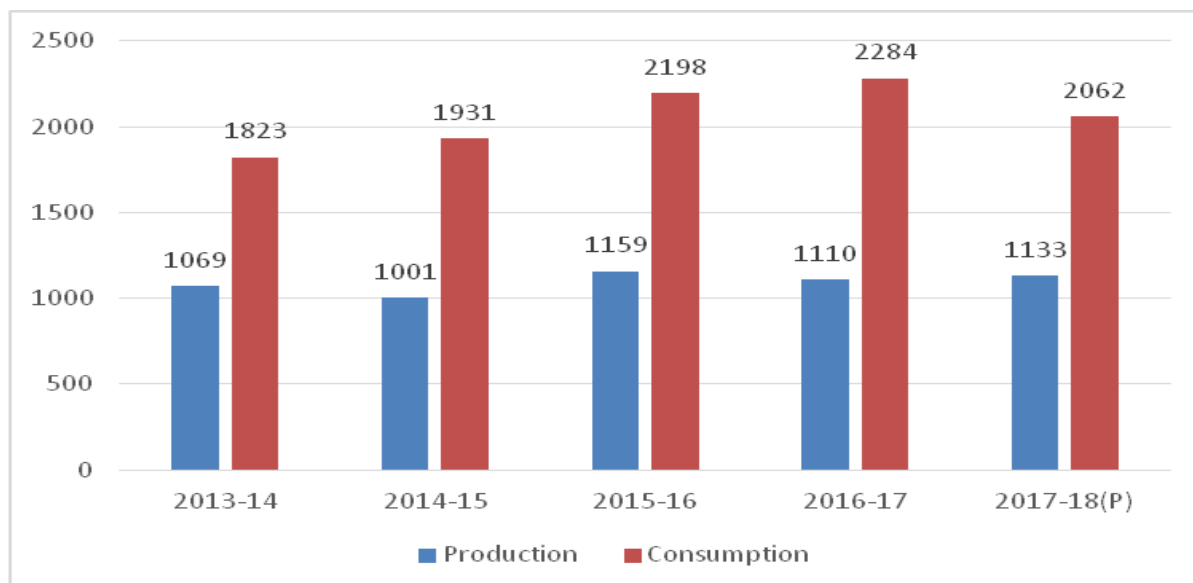


Source: CMIE

The excess consumption of PTA during 2014-2015 was met by imports, but with the expansion of capacities by manufacturers in India, the share of imports in the PTA industry declined over the years. The MEG industry is highly organized industry, with Reliance Industries, India Glycols and IOCL being the only manufacturers in India. The MEG production in India has registered marginal growth of 1.4 percent CAGR between 2014 and 2018.

The fibre wise demand of textiles in Indian household segment indicates that the demand for manmade & blended textiles (56.17 percent share) is higher than cotton textiles (42.56 percent share) in 2018. Between 2014 and 2018, man-made fibres& blended/mixed has grown with a CAGR of 6 percent which is marginally higher than the total growth in fabric consumption in Indian market (see Table 2.9).

Fig 2.37
Production and Consumption of MEG (in '000 Kg.)



Source: ASFI

Table 2.9
Fibre-wise Consumption of Fabrics in Household Sector
(in Million Meters)

Fibre	2014		2018		CAGR %
	Demand	Share%	Demand	Share%	
Cotton	15521	43.01	19290	42.56	5.59
Pure Silk	261	0.72	372	0.82	9.26
Woolen	142	0.39	202	0.45	9.21
MMF Blend	20162	55.87	25458	56.17	6.00
Total	36086	100	45322	100	5.86

Source: Market for Textiles & Clothing (MTC) Report, Textiles Committee

Table 2.10 reports the consumption of manmade and blended mixed fibres in rural and urban households in India from 2006 to 2016. It can be seen that both in terms of value and quantity, the consumption of manmade and blended mixed fibres is higher in rural than urban. In terms of value, in 2016, rural consumption was about 68 percent while urban consumption about 32 percent. Moreover, the CAGR in manmade and blended mixed fibres between 2006 and 2016 was higher in rural (13.1 percent) than urban (11.2 percent). It may be said that the future growth in manmade and blended mixed fibres is likely to come from rural consumption.

Table 2.11 shows the per capita consumption of manmade and blended mixed in rural and urban areas. The per capita consumption of manmade/blended mixed is high in urban households (INR 2575.8) than rural households (INR 1973.6). This is likely due to lower base of urban household translating in higher per capita consumption. However, the CAGR of per capita consumption of manmade/blended mixed is higher in rural areas (12 percent in value) than urban areas (7.8 percent).

(Quantity in million meters; Value in INR million)

Table 2.10											
Rural and Urban Consumption of Manmade/Blended Mixed in Household Sector											
	2007	2008	2009	2010	2011	2012	2014	2015	2016	2017	CAGR
Urban											
Quantity	4895	4494	4953	5146	5973	6190	6856	7187	8107	8612	5.8
Value	439562	394929	453567	565518	713232	792842	892967	991313	1062536	1139340	10.0
Rural											
Quantity	10421	10205	11004	11172	11039	11844	13306	14412	15229	16426	4.7
Value	628244	686748	771738	901055	966709	1074610	1400320	1634018	1730023	1929682	11.9
All India											
Quantity	15316	14699	15957	16318	17012	18034	20162	21599	23336	25038	5.0
Value	1067806	1081677	1225305	1466573	1679941	1867452	2293287	2625331	2792559	3069022	11.1

Source: Market for Textiles & Clothing (MTC) Report, Textiles Committee

(Quantity in million meters; Value in INR million)

Table 2.11											
Per Capita Consumption of Manmade/Blended Mixed in Household Sector											
	2007	2008	2009	2010	2011	2012	2014	2015	2016	2017	CAGR
Urban											
Quantity (in Mtr)	15.5	14.0	15.2	15.6	15.8	16.3	17.0	17.6	19.7	20.6	2.9
Value (INR)	1390.1	1231.3	1394.8	1715.5	1891.4	2085.3	2219.6	2433.4	2575.8	2727.6	7.0
Rural											
Quantity (in Mtr)	12.7	12.3	13.0	13.1	13.3	14.1	15.6	16.7	17.4	18.5	3.8
Value (INR)	765.0	824.5	913.8	1052.5	1160.4	1279.3	1638.0	1887.6	1973.6	2174.0	11.0
All India											
Quantity (in Mtr)	13.5	12.7	13.6	13.8	14.1	14.8	16.0	17.0	18.1	19.2	3.6
Value (INR)	938.8	937.6	1047.5	1236.8	1388.2	1530.5	1824.1	2062.3	2166.3	2351.2	9.6

Source: Market for Textiles & Clothing (MTC) Report, Textiles Committee

Table 2.12 reports the consumption trends in cotton and manmade and filament yarn in India from 2014-15 to 2017-18. It can be observed that the cotton consumption is highest contributing 72 percent of total followed by fibre 16 percent. Filament yarn contributes about 10 percent of the total consumption. In the fibre category, polyester staple fibre is the major contributor with 10.5 percent while in filament category, nylon filament yarn contributes 9.5 percent. However, only nylon filament yarn sub-segment has registered the sizable growth with a CAGR of 5.7 percent.

Table 2.12
Consumption of Cotton and Manmade & Filament Yarn in Household Sector

Item	Unit	2014-15	2015-16	2016-17	2017-18	% Share	CAGR
Cotton (mill consumption SSI & Non-SSI)	Mn.Kg.	5087	5130	4978	4943	72.3%	-1.0
	Lakh Bales	299.2	301.8	292.8	290.8		-1.0
Viscose staple fibre	Mn.Kg.	258	224	244	277	4.0%	2.4
Polyster staple fibre	Mn.Kg.	782	806	780	720	10.5%	-2.7
Acrylic staple fibre	Mn.Kg.	101	112	98	104	1.5%	1.0
<i>Total fibre (Excl. Cotton)</i>	Mn.Kg.	1140.1	1142.0	1122.0	1101.0	16.1%	-1.2
Viscose filament yarn	Mn.Kg.	53	51	47	52	0.8%	-0.6
Polyster filament yarn	Mn.Kg.	715	575	460	549	8.0%	-8.4
Nylon filament yarn	Mn.Kg.	33	38	43	39	16.1%	5.7
Polypropylene filament yarn	Mn.Kg.	11	11	10	12	0.2%	2.9
<i>Total filament yarn</i>	Mn.Kg.	813	675	560	652	9.5%	-7.1
Others (silk, wool, flax, etc)	Mn.Kg.	136	140	144	144	2.1%	1.9
Total		7176	7087	6804	6840	100%	-1.6

Source: Handbook of Statistics on Manmade/Synthetic Fibre/Yarn Industry, Part-I, 2017-18, ASFI; P: provisional

Chapter 3 Global Trade and Competitiveness of MMF Textiles

3.1 Global Exports of MMF Textiles

3.1.1 Global Exports of Textiles and MMF Textiles

The global trade of Textiles & Apparels (T&A) was \$814.56 billion in 2019 which comprised of \$341.36 billion textiles and \$473.20 billion apparels. Between 2010 and 2019, the global trade in textiles has increased at a CAGR of 1.73% and the apparel trade has experienced a growth of 3.51%.

The contribution of MMF textiles in the world trade was \$174.21 billion and that of apparels \$174.57 billion. Between 2010 and 2019, these segments have grown at a CAGR of 2.65% and 6.87%, respectively. The contribution of manmade textiles is in the range of around 47% to 51% of the global trade in MMF during last 10 years. Hence, over the years, the significance of the manmade fibre textiles is increasing as compared to natural fibre textiles.

It is important to note that, over the years, the contribution of manmade fibre textiles has increased (see Figure 3.1) from \$137.72 billion in 2010 to \$174.21 billion in 2019. The key reasons for the growth in the MMF textiles are growing popularity over other fibre-based products due to its superior performance, wide applications, lower product cost, easier and cheaper maintenance and endless design possibilities for lifestyle and applications. Further, it is anticipated that the global fibre consumption will be in favour of man-made fibres as there is a limitation to growth of cotton on account of limited availability of land for cotton cultivation.

Table 3.1
World Exports of Textiles (in US\$ billion)

Fibre	2010	2012	2014	2017	2018	2019	% share (2019)	% CAGR (2010-19)
Manmade	137.72	161.37	178.53	168.78	179.93	174.21	51.03	2.65
Cotton	82.47	93.30	90.55	82.33	86.67	80.83	23.68	-0.22
Others*	72.35	80.00	88.09	84.28	89.24	86.32	25.29	1.98
Total Textiles	292.55	334.67	357.17	335.38	355.84	341.36	100.00	1.73

Source: ITC Trademap, Textiles Committee Research
 Note: (i) *others include Silk, Wool, Jute, and some cotton, MM and other fibre products which have not been categorized at 6 digit HS
 (ii) The data does not include apparel exports.

Figure 3.1
Trend in Manmade and Cotton Textile Exports



Source: ITC Trademap, Textiles Committee Research

3.1.2 Top Exporters of MMF Textiles

Table 3.2 reports the top exporters in manmade textiles from 2009 to 2018. The countries like China (US\$ 73.08 billion) with a share of 41.95 percent, USA (US\$ 8.52 billion, share 4.89 percent), Korea (US\$ 7.54 billion, share 4.33 percent), Turkey (US\$ 7.17 billion, share 4.12 percent) and Germany (US\$ 6.95 billion, share 3.99 percent) are the major exporters. In terms of CAGR, China (6.92 percent) and Vietnam (8.19 percent) have registered the highest growth rate in their exports from 2010 to 2019 which is much higher than overall world growth rate of 2.65 percent. Turkey, Spain and India have achieved higher growth rate in this period with 4.48 percent, 4.04 percent and 2.92 percent CAGR, respectively.

Table 3.2
Top Exporters in Manmade Textiles (US\$ Billions)

Country	2010	2012	2014	2017	2018	2019	% share (2019)	CAGR %
China	40.03	53.51	64.92	65.64	71.42	73.08	41.95	6.92
USA	7.78	9.04	9.54	8.72	8.88	8.52	4.89	1.02
Korea	7.98	9.00	8.95	7.89	8.20	7.54	4.33	-0.63
Turkey	4.84	6.31	7.29	6.73	7.10	7.17	4.12	4.48
Germany	7.59	7.88	8.38	7.43	7.70	6.95	3.99	-0.98
India	4.53	5.26	6.43	5.83	5.98	5.87	3.37	2.91
Italy	5.75	6.08	6.59	5.84	6.18	5.66	3.25	-0.17
Belgium	4.31	4.20	4.47	3.90	4.35	4.14	2.37	-0.47
Vietnam	1.80	2.23	2.67	3.02	3.59	3.65	2.09	8.19
Spain	1.92	2.13	2.49	2.72	2.91	2.74	1.57	4.04
Hong Kong	3.60	3.52	3.30	2.64	2.53	2.37	1.36	-4.53
R o World	47.73	52.30	53.64	48.62	51.28	46.69	26.80	-0.25
Total	137.72	161.37	178.53	168.78	179.93	174.21	100.00	2.65

Source: ITC Trademap, Textiles Committee Research

Table 3.3 show the export of top 10 manmade textile and apparel exporters in the world. It can be observed that China dominates with 39.31 percent share of total exports, while other countries are far behind from China. India's share is about 2.57 percent in total exports. Top 10 exporters constitute about 69 percent of total exports and the remaining 31 percent is contributed by rest of the world. In terms of 10 years growth rate from 2010 to 2019, Vietnam tops with 18.44 percent CAGR. In fact, Vietnam is the second largest exporter in the world. Indian exports have grown at a rate of 5.41 percent during the same time period which is higher than world growth rate (4.55 percent). It may be noted that India's export of other fiber based T&A has grown by 2.33 percent, the manmade based products export have grown by 5.41 percent during the last ten years.

Country	2010	2012	2014	2017	2018	2019	% share	CAGR
China	85.76	113.17	140.80	127.85	137.00	137.11	39.31	5.35
Vietnam	4.51	7.40	11.34	14.93	17.78	20.70	5.93	18.44
Germany	12.30	12.95	14.46	14.53	16.25	15.75	4.52	2.79
Italy	9.92	10.82	12.10	11.55	12.34	12.06	3.46	2.20
Turkey	7.28	9.36	10.89	10.26	11.14	11.41	3.27	5.12
USA	8.80	10.43	11.22	10.44	10.62	10.25	2.94	1.70
India	5.75	7.48	9.94	10.63	9.59	9.48	2.72	5.71
Spain	3.74	4.96	6.78	8.09	8.71	8.59	2.46	9.69
Korea	8.53	9.63	9.63	8.43	8.75	8.00	2.29	-0.71
Belgium	6.71	6.78	7.51	7.28	8.08	7.53	2.16	1.30
Top 10	153.12	192.73	234.30	223.36	239.74	240.36	68.91	5.14
R o World	80.59	90.57	100.62	98.02	107.29	108.42	31.09	3.35
Total	233.71	283.30	334.92	321.38	347.02	348.78	100.00	4.55

Source: ITC Trademap
 Note: (i) % share is calculated for year 2019; (ii) Data includes apparels which are made of manmade fibre.
 This is the reasons why export values are higher than reported in Table 3.1 and Table 3.2 which includes only textiles exports.

3.1.3 Top Importers of MMF Textiles

Table 3.4 show the import of top 10 manmade textile and apparel importers in the world. It can be observed that USA dominates with 15.15 percent share of total imports (\$ 48.82 billion), followed by Germany (6.40 percent) and Japan (5.49 percent). Top 10 importers contribute more than half of the imports (51.32 percent) of total imports. In terms of 10 years growth rate from 2010 to 2019, Vietnam tops with 14.45 percent CAGR followed by Korea (8.00 percent) and Spain (7.49 percent).

Importers	2010	2012	2014	2017	2018	2019	% share (2019)	CAGR
USA	30.32	37.56	42.80	46.07	48.71	48.82	15.15	5.43
Germany	15.86	16.98	20.25	19.86	21.34	20.63	6.40	2.97
Japan	13.84	19.03	17.77	16.57	18.09	17.68	5.49	2.76
UK	11.60	12.06	14.74	12.95	13.53	13.42	4.17	1.63
Vietnam	3.96	5.43	7.19	8.80	10.01	13.34	4.14	14.45
France	9.51	10.21	11.78	11.36	12.41	12.19	3.78	2.79
Spain	5.55	6.27	8.49	9.52	10.59	10.63	3.30	7.49
China	10.92	11.98	12.05	10.87	11.21	10.61	3.29	-0.32
Italy	8.70	8.70	10.02	9.60	10.01	9.69	3.01	1.20
Korea	4.17	5.47	7.11	7.32	8.29	8.33	2.59	8.00
Top 10	114.43	133.68	152.20	152.92	164.18	165.33	51.32	4.17
R o World	106.50	124.91	138.30	143.19	156.23	156.82	48.68	4.39
Total	220.93	258.59	290.50	296.11	320.41	322.15	100.00	4.28

Source: ITC Trademap

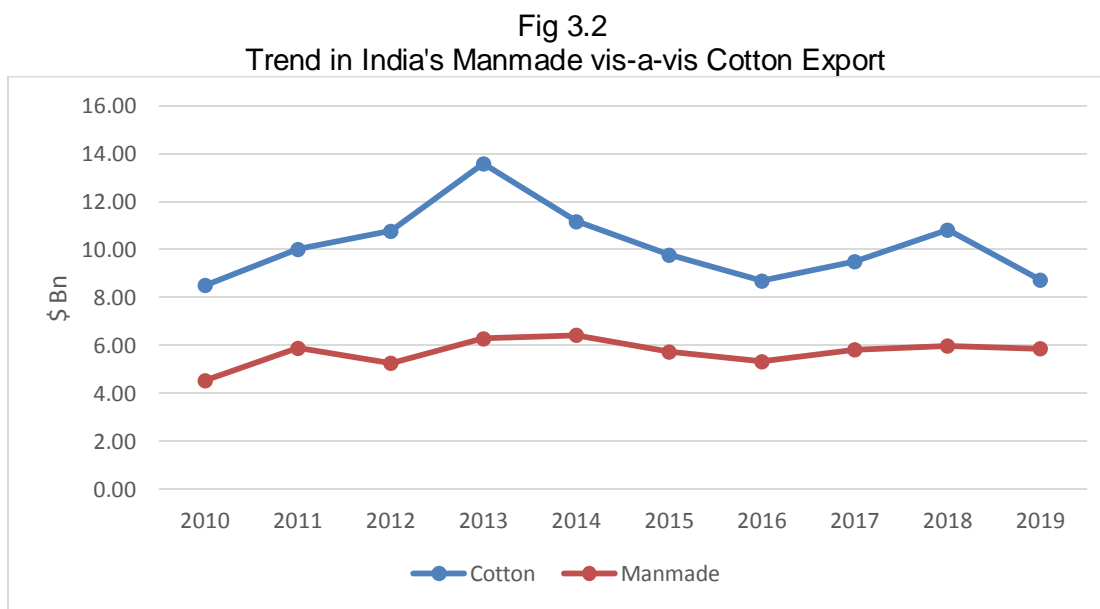
3.2 India's Trade of Textiles

3.2.1 India's Export of Textiles

The fibre composition of Indian textile exports is skewed towards cotton textiles as it contributes 45.35 percent to the export basket of textiles as compared to 30.50 percent by manmade fibre textiles. India's export of cotton textiles has increased from US\$8.51 billion in 2010 to US\$8.73 billion in 2019, registering a growth rate of 0.28 percent in this period. During the same period, the manmade exports have grown at a CAGR of 2.91 percent and had an export value of US\$ 5.87 billion in 2019.

Fibre	2010	2012	2014	2017	2018	2019	% share (2019)	% CAGR (2010-19)
Cotton	8.51	10.76	11.16	9.50	10.81	8.73	45.35	0.28
Manmade	4.53	5.26	6.43	5.83	5.98	5.87	30.50	2.91
Others	3.48	3.76	4.47	4.56	4.65	4.65	24.15	3.26
Total	16.52	19.79	22.06	19.88	21.45	19.24	100.00	1.71

Source: ITC Trademap database, Textiles Committee Research
Note: (i)*others include Silk, Wool, Jute, and some cotton, MM and other fibre products which have not been categorized at 6 digit HS



According to DGCI&S (Directorate General of Commercial Intelligence and Statistics) data, exports of Indian MMF textiles are around US\$ 6 billion contributing around 30 percent of India's textiles exports which was US\$ 20.03 billion (in 2017-18). Exports of Indian MMF textiles witnessed consistent growth till 2014-15. However, due to global financial crisis and consequent uncertainties that had prevailed in 2015, India's exports of man-made fibre textiles also declined. Exports of Indian MMF textiles during 2017-18 were US\$ 6023.98 million against US\$ 5853.49 million in 2016-17, showing a growth of about 2.91 percent. In 2017-18, exports of fabrics dominated in the total exports with 33 percent share, followed by yarn 32 percent, made-ups 25 percent and fibre 10 percent.

Product	Unit	Quantity (in '000)		% Change	Value in USD mill.		% change
		2017-18	2016-17		2017-18	2016-17	
Fabrics	Kgs	79190	70061	13.03	1995.74	2018.67	-1.14
	Sqm.	1639626	1648629	-0.55			
Yarn	Kgs.	1003842	1025457	-2.11	1950.81	1796.11	8.61
Made-ups	Kgs.	694774	674890	2.95	1490.62	1441.59	3.40
	Nos.	103856	140507	-26.08			
	Sqm.	174	90	92.92			
Fibre	Kgs.	382864	412316	-7.14	586.81	597.12	-1.73
		Total			6023.98	5853.49	2.91

Source: Directorate General of Commercial Intelligence and Statistics

An analysis of India's export performance in manmade fibre textiles reveals that the export ratio of cotton to manmade is skewed in favour of cotton with approximately 45:31 (45 percent cotton and 31 percent MMF textiles) in 2019, while the ratio is about 35:43 for the world (Table 3.7). In India, the share of cotton textile exports has ranged between 45 percent and 50 percent in the last five years.

Year	India	World
2010	51:27	39:37
2011	51:30	38:38
2012	54:27	38:38
2013	55:26	37:39
2014	51:29	36:41
2015	49:29	35:41
2016	47:29	35:41
2017	48:29	35:41
2018	50:28	35:42
2019	45:31	35:43

Source: ITC Trademap, Textiles Committee Research
Note: The ratio excludes natural fibres other than cotton and all types of blends.

The exports of MMF declined by about 8 percent in 2018 after increasing by nearly 15 percent in 2017 may be due to increasing polyester prices due to higher input cost led by increasing crude oil prices. In 2018, the total export was 952 million kg while import was 178 million kg (Figure).

Fig 3.3
MMF Imports & Exports (in Million Kg)



Source: Office of Textile Commissioner

Table 3.8 shows India's top 10 export partners of manmade textile and apparel products from 2010 to 2019. It can be observed that USA is the major export partner for India with 17.38 percent share followed by UAE with 7.48 percent share. In fact, USA is not only the top contributor in India's exports but also exports in USA market have grown (15.81 percent CAGR) significantly higher than other markets. On the other hand, the CAGR for world market was 5.71 percent between 2010 and 2019.

Table 3.8
India's Top 10 Export Partners of Manmade T & A Products from 2010 to 2019
(in US\$ million)

Country	2010	2012	2014	2017	2018	2019	% share	CAGR
USA	439.94	776.45	1177.47	1583.28	1630.07	1648.25	17.38	15.81
UAE	775.18	748.71	1233.09	1811.45	819.02	709.68	7.48	-0.98
UK	271.45	443.67	587.61	593.17	605.00	601.81	6.35	9.25
Turkey	302.18	492.23	597.99	561.01	527.66	482.89	5.09	5.35
Germany	168.64	232.40	339.52	420.97	410.41	382.39	4.03	9.52
Bangladesh	139.62	176.01	323.88	405.56	347.58	356.67	3.76	10.98
Spain	102.44	206.14	292.29	302.16	330.21	324.99	3.43	13.69
Brazil	273.19	318.43	341.15	374.03	397.73	298.57	3.15	0.99
France	84.58	113.89	222.76	205.38	227.16	214.39	2.26	10.89
Italy	105.67	145.76	189.52	189.86	200.24	170.46	1.80	5.46
Top 10	2662.90	3653.68	5305.29	6446.86	5495.07	5190.10	54.72	7.70
R o World	3091.16	3827.31	4630.07	4186.59	4097.20	4294.59	45.28	3.72
World	5754.06	7480.99	9935.36	10633.45	9592.27	9484.69	100.00	5.71

Source: ITC Trademap

3.2.2 India's Imports of Textiles

Table 3.9 shows the India's import of manmade textile and apparel products from top 10 countries from 2010 to 2019. It can be observed that more than half of the India's import of manmade textiles and apparel products come from China (50.16 percent). India imports about 82.71 percent of its total requirement from the top 10 countries. In terms of growth rate between 2010 and 2019, overall, India's imports have grown at a CAGR of 8.66 percent while the import from four countries Vietnam (32.75 percent), Hong Kong (20.79 percent), Indonesia (13.67 percent) and China (9.11 percent) have grown faster than world growth rate.

Table 3.9
India's Import of Manmade T & A products from Top 10 Countries
(in US\$ million)

Partner	2010	2012	2014	2017	2018	2019	% share	CAGR
China	875.06	1202.12	1560.54	1666.42	1772.12	1918.49	50.16	9.11
Indonesia	80.78	81.30	110.71	130.54	219.81	255.94	6.69	13.67
Vietnam	17.03	38.81	78.70	142.24	194.29	218.02	5.70	32.75
Thailand	99.12	109.56	126.34	128.71	156.19	166.30	4.35	5.92
Japan	76.13	99.36	118.71	102.67	109.53	123.51	3.23	5.52
Korea	88.41	116.10	93.27	111.04	138.65	117.82	3.08	3.24
Taiwan	142.88	172.85	175.23	126.25	130.53	113.78	2.97	-2.50
USA	52.24	86.19	89.85	74.88	85.16	84.37	2.21	5.47
Germany	65.32	102.67	96.12	76.29	88.32	84.21	2.20	2.86
Hong Kong	14.86	16.58	30.37	40.38	57.04	81.34	2.13	20.79
Top 10	1511.85	2025.53	2479.87	2599.42	2951.65	3163.76	82.71	8.55
R o World	298.92	317.22	429.97	450.30	687.52	661.24	17.29	9.22
World	1810.77	2342.74	2909.83	3049.72	3639.17	3824.99	100.00	8.66

Source: ITC Trade map

3.3 India's T&A Export Scenario at Micro Level (Product Level)

3.3.1 Textile and Apparel at 8 Digit Level

In order to look into the export trend of T&A on the basis of fibres, the trend of top 139 exported products (more than US \$ 50 million worth of exports each) (at 8-digit level) during 2019-20 has been analysed. These products contribute US\$ 26.87 billion to the export basket of T&A and covers 78.52 percent of the total T&A export of India in 2019-20. Out of 139 products, 56 products are Cotton

based and 35 are Manmade based T&A products. The share of cotton-based products is 43.84 percent as compared to 18.68 percent of manmade fibres as given in the table 3.10.

	No. of products	Export value in \$ billion	share in total T&A export	Growth in last 10 years %
Cotton	56	15.00	43.84	0.70
Manmade	35	6.39	18.68	6.22
Others*	48	5.48	16.01	9.38

Source: Department of Commerce, Textiles Committee Research
Note: *others include all types of blend, Silk, Wool, Jute, etc.

The product wise list of the T&A export is at **Annexure 2** & Production capacities of different major manufacturers are at **Annexure 3**

3.3.2 MMF Textiles and Apparels at 8 Digit

In order to look into the export trend of the MMF Textile and apparel, the trend of top 121 exported products with more than US\$ 10 million worth of exports each (at 8-digit level) has been analysed. These products contribute US\$ 8.36 billion to the export basket of MMF T&A and covers 93.38 percent of the total MMF T&A export of India in 2019-20. Out of 121 products, 40 products belong to MMF apparels valued at US \$3.48 bn and the remaining 81 are MMF textile products including made-ups and home textiles valued at US \$ 4.88 billion.

	No. of products	Export value in \$ billion	share in total MMF T&A export%	Growth in last 10 years %
Textile	40	4.88	54.46	2.55
Apparel	81	3.48	38.91	10.11
Total	121	8.36	93.38	5.08

Source: Department of Commerce, Textiles Committee Research

As mentioned above, there are 81 MMF Textile products at 8 digit out of which 6 products belongs to Made-ups and Home furnishing materials and remaining 75 products are from textile and technical textile products.

List of top 121 traded products with more than \$10 million worth exports each at 8-digit are at **Annexure 4**.

3.4 Top MMF products and India

An analysis of top exported MMF products with export value of \$1 billion and more reveals that there are 89 products (HS6 digit) which contribute around US\$ 289.89 billion (83.12%) to MMF products export basket in 2019. Of these 89 products, 38 are from apparels, 20 from fabrics, 11 from yarn, 9 from technical textiles, 7 from made-ups product category. India's share in these top 89 products is US \$7.16 billion (2.72%). The details are as given in Table 3.12.

Table 3.12
Top Exported MMF Products and India

Category	No. of Products	World Exports (\$Bn)		India's Exports (\$Bn)		India's Share (%)	
		2010	2019	2010	2019	2010	2019
Fibre	3	5.27	7.26	0.37	0.46	7.02	6.34
Yarn	11	13.57	16.21	0.73	1.12	5.38	6.91
Fabric	20	40.06	59.15	1.52	1.21	3.79	2.05
Garments	38	87.34	166.45	1.02	3.21	1.17	1.93
Made ups	7	13.84	19.92	0.10	0.25	0.72	1.26
Technical Textiles	9	13.30	19.64	0.19	0.85	1.43	4.33
Others	1	1.42	1.26	0.09	0.06	6.34	4.76
Top 89	89	174.80	289.89	4.02	7.16	2.30	2.47
Total MMF	344	233.71	348.78	5.75	9.48	2.46	2.72

Barring fibre, yarn and other products, share of India in top traded products is less than 3%. India needs to diversify its product basket so as to attain higher level of exports in MMF products. The product wise details are at **Annexure 5**.

The analysis of India's export performance in the world market with some of the trade indicators is as given below:

3.4.1 Index of Revealed Comparative Advantage of India's Manmade Textile Products

In order to examine the competitiveness of Indian manmade textiles sector, the index of revealed comparative advantage and trade intensity index were calculated from 2010 to 2019. However, before discussing the IRCA and TII

indices, we report the percentage share of India's manmade textile exports in world (Table 3.13 and Figure 3.4). It can be observed that share of manmade yarn is highest amongst the manmade product categories with 5.88 percent in world exports. This is followed by manmade fibres and technical textiles with 4.73 percent and 4.24 percent share in world exports, respectively. Over the years, the export share of manmade fabrics has declined from 3.4 percent in 2010 to 2.45 percent in 2019, while the share of all other manmade export categories has increased.

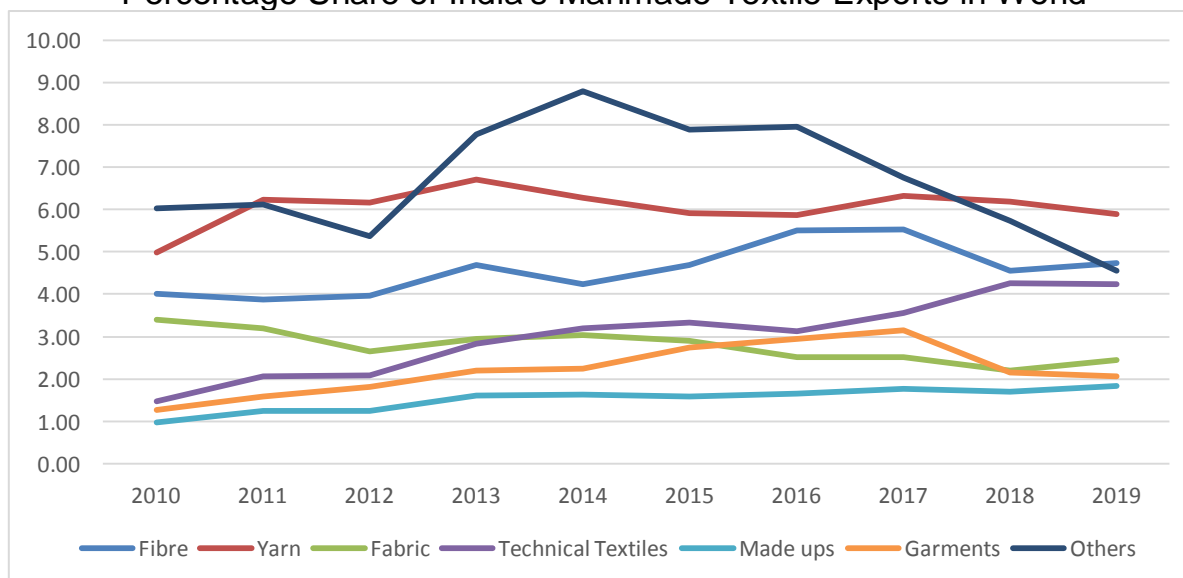
Table 3.13
Percentage Share of India's Manmade Textile Exports in World

Product Category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	4.01	3.87	3.97	4.68	4.24	4.69	5.51	5.53	4.55	4.73
Yarn	4.98	6.24	6.17	6.71	6.26	5.92	5.86	6.32	6.19	5.88
Fabric	3.40	3.19	2.66	2.95	3.03	2.90	2.51	2.51	2.19	2.45
Technical Textiles	1.46	2.07	2.08	2.82	3.20	3.33	3.12	3.56	4.27	4.24
Made ups	0.97	1.25	1.24	1.61	1.63	1.59	1.66	1.76	1.71	1.83
Garments	1.27	1.59	1.82	2.19	2.24	2.75	2.93	3.15	2.16	2.07
Others	6.02	6.12	5.36	7.78	8.79	7.89	7.95	6.75	5.73	4.55

Source: ITC Trademap

Fig 3.4

Percentage Share of India's Manmade Textile Exports in World



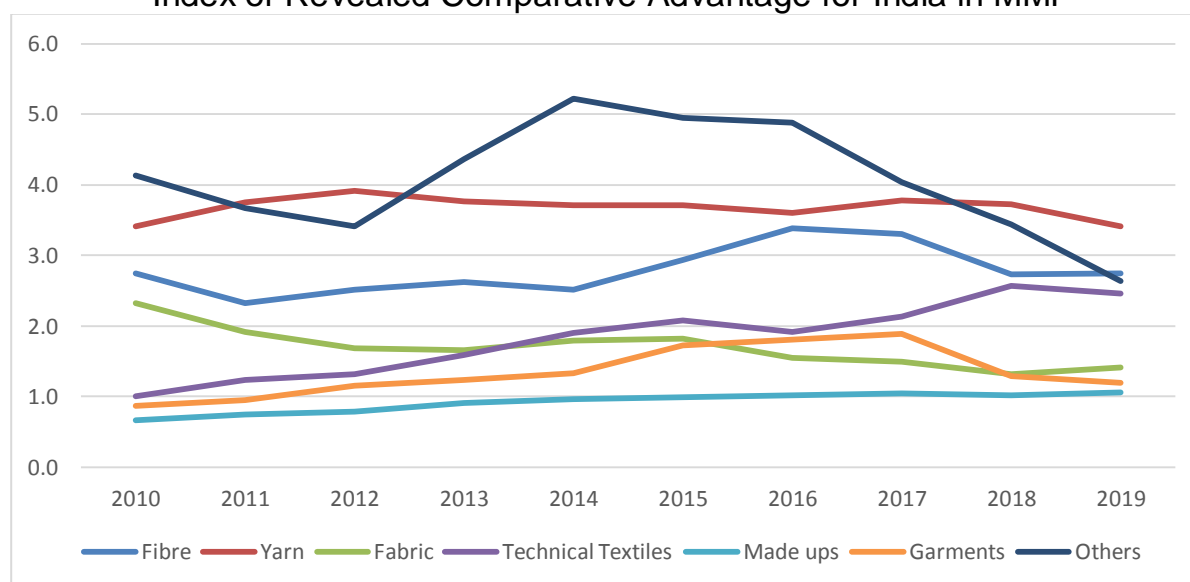
Source: TC Research based on the ITC trademap data

Table 3.14 reports the index of revealed comparative advantage (IRCA) of India's manmade textiles. Consistent with export shares, as IRCA is a function of export values, India has significant advantage in manmade yarns (3.4), manmade fibres (2.7) and manmade technical textiles (2.5). In fact, India has comparative advantage in all categories of manmade textile exports. As noted in the methodology section, if IRCA is more than unity, the country is said to have a comparative advantage in the commodity and vice-versa. This means that India's export share of manmade textiles as a percentage of total trade is greater than the world's export share of manmade textiles as a percentage of total trade.

Product Category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	2.7	2.3	2.5	2.6	2.5	2.9	3.4	3.3	2.7	2.7
Yarn	3.4	3.7	3.9	3.8	3.7	3.7	3.6	3.8	3.7	3.4
Fabric	2.3	1.9	1.7	1.7	1.8	1.8	1.5	1.5	1.3	1.4
Technical Textiles	1.0	1.2	1.3	1.6	1.9	2.1	1.9	2.1	2.6	2.5
Made ups	0.7	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.0	1.1
Garments	0.9	1.0	1.2	1.2	1.3	1.7	1.8	1.9	1.3	1.2
Others	4.1	3.7	3.4	4.4	5.2	4.9	4.9	4.0	3.4	2.6

Source: TC Research based on the ITC trademap data

Fig 3.5
Index of Revealed Comparative Advantage for India in MMF



Source: TC Research based on ITC trademap data

3.4.2 Revealed Comparative Advantage (RCA) at Product Level

Efforts was also made for estimating the RCA at product level so as to know the India's position in the international market and comparative advantage position at disaggregate level. The analyses on top 10 export market indicate that India is enjoying comparative advantage on 53 products out of 319 products it trades with other countries. India has also lost its comparative advantage on 16 products during last 10 years. It is important to note that the country has always been on disadvantage position in 180 products. However, India has also gained comparative advantage on 21 products during last 10 years, which is a positive development for the manmade sector as a whole. Among the top 10 markets, India has a comparative advantage on 52 products in USA, followed by 33 products in UK and Italy and 25 products in Germany.

Table 3.15
Product Level RCA in Top 10 Markets

Market	All Time RCA	RCD to RCA	All Time RCD	RCA to RCD	Cyclical	Total
China	9	16	180	19	95	319
France	15	13	215	18	83	344
Germany	24	10	175	17	93	319
Italy	25	12	176	34	72	319
Japan	20	27	158	20	94	319
Korea	7	15	213	11	73	319
Spain	16	16	185	24	78	319
United Kingdom	33	22	160	35	69	319
United States of America	52	23	126	32	86	319
Viet Nam	6	13	195	23	82	319
World	53	21	180	16	49	319

Source: TC Research based on the ITC trademap data

Table 3.16
Products having all time RCA

Code	Product Description
540233	Textured filament yarn of polyester (excluding that put up for retail sale)
620640	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres
621430	Shawls, scarves, mufflers, mantillas, veils and similar articles of synthetic fibres
540720	Woven fabrics of strip or the like, of synthetic filament, incl. monofilament
550921	Single yarn of polyester staple fibres

Code	Product Description
550922	Multiple "folded" or cabled yarn of polyester staple fibres
550962	Yarn containing predominantly acrylic or modacrylic staple fibres
560811	Made-up knotted fishing nets of man-made textile materials
590290	Tyre cord fabric of high-tenacity viscose rayon yarn
610520	Men's or boys' shirts of man-made fibres, knitted or crocheted
620423	Women's or girls' ensembles of synthetic fibres
540792	Woven fabrics of yarn of synthetic filament
550959	Yarn containing polyester staple fibres
550999	Yarn containing synthetic staple fibres
620413	Women's or girls' suits of synthetic fibres
540246	Filament yarn of polyester
540754	Woven fabrics of yarn of textured polyester filaments
551011	Single yarn, of artificial staple fibres
551012	Multiple "folded" or cabled yarn of artificial staple fibres
551591	Woven fabrics of synthetic staple fibres
540310	High-tenacity yarn of viscose rayon filament
540772	Woven fabrics of yarn of synthetic filament
540782	Woven fabrics of yarn of synthetic filament
540784	Woven fabrics of yarn of synthetic filament
540794	Woven fabrics of yarn of synthetic filament
550951	Yarn of polyester staple fibres
551512	Woven fabrics of polyester staple fibres
581092	Embroidery of man-made fibres on a textile fabric base, in the piece
620530	Men's or boys' shirts of man-made fibres
620811	Women's or girls' slips and petticoats of man-made fibres
630532	Flexible intermediate bulk containers, of synthetic or man-made textile
540710	Woven fabrics of high-tenacity yarn, nylon, other polyamides or polyesters
550320	Staple fibres of polyesters, not carded, combed or otherwise processed
550410	Staple fibres of viscose rayon, not carded, combed or otherwise processed
551511	Woven fabrics of polyester staple fibres
560500	Metallised yarn, whether or not gimped, being textile yarn, or strip
590800	Textile wicks, woven, plaited or knitted, for lamps, stoves, lighters, candles
620822	Women's or girls' nightdresses and pyjamas of man-made fibres
630590	Sacks and bags, for the packing of goods, of textile materials
540774	Woven fabrics of yarn of synthetic filament
540781	Woven fabrics of yarn of synthetic filament
550953	Yarn of polyester staple fibres
551030	Yarn of artificial staple fibres
551329	Woven fabrics of synthetic staple fibres

Code	Product Description
551513	Woven fabrics of polyester staple fibres
560749	Twine, cordage, ropes and cables of polyethylene or polypropylene
570232	Carpets and other floor coverings, of man-made textile materials
620443	Women's or girls' dresses of synthetic fibres
620453	Women's or girls' skirts and divided skirts of synthetic fibres
540262	Multiple "folded" or cabled filament yarn of polyester
540331	Yarn of viscose rayon filament
550952	Yarn of polyester staple fibres
610323	Men's or boys' ensembles of synthetic fibres

Code	Product description
540261	Multiple "folded" or cabled filament yarn of nylon or other polyamides
551449	Woven fabrics of synthetic staple fibres
551624	Woven fabrics of artificial staple fibres
560900	Articles of yarn, strip or the like or of twine, cordage, ropes
620930	Babies' garments and clothing accessories of synthetic fibres
621143	Women's or girls' tracksuits and other garments, n.e.s. of man-made fibres
620722	Men's or boys' nightshirts and pyjamas of man-made fibres
540773	Woven fabrics of synthetic filament
550932	Multiple "folded" or cabled yarn of acrylic or modacrylic staple fibres
621440	Shawls, scarves, mufflers, mantillas, veils and similar articles of artificial fibres
620892	Women's or girls' singlets and other vests, briefs, panties
551412	Woven fabrics of polyester staple fibres
570292	Carpets and other floor coverings, of man-made textile materials
551611	Woven fabrics of artificial staple fibres
620323	Men's or boys' ensembles of synthetic fibres
551110	Yarn of synthetic staple fibres
540248	Filament yarn of polypropylene
540771	Woven fabrics of synthetic filament
540821	Woven fabrics of artificial filament
551319	Woven fabrics of synthetic staple fibres
620444	Women's or girls' dresses of artificial fibres

Code	Product description
540741	Woven fabrics of filaments of nylon or other polyamides
540751	Woven fabrics of textured polyester filaments
540761	Woven fabrics of non-textured polyester filaments
551229	Woven fabrics of acrylic or modacrylic staple fibres
540752	Woven fabrics of textured polyester filaments
550510	Waste of synthetic staple fibres, incl. noils, yarn waste and garnetted stock
550130	Filament tow, acrylic or modacrylic
550520	Waste of artificial staple fibres, incl. noils, yarn waste and garnetted stock
551411	Plain woven fabrics of polyester staple fibres
580134	Uncut warp pile fabrics épingle", of man-made fibres
590310	Textile fabrics impregnated/coated/covered/laminated with poly"vinyl chloride"
610413	Women's or girls' suits of synthetic fibres, knitted or crocheted
540600	Man-made filament yarn, put up for retail sale
550991	Yarn of synthetic staple fibres
550912	Multiple "folded" or cabled yarn of nylon or other polyamide staple fibres
551090	Yarn of artificial staple fibres

The products having all time RCD is annexed in **Annexure – 6**.

3.4.3 Trade Intensity Index¹⁰ of India's Manmade Textile Products

Table 3.19 shows India's trade intensity index (TII) with USA, UK, France and Italy. It can be observed that in 2019, India's trade intensity with USA is higher than expected in most of the MM textile and apparel categories except manmade fibre and yarns. It may be noted that an index of more than one indicates a bilateral trade flow that is larger than expected, given the partner country's importance in world trade. An index of less than one indicates a bilateral trade flow is smaller than expected, given the partner country's importance in world trade. In MMF T&A Historically, India has sustained a higher value of trade intensity with USA in made ups (including carpets) and technical textiles (including non-woven) with significantly higher values of TII. This shows that USA is a major trading partner for India in MM textile and apparel sector.

¹⁰TII is calculated based on the world's total import data instead of world's export data as world's total export data were not available on trademap.

Table 3.19
India's Trade Intensity Index in MMF with USA, UK, France and Italy

Product Category	India's Trade Intensity Index with USA									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.75	0.91	0.93	1.51	1.15	1.00	1.31	1.41	1.40	0.93
Yarn	0.51	0.51	0.51	0.51	0.52	0.63	0.63	0.63	0.75	0.85
Fabric	0.76	0.88	0.93	0.91	0.95	1.06	1.47	1.57	1.91	1.92
TT	2.50	2.58	2.70	2.59	2.56	2.16	2.55	2.73	2.50	2.73
Made ups	1.42	2.22	1.73	1.93	1.87	2.03	1.99	1.91	1.88	1.89
Apparel	0.72	0.84	0.86	0.94	0.97	0.79	0.86	0.89	1.19	1.23
Others	1.13	1.17	1.20	1.55	1.58	1.44	1.32	1.18	0.82	1.30
Product Category	India's Trade Intensity Index with UK									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.39	0.22	0.14	0.12	0.10	0.18	0.28	0.20	0.18	0.12
Yarn	0.44	0.35	0.32	0.29	0.28	0.30	0.33	0.37	0.37	0.41
Fabric	1.79	2.04	2.32	1.97	1.58	1.69	1.95	2.05	2.59	2.41
TT	2.62	3.41	3.34	3.41	3.25	3.26	3.17	2.55	2.50	2.22
Made ups	0.82	0.85	1.13	0.98	0.91	0.89	0.90	1.03	1.34	1.34
Apparel	1.58	1.61	2.07	1.75	1.83	1.62	1.54	1.56	2.08	2.19
Others	3.87	4.45	4.71	5.21	7.20	6.15	4.61	3.99	3.43	4.85
Product Category	India's Trade Intensity Index with France									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.82	0.57	0.61	0.74	1.30	1.25	1.30	1.01	0.70	0.41
Yarn	0.03	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02
Fabric	0.14	0.15	0.18	0.26	0.27	0.24	0.30	0.29	0.26	0.32
TT	1.10	1.45	1.52	1.67	1.51	1.54	1.30	1.47	1.47	1.40
Made ups	0.76	0.45	0.48	0.51	0.41	0.74	0.46	0.43	0.63	0.51
Apparel	0.68	0.67	0.62	0.74	0.86	0.67	0.68	0.55	0.81	0.81
Others	0.75	1.51	1.32	1.45	1.44	2.06	2.31	2.72	3.85	4.88
Product Category	India's Trade Intensity Index with Italy									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.35	0.49	0.49	0.45	0.64	0.76	0.63	0.68	0.62	0.37
Yarn	0.45	0.51	0.37	0.38	0.32	0.34	0.32	0.29	0.30	0.30
Fabric	0.27	0.67	0.79	0.73	0.54	0.49	0.62	0.60	0.77	0.59
TT	1.43	2.22	2.00	2.31	2.20	2.22	2.26	2.13	2.08	2.03
Made ups	2.27	2.32	2.26	1.80	1.29	1.11	1.20	1.15	1.53	1.27
Apparel	0.43	0.43	0.41	0.59	0.49	0.38	0.32	0.32	0.42	0.46
Others	5.39	6.09	6.70	5.72	4.72	7.58	8.17	8.75	10.96	9.33

Source: TC Research based on ITC Trademap data

India's export partnership with UK in MM sector is also similar to that of USA with higher than one TII values in five MM categories. Specifically, India's trading relationship with UK are intense in MM fabrics, MM apparels and MM technical textiles as revealed by the index values of more than one. Further, India exports to UK in these categories are consistent from 2010 to 2019. India has intensive trade relationship with France and Italy in two and three categories of MM textile and apparel, respectively. These are technical textiles and other products for France and technical textiles, made ups and other products for Italy.

Table 3.20
India's Trade Intensity Index with Spain, Germany & Korea

Product Category	India's Trade Intensity Index with Spain									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	1.20	1.72	1.95	1.50	1.14	0.94	1.11	0.82	0.97	0.59
Yarn	1.05	1.13	0.91	1.07	0.91	1.08	1.00	0.85	0.93	0.75
Fabric	0.24	0.24	0.21	0.30	0.31	0.36	0.33	0.24	0.33	0.32
TT	2.42	3.43	3.18	3.61	3.29	3.12	2.78	2.57	3.08	2.84
Made ups	1.41	1.22	1.12	1.05	1.03	1.13	0.69	0.74	1.14	0.92
Apparel	0.97	0.99	1.82	1.86	1.46	1.30	1.26	0.98	1.23	1.38
Others	1.39	1.10	1.51	1.35	1.45	1.32	0.97	1.24	1.39	1.46
Product Category	India's Trade Intensity Index with Germany									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.62	1.02	1.01	0.74	0.49	0.35	0.37	0.35	0.34	0.39
Yarn	0.35	0.33	0.28	0.28	0.23	0.26	0.26	0.25	0.31	0.23
Fabric	0.24	0.26	0.33	0.33	0.31	0.27	0.40	0.40	0.39	0.33
TT	1.03	1.02	1.04	1.04	1.19	1.13	1.13	1.19	1.14	1.20
Made ups	1.29	1.36	1.55	1.23	1.02	1.17	1.57	1.75	1.31	1.30
Apparel	0.58	0.57	0.52	0.61	0.70	0.70	0.66	0.64	0.81	0.80
Others	0.97	0.97	1.06	1.23	0.81	0.90	0.73	0.53	0.42	0.48
Product Category	India's Trade Intensity Index with Korea									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.10	0.02	0.01	0.03	0.04	0.03	0.02	0.09	0.08	0.22
Yarn	0.21	0.24	0.15	0.31	0.66	0.69	0.68	0.59	0.69	0.73
Fabric	0.02	0.02	0.03	0.02	0.02	0.12	0.54	0.76	1.15	0.90
TT	0.17	0.23	0.09	0.25	0.10	0.29	0.68	0.98	0.50	0.21
Made ups	0.89	0.27	0.36	0.19	0.19	0.33	0.46	0.63	0.54	0.43
Apparel	0.12	0.11	0.04	0.03	0.02	0.03	0.03	0.05	0.06	0.05
Others	0.05	0.13	0.25	0.23	0.13	0.17	0.18	0.34	0.52	0.64

Source: TC Research based on Trademap data

Spain is a major trading partner for India in technical textiles and non-woven category with TII value of 2.84. Further, with Spain, India has retained its strong trading relationship in MM apparels sectors. Germany is a major trading partner for India in technical textiles and made up with TII value of more than one while Korea has recently become an important partner for India in MM fabrics with TII value of 1.15 in 2018.

While Vietnam, China and Japan are among the India's top 10 export partners, the India's TII with these countries is less than one which means that a bilateral trade flow is smaller than expected, given the partner country's importance in world trade. None of these three countries have higher than one TII in any one of the seven categories.

Product Category	India's Trade Intensity Index with Vietnam									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.06	0.11	0.18	0.13	0.08	0.06	0.03	0.02	0.04	0.07
Yarn	0.31	0.37	0.28	0.46	0.48	0.47	0.44	0.45	0.42	0.29
Fabric	0.30	0.40	0.33	0.38	0.29	0.28	0.32	0.36	0.38	0.26
TT	0.03	0.13	0.15	0.17	0.16	0.13	0.20	0.21	0.16	0.10
Made ups	2.50	0.27	0.12	0.03	0.05	0.08	0.08	0.11	0.06	0.06
Apparel	0.23	1.70	0.11	2.32	0.07	0.02	0.02	0.31	0.18	0.03
Others	0.13	0.04	0.09	0.15	0.12	0.03	0.05	0.41	0.56	0.03
Product Category	India's Trade Intensity Index with China									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.90	0.57	0.40	0.26	0.52	0.42	0.73	0.56	0.59	0.78
Yarn	0.18	0.08	0.05	0.04	0.07	0.06	0.06	0.06	0.06	0.09
Fabric	0.08	0.11	0.18	0.17	0.20	0.20	0.24	0.36	0.48	0.39
TT	0.16	0.27	0.18	0.25	0.37	0.22	0.22	0.14	0.22	0.10
Made ups	0.22	0.15	0.22	0.28	0.24	0.63	0.50	0.52	1.15	1.10
Apparel	0.20	0.46	0.28	0.23	0.22	0.20	0.24	0.18	0.27	0.22
Others	0.13	0.28	0.14	0.06	0.12	0.21	0.21	0.47	0.56	0.74
Product Category	India's Trade Intensity Index with Japan									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fibre	0.00	0.01	0.02	0.00	0.01	0.02	0.02	0.02	0.04	0.08
Yarn	0.13	0.24	0.18	0.28	0.41	0.44	0.44	0.44	0.41	0.35
Fabric	0.46	0.35	0.23	0.50	0.41	0.43	0.67	0.61	0.65	0.45
TT	0.16	0.16	0.36	0.17	0.10	0.03	0.04	0.03	0.02	0.02

Product Category	India's Trade Intensity Index with Vietnam									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Made ups	0.08	0.14	0.16	0.22	0.20	0.27	0.20	0.19	0.22	0.15
Apparel	0.07	0.07	0.08	0.08	0.08	0.06	0.07	0.07	0.10	0.10
Others	0.36	0.30	0.36	0.59	0.25	0.29	0.32	0.50	0.28	0.44

Source: TC Research based on ITC Trademap data

3.4.4 India's Export Similarity Index of Manmade Textile Products with major Exporters in Top Import Markets

The Export Similarity Index (ESI) for MMF products is calculated to measure the similarity between exports of MMF of two countries (i.e., India's export similarity with other MMF exporting countries) to a third import market. The index is based on the share of each product in each country's total MMF exports and is calculated as the sum of the minimum value for top 50 MMF export commodities. Our approach of ESI calculation was as follows:

First, we identified the top 10 importer markets (USA, Germany, Japan, Vietnam, UK, France, China, Spain, Italy and Korea) of MMF for 2019 and then we identified the top 10 export countries (China, Vietnam, Germany, Italy, USA, Turkey, India, Korea, Spain and Belgium) of MMF in 2019. Further, we identified the top 50 MMF export commodities globally at the HS 6-digit level. For Vietnam, 2018 data were used as 2019 data were not available. An index value very close to unity can be interpreted to suggest that the two countries are perfect competitors in the common market while an index value very close to zero can be interpreted to suggest that there is no competition at all between the two countries.

Table 3.22 shows India's export similarity index with 9 major exporters in the 10 import markets. It can be observed that India's export similarity is not very high or close to one which means India's not very facing very high export competition. India has highest competition with Spain in UK and France market with ESI value of 0.36 and 0.33, respectively. Other competing countries for India are Turkey in Spain (ESI 0.33) and Vietnam (ESI 0.30); China in USA market (ESI 0.30). Overall, based on ESI values, India has some competition with China, Spain, Italy, Vietnam, Belgium and Turkey in different import markets however, that the competition is not too heavy.

Table 3.22
India's Export Similarity in MMF in 2019

Import Markets	USA	China	Vietnam	Germany	Italy	Korea	Spain	Belgium	Turkey
USA		0.30	0.22	0.15	0.21	0.12	0.28	0.09	0.12
China	0.10		0.11	0.09	0.09	0.10	0.11	0.05	0.11
Vietnam	0.03	0.11		0.03	0.03	0.07	0.01	0.02	0.30
Germany	0.08	0.18	0.16		0.17	0.05	0.28	0.20	0.27
Italy	0.16	0.13	0.08	0.14		0.06	0.20	0.15	0.14
Korea	0.05	0.12	0.10	0.09	0.04		0.06	0.12	0.05
Spain	0.07	0.22	0.24	0.22	0.16	0.05		0.17	0.33
Japan	0.16	0.25	0.24	0.19	0.14	0.17	0.26	0.14	0.16
UK	0.19	0.26	0.28	0.21	0.21	0.06	0.36	0.12	0.25
France	0.11	0.23	0.16	0.27	0.22	0.03	0.33	0.23	0.28

Source: TC Research based on Trade-map data

3.5 Analysing the Export potential of the MMF textiles in Global Market

Though India has exported \$9.48 billion of MMF T&A in 2019, it has a potential to achieve higher level of export growth in the international market. In order to estimate the potential market of the Indian MMF textile export, the study used the Export Potential Indicator (EPI) of International Trade Centre (ITC). The EPI identifies products in which the exporting country has already proven to be internationally competitive and which have good prospects of export success in specific target markets. It takes into consideration the identified potential export values from supply capacity in the exporting countries, demand conditions in the target market and bilateral linkage between two countries.

Table 3.23
Export Potential of MMF Products by Product Category
(US \$ Mn)

Product Category	Export Potential	Actual Exports	Untapped potential	% Share	Total Imports of country	Average Applied tariffs
Fibre	928.56	589.00	543.01	8.33	8395.92	3.27
Yarn	2416.80	1623.82	1161.89	17.82	18671.12	5.29
Fabric	2552.79	1763.20	1383.89	21.22	46853.49	9.71
Garment	6298.91	4274.88	3214.77	49.29	105959.07	11.66
Home textiles	221.09	132.63	125.24	1.92	8018.94	11.54
Non wovens	141.76	89.94	92.87	1.42	9038.53	6.12
Total	12559.91	8473.48	6521.66	100.00	196937.08	7.50

Source: TC Research based on the ITC trademap data

The analysis of the manmade fibre textiles indicates that India has an additional export potential of about US\$ 6.52 billion in different product basket of MMF textiles and apparels. The export potential of apparels is highest with US\$ 4.27 billion followed by fabrics with US\$ 1.38 billion and yarn with US\$1.16 billion. The country and product wise export potential on MMF textiles and apparels is given in Table 3.24.

Table 3.24
Country wise Export Potential of MMF Products

(In US \$ Mn)

Country	Fibre	Yarn	Fabric	Garment	Home textiles	Non Wovens	Total
U S A	13.89	35.57	21.04	691.78	7.01	0.04	769.31
Vietnam	48.68	128.28	249.14	11.94	4.68	13.02	455.75
Germany	13.81	38.96	33.77	304.13	2.69	2.68	396.05
China	35.45	79.75	111.37	122.94	2.24	28.03	379.78
United Kingdom	17.54	21.92	18.01	309.76	8.70	0.02	375.95
Bangladesh	18.42	150.82	64.42	5.94	0.79	1.97	242.35
Mexico	15.21	60.46	55.18	75.88	2.59	2.78	212.10
France	1.04	16.19	16.05	165.82	5.71	0.13	204.95
Indonesia	55.29	36.52	80.76	6.60	2.91	3.67	185.74
Italy	9.61	43.06	34.75	86.05	1.32	1.37	176.17
Turkey	81.12	8.46	43.16	29.82	0.54	0.88	163.99
Netherlands	3.65	9.26	9.94	115.33	0.99	0.73	139.90
Spain	2.19	14.82	25.37	75.52	3.69	0.86	122.44
Poland	9.13	10.18	31.28	63.41	1.51	1.41	117.29
Japan	1.60	9.62	10.24	89.53	0.58	2.77	114.34
Brazil	11.74	38.73	31.21	25.73	2.63	1.51	111.55
Korea	8.00	26.46	6.51	66.99	0.83	0.81	109.59
Pakistan	23.87	71.04	8.92	0.08	1.10	0.51	105.52
World	543.01	1161.89	1383.89	3214.77	125.24	92.87	6521.66

Source: TC Research based on the ITC trademap data

3.6 Top Performing Products in Top Import Markets & India's share

As discussed earlier, USA, Germany, Japan, United Kingdom, Vietnam, France, Spain, China, Italy and Korea are the top importers of MMF T&A products in the world. This section provides the details of the top performing/imported products of each of these top markets at the tariff lines as reported by these players. For Korea and Vietnam, only 6-digit data is available, in case of China and European nations like Germany, United Kingdom, France, Spain and Italy 8-digit data are

analysed. For Japan and USA, 9-digit and 10-digit data are analysed. Top performing/imported products have been identified with the values above \$50 million in 2019 and have a positive growth rates (i.e., CAGR) during the last 5 years. The details are reported in Table 3.25.

Table 3.25
Top Performing MMF Products in Top Import Markets

Importers	Top performing products			Top performing products with +ve CAGR			Total MMF
	Textiles	Apparels	Total	Textiles	Apparels	Total	
USA	54	105	159	43	66	109	1696
Germany	27	23	50	11	20	31	474
Japan	14	42	56	10	21	31	911
UK	14	40	54	6	27	33	599
Vietnam	36	0	36	29	0	29	276
France	13	39	52	13	32	45	605
Spain	8	34	42	8	34	42	598
China	32	19	51	14	16	30	476
Italy	17	27	44	13	24	37	599
Korea	12	22	34	7	22	29	322

Source: TC Research based on the ITC trademap data

There are 1696 MMF products at 10-digit tariff line are imported by USA of which 159 are top products (> \$50 Mn) valued \$ 43.06 billion with a share of 87.99% of total MMF imports in 2019. Amongst these, imports of 109 products valued at \$32.68 billion have recorded positive CAGR during the past five years and the share of India in these products is only 4.14%. Please see **Annexure 7** for more details.

In Germany, there are 474 MMF products imported at 8-digit tariff line of which 50 are top products (> \$50 Mn) valued \$11.20 billion with a share of 80.81% of total MMF imports in 2019. Amongst these, imports of 31 products valued at \$8.97 billion have recorded positive CAGR during the past five years and the share of India in these products is only 3.21%. Please see **Annexure 8** for more details.

In Japan there are 911 MMF products imported at 9-digit tariff line of which 56 are top products (> \$50 Mn) valued \$ 14.32 billion with a share of 87.42% of total MMF imports in 2019. Amongst these, imports of 31 products valued at \$8.05

billion have recorded positive CAGR during the past five years and the share of India in these products is only 0.41%. Please see **Annexure 9** for further details.

In United Kingdom, there are 599 MMF products imported at 8-digit tariff line of which 54 are top products (>\$50 Mn) valued \$ 9.24 billion with a share of 78.17% of total MMF imports in 2019. Amongst these, imports of 33 products valued at \$6.28 billion have recorded positive CAGR during the past five years and the share of India in these products is only 4.20%. Further details are given in **Annexure 10**.

In Vietnam, there are 275 MMF products imported at 6-digit tariff line of which 35 are top products (> \$50 Mn) valued \$ 7.12 billion with a share of 78.20% of total MMF imports in 2019. Amongst these, imports of 28 products valued at \$5.93 billion have recorded positive CAGR during the past five years and the share of India in these products is only 0.67%. The details are given in **Annexure 11**.

In France, there are 605 MMF products imported at 8-digit tariff line of which 52 are top products (> \$50 Mn) valued \$ 9.23 billion with a share of 74.58% of total MMF imports in 2019. Amongst these, imports of 45 products valued at \$7.91 billion have recorded positive CAGR during the past five years and the share of India in these products is only 1.77% the details are at **Annexure 12**.

In Spain, there are 598 MMF products imported at 8-digit tariff line of which 42 are top products (> \$50 Mn) valued \$ 7.70 billion with a share of 73.00% of total MMF imports in 2019 and all these products have recorded positive CAGR during the past five years and the share of India in these products is only 2.63%. The details are given in **Annexure 13**.

In China, there are 476 MMF products imported at 8-digit tariff line of which 51 are top products (> \$50 Mn) valued \$ 6.96 billion with a share of 70.65% of total MMF imports in 2019. Amongst these, imports of 30 products valued at \$4.11 billion have recorded positive CAGR during the past five years and the share of India in these products is only 1.57%. The details are in **Annexure 14**.

In Italy, there are 599 MMF products imported at 8-digit tariff line of which 44 are top products (> \$50 Mn) valued \$ 5.90 billion with a share of 63.92% of total MMF imports in 2019. Amongst these, imports of 37 products valued at \$5.38

billion have recorded positive CAGR during the past five years and the share of India in these products is only 1.09%. The details are given in **Annexure 15**.

In Korea, there are 322 MMF products imported at 6-digit tariff line of which 34 are top products (> \$50 Mn) valued \$ 5.89 billion with a share of 76.51% of total MMF imports in 2019. Amongst these, imports of 29 products valued at \$5.56 billion have recorded positive CAGR during the past five years and the share of India in these products is only 0.96%. The details are given in **Annexure 16**.

3.7 Contribution of Manmade Textiles to Achieve Textile Vision

The government has set a target to achieve an ambitious target of achieving domestic market size of US\$ 350 billion and export of US\$ 300 billion by 2025. The export led growth could have been the reason for setting such an ambitious target of T&A export of the country. Further India's position in the global market and strength factors have potential to achieve such a target in the global market. The domestic market for textiles and apparels has a substantial potential to contribute significantly in the process of achieving the target. Also, recent changes effected under GST regime as well as unshackled raw material may yield some optimistic results as far as the size of textile market (both domestic and exports) is concerned.

Efforts are made to link the present study to examine the ways for achieving the target and what would be the contribution of the manmade fibre to the textile industry. The projections of exports as well as domestic demand are ascertained by considering four scenarios viz (i) Business as usual, (ii) Moderate, (iii) Optimistic and (iv) Ambitious (reach the vision targets). As the set targets are unable to be achieved in 2025, the projections are also made till the year 2030. These projections are discussed below:

3.7.1 Business As Usual Scenario

Domestic Market

The domestic household textile and apparel market is around \$ 94 billion and Non household market is around \$ 34.66 billion in 2019. The domestic market size is growing at a CAGR of 11.5% and with this growth rate the total domestic market size will be \$145.34 Bn in 2025 and \$157.41 Bn in 2030. The share of MM based textiles will be 52.15% in 2025 and 51.90% in 2030.

Exports

India's present growth in export of T&A is about 3.03% during last ten years, while the global export has grown by 2.72% during same period. If the same growth rate continues till 2025, the global export will reach \$906.93 Bn. At the same time, if India's export grows by the present rate, the T&A export will grow to \$42.33 Bn by 2025 and to \$45.62 Bn by 2030, out of which the contribution of the MMF textile will be \$6.47 Bn in 2025 and \$6.84 Bn in 2030 and the contribution of MMF based apparels will be \$6.45 Bn in 2025 and \$7.99 Bn in 2030. The fibre wise projections are given in 3.26.

Market	Year	Manmade T&A	Non-Manmade T&A	Total
Domestic	2025	75.79	69.55	145.34
	2030	81.70	75.71	157.41
Exports	2025	12.92	29.41	42.33
	2030	14.83	30.79	45.62
Total	2025	88.71	98.96	187.67
	2030	96.53	106.50	203.02

Source: TC Research

3.7.2 Moderate Scenario

Domestic Market

With the growth in disposable income of the middle and lower middle-class households, domestic consumption of textile and apparel in India is likely to increase at 13.38 percent CAGR as witnessed during 2011 to 2014 periods. With this growth rate, the total domestic market size will be \$218.98 Bn in 2025 and \$335.83 Bn in 2030.

Exports

Performance of T&A sector in past was better than current scenario wherein emerging nations such as Vietnam, Bangladesh, Cambodia, etc have grown and fulfilled the gap created by the decline in China's export. Growth in exports could achieve a CAGR of 8% in the next five years & will reach US\$ 56.32 billion in 2025 & US\$ 82.76 billion in 2030. The fibre wise projections are given in Table 3.27.

Table 3.27				
Projections under Moderate Scenario				
(\$ Bn)				
Market	Year	Manmade T&A	Non-Manmade T&A	Total
Domestic	2025	114.19	104.79	218.98
	2030	174.31	161.52	335.83
Exports	2025	17.19	39.13	56.32
	2030	26.90	55.86	82.76
Total	2025	131.38	143.92	275.30
	2030	201.21	217.38	418.59

Source: TC Research

3.7.3 Optimistic Scenario

The recent unshackled raw material and GST scenario will yield in enhanced growth of the textile and apparel sector in the near future. As per the initial data on import of purified terephthalic acid, a crucial raw material in the production of polyester staple fibre and filament yarn. The average import price has declined by 39% which will influence the growth in the MMF and blended yarn/fabric production sector. These initiatives will enhance the exports of T&A sector and it is assumed that the domestic market will be under moderate scenario. The overall growth in exports expected to be around 10% in the sector.

Domestic Market

With the growth in disposable income of the middle and lower middle-class households, domestic consumption of textile and apparel in India is likely to increase at 13.38 percent CAGR as witnessed from 2011 to 2014. With this growth rate, the total domestic market size will be \$218.98 billion in 2025 and \$335.83 billion in 2030.

Exports

Growth in exports could achieve a CAGR of 10% in the next five years and may achieve US\$ 62.88 billion in 2025 and US\$ 101.27 billion in 2030. The fibre wise projections are given in table 3.28.

Market	Year	Manmade T&A	Non-Manmade T&A	Total
Domestic	2025	114.19	104.79	218.98
	2030	174.31	161.52	335.83
Exports	2025	23.57	39.31	62.88
	2030	39.75	61.52	101.27
Total	2025	137.76	144.10	281.86
	2030	214.06	223.04	437.10

Source: TC Research

3.7.4 Ambitious Scenario

It is estimated that the MMF will contribute about 84 percent of total fibre mill consumption between 2015-2030 (PCI Wood Mackenzie,). Similarly, as per the estimates of International Cotton Advisory Committee (ICAC), about 80 percent of fibre consumption will be contributed by non-cotton segment by 2025. Thus, consistent with these trends, MM textile and apparel exports need to grow at a much higher rate than non-MM textile and apparel segment. If India is able to achieve this ratio of 80:20 (80 percent from MM textile and apparel and 20 other non-MM textile and apparel segments) by 2030, then the export growth trajectories need to be very different for these two sectors.

Domestic Market

Efforts were also made to estimate the contribution of MMF textiles in the household sector, if the share of the sector increases to 80% from the present rate of 56% as in Table No. 3.31. In such a scenario, the total size will be \$169.76 billion in 2025 and \$254.88 billion in 2030 and contribution of manmade fibre textile US\$ 143.61 billion by 2025 and will be US\$ 203.90 billion by 2030. In Non-household segment, the market size will be \$63.36 billion in 2025 and \$95.12 billion in 2030.

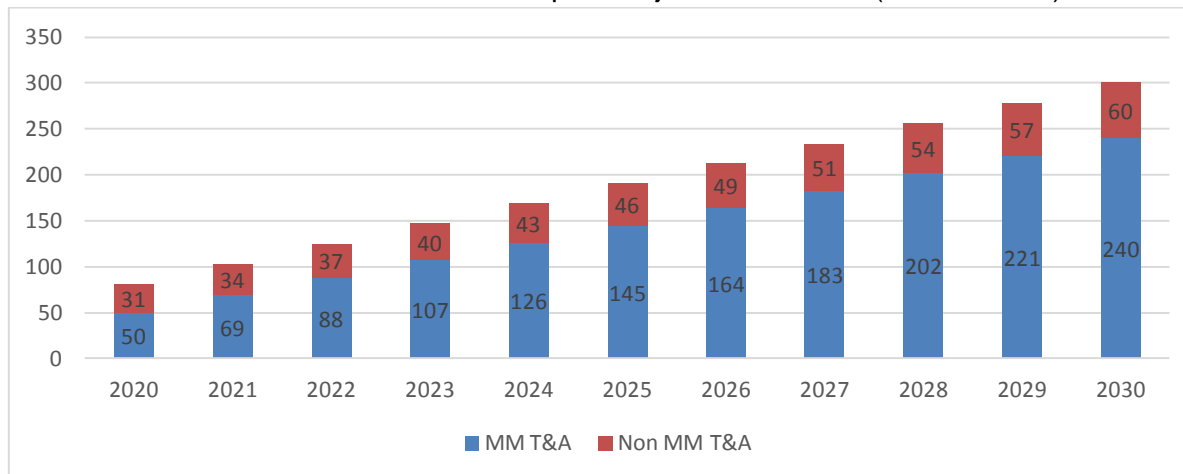
Exports

In this scenario, projections show that the MM textile and apparel exports need to grow at CAGR of 29 percent while non-MM textile and apparel segment need to grow at CAGR of about 7 percent to achieve the textile export vision of US\$300

billion by 2030. With such growth rates, size of MM textile and apparel exports will be around US\$240 billion, while non-MM textile and apparel exports will be nearly US\$60 billion.

The figure shows that the projected exports from 2020 to 2030 to achieve the export target of US\$300 billion. However, the global estimates about the share of MMF vs others segment of textile exports show that MM textile segment will have much higher share in consumption than other segments, majorly cotton, because growth in cotton segment is likely to be very slow. MM T&A and Non-MM T&A export projections till 2030 are given in Figure 3.6 and the fibre wise projections are given in Table 3.29.

Fig 3.6
MM T&A and Non-MM T&A Export Projections till 2030 (in US\$ billion)



Source: TC Research

Table 3.29 Projections under Ambitious Scenario (\$ Bn)				
Market	Year	Manmade T&A	Non-Manmade T&A	Total
Domestic	2025	194	60	254
	2030	280	70	350
Exports	2025	145	46	191
	2030	240	60	300
Total	2025	339	106	445
	2030	520	130	650

Source: TC Research

3.8 Investment Requirements

As per the data available under the Technology Upgradation Fund Scheme, T&A industry attracted an investment of \$ 68.5 billion till 2019-20. Further, as per the primary survey conducted by Textiles Committee, industry has also attracted \$6.85 billion of investments through private sources (Non TUFs). Further, as evidenced from the survey 54% of the investments have been subsidised.

FDI investments in the sector till date were to the tune of \$3.19 billion and it is expected that an additional FDI of US \$6.04 billion is expected to be brought in by 2030.

Keeping the projections as envisaged under three different scenarios viz business as usual, moderate and optimistic, the investment requirements are assessed, as presented in Table 3.30.

Table 3.30
Investments Required to Meet Vision Targets

(\$ Bn)

Year	Fibre	Business as Usual	Moderate	Optimistic	Ambitious
2025	Manmade T&A	5.10	24.35	26.41	98.21
	Non-Manmade T&A	5.69	26.67	27.62	30.71
	Total	10.80	51.02	54.03	128.92
2030	Manmade T&A	6.58	43.52	47.57	138.31
	Non-Manmade T&A	7.26	47.02	49.56	34.58
	Total	13.83	90.54	97.13	172.88

Source: TC Research

As per the TUFs data, average subsidy given out across the sub-segments of the textile sector works out to be 7.6% and as evidenced under the survey 54% of the investments are to be subsidised so as to achieve the targeted domestic as well as export market size. The subsidy outgo details are as given in Table 3.31.

Table 3.31
Subsidy Outgo to Achieve Vision Targets

(\$ Bn)

Year	Fibre	Business as Usual	Moderate	Optimistic	Ambitious
2025	Manmade T&A	0.21	1.00	1.08	4.03
	Non-Manmade T&A	0.23	1.09	1.13	1.26
	Total	0.44	2.09	2.22	5.29
2030	Manmade T&A	0.27	1.79	1.95	5.68
	Non-Manmade T&A	0.30	1.93	2.03	1.42
	Total	0.57	3.72	3.99	7.10

Source: TC Research

The total outgo under subsidy for four scenarios is \$0.57 billion, \$3.72 billion, \$3.99 billion and \$7.10 billion, respectively, and subsidy for MMF T&A sector is \$0.27 billion, \$1.79 billion, \$1.95 billion and \$5.68 billion respectively by 2030.

Chapter 4

MMF in Technical Textiles

4.1 Introduction

Technical Textile (TT) sector is considered as sunshine sector of the textile industry due to increased application and scope of the specialised products in this category. It is one of the fastest growing segment of the Textiles & Apparel (T&A) sectors and is expected to register a double-digit growth in the coming years having a potential to reach a market size of Rs. 2 lakh crores by 2020-21¹¹.

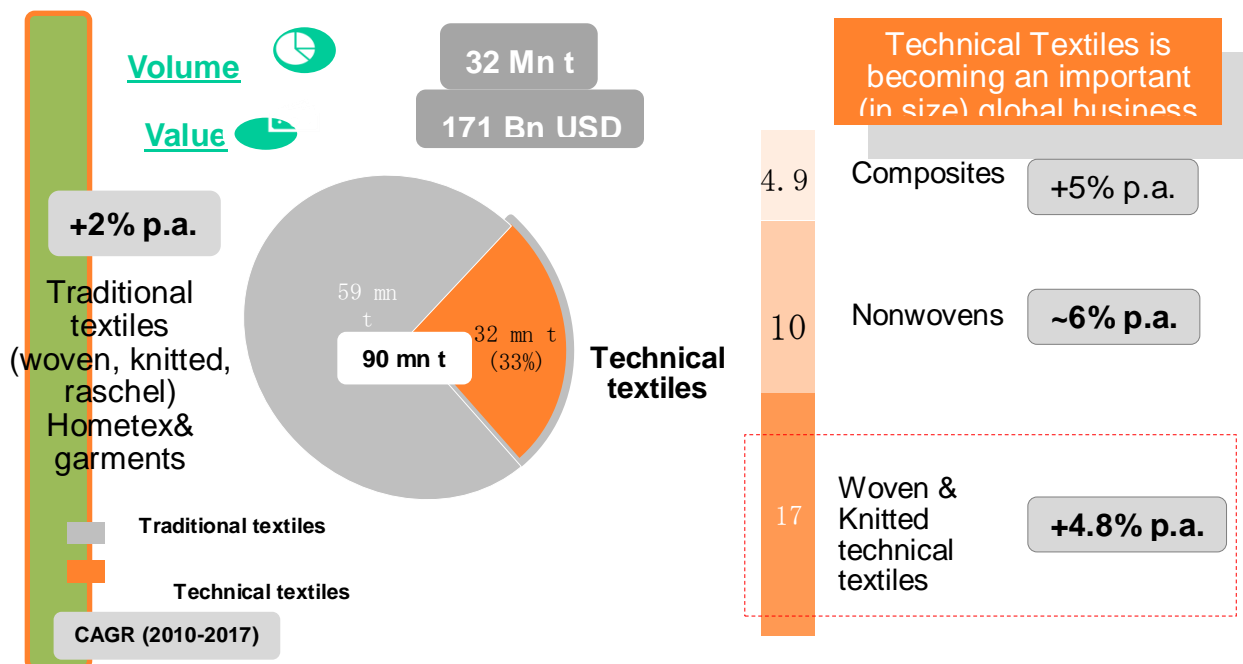
Technical textiles are textile materials and products used for their technical performance and functional properties. These products are primarily preferred because of their specific physical and functional properties. Functionality, performance and compliance to standards are three intrinsic characteristics that distinguish technical textiles from other T&A products. Apart from functional properties, technical textiles meet requirements such as health and safety, durability and high strength with respect to specific applications. Further, unlike conventional textiles such as home textiles and consumer apparels which are sold in the market based on appearance and aesthetics, technical textiles satisfy certain functional requirements and thus certification of products as well as manufacturing facilities, to meet specific technical norms, play an important role.

The generally accepted of definition technical textiles include – apart from ‘traditional (such as woven or knitted) technical textiles – nonwovens (such as spun bond material for hygiene or needle felt for automotive) as well as high performance (fabric reinforced) composites for, e.g., wind energy, boat building or aeronautics.

The global market size of technical textiles was US\$171 billion in 2017. On a world scale, technical textiles represent about 28% of total textile production. Nonwovens are the single largest segment representing 33% of fibers consumed in technical textiles worldwide. India has about 5 percent share in the global technical textiles market size across twelve segments of technical textiles.

¹¹Government of India's Initiatives in Technical Textiles & Notification of HSN Codes for Technical Textiles, 29th January 2019. Retrieved from <http://164.100.117.97/WriteReadData/userfiles/Notification%20of%20HSN%20Codes%20for%20Technical%20Textiles.pdf> on September 23, 2019.

Fig 4.1
Global Technical Textile Market during 2017



4.2 Overview of Technical Textiles Industry

Based on the end application the technical textile, products are broadly classified into 12 segments; Agrotech, Buildtech, Clothtech, Geotech, Hometech, Indutech, Meditech, Mobiltech, Oecotech, Packtech, Protech and Sportech. The product-wise classification of the different segments is as follows:

Sub-sector of Technical Textiles	Major Products
1. Agrotech: Agrotech includes technical textile products that are used in agriculture, horticulture (incl. Floriculture), fisheries, animal husbandry and forestry	Shade-nets, Mulch-mats, Crop-covers, Anti-hail nets, Bird protection nets, Fishing nets, Plant nets, Other nettings for agriculture, etc
2. Buildtech: These types of technical textiles are used in building and construction applications. Utilization of buildtech is increased with the development of MMF fibers. Nowadays, these materials are extensively used in airports, stadiums, sports halls,	Scaffolding nets, Tarpaulins, Roofing felts, Hoardings / Signages, Architectural Membranes, etc.

Sub-sector of Technical Textiles	Major Products
exhibition halls, shopping malls, warehouses, etc.	
3. Geotech: Geotech segments are comprised of different permeable fabrics and products that are used in geotechnical application. A growing number of builders, transportation infrastructure planners, engineers and other designers are adopting geotextiles as durable materials for roads, highways, foundations and railways	Geo grids, Geo membranes, Geo cells, Geo tubes, Geo nets, etc
4. Hometech: Hometech includes the technical textile fabrics and its products that are used for household and furnishing applications, apart from decoration it also consists with the functional attributes.	Furniture's fabrics, Blinds, Awnings, Rugs and Carpets, Bed linen, Bedroom, Kitchen and Bathroom Linen, Draperies, etc
5. Indutech: Indutech are the technical textile products that are used in industry and manufacturing sectors. Industrial fabrics are used in a wide range of automotive, printing, belting, filtering and processing applications	Drive and conveyor belts, Hoses, ropes and cordages, Bolting cloth, Industrial brushes, Filtration fabrics, Abrasion resistance fabrics, etc
6. Meditech: Meditech includes the products that are used in medical, health care, human hygiene and surgical applications. Medical Textiles is one of the most rapidly expanding sectors in the technical textile market	Hygiene products: Baby Diapers, Incontinence Diapers, Sanitary Napkins, Wipes, Ear Buds, Under pads, etc. Healthcare products: Surgical Disposables: Caps, Masks, Gowns, Drapes and Shoe Covers, Disposable products, etc.
7. Protech: Protech are protective clothing which are made from technical and specialty fibres, yarns and fabrics that protects the wearer from environmental	Fire resistant fabrics and apparels, Ballistic Clothings, Nuclear, biological and chemical protective clothing, High altitude clothings, High Visibility clothings, Gloves, straps and belts,

Sub-sector of Technical Textiles	Major Products
hazards. Demand for protech is increasing with growing construction industry in India, stringent occupational health & safety regulations and mandated by policies.	etc
8. Sportech: Sportech includes fabrics and products that are used for development of sport related clothing or sporting goods. Growing demand for sports, yoga activities, fast changing lifestyle, aggressive marketing by multinationals are the growth drivers of sportech segment	Sports wear, activewear, Parachute fabrics, Sport shoe components, Sport nets, Sleeping bags, Artificial turf, etc
9. Packtech: Packtech includes technical textiles that are used in various packaging materials. India is the world's largest FIBC producer. Packtech covers 40% of Indian technical textile market.	Polyolefin Woven Sacks, FIBC (Flexible Intermediate Bulk Container), Leno bags, Wrapping fabric, Jute Hessian and Sacks, Soft luggage products, Non-woven shopping bags
10. Mobiltech: Mobiltech segment of technical textiles includes applications in automotive and automotive components (including aircrafts and railways). India has a huge domestic market in this segment.	Nylon tyre cord, Seat belt webbing and Airbags, Car body covers, Seat upholstery/fabric, Automotive interior components, Railways seating fabrics
11. Clothtech: The technical components of the garments like trims and accessories that are made by fabrics and yarns which satisfy the functional needs of the garments are stated as Clothtech. Clothtech is a matured segment of Indian Technical Textile industry.	Sewing threads, Shoelaces, Interlinings (Woven / Nonwoven), Fasteners, Coated and laminated fabrics, etc
12. Oekotech: Textile products which are produced for environmental protection	Environmental protection- Geosynthetics are extensively used in the design of both base and cover

Sub-sector of Technical Textiles	Major Products
applications purpose are known as oekotech or ecotech. This refers to technical textiles which are environmentally friendly.	liner systems of landfill facilities.
13. Nonwoven: Non-woven fabric is a fabric-like material made from staple fibre and long fibres, bonded together by chemical, mechanical, heat or solvent treatment. The term is used in the textile manufacturing industry to denote fabrics, such as felt, which are neither woven nor knitted. It's a growing segment in India.	Disposals, wipes, sanitary pads, napkins and tissues, Filters, Insulations, Agricultural mesh and sheds, Automotive interiors
14. Composites: Composites is a material made from two or more constituent materials with significantly different physical or chemical properties that, when combined, produce a material with characteristics different from the individual components.	Aerospace components, Windmill component, Fishing rods, Sports goods components, Swimming pool panels

Source: TC Research

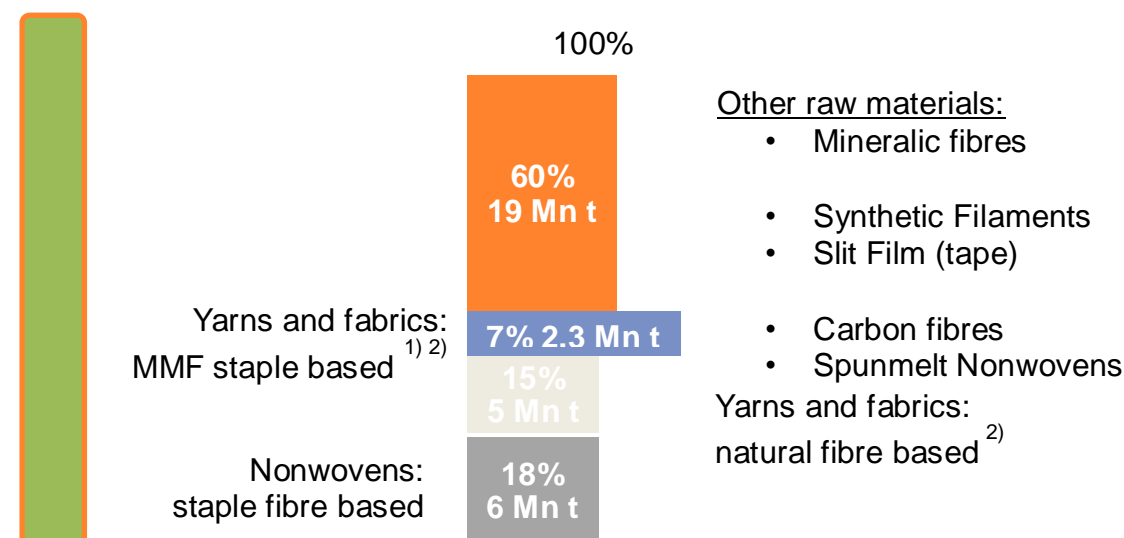
It may be noted here that Indutech is the most consumed segment in the world technical textile market with 17% of market share whereas, packtech is the largest segment of Indian technical textile industry which has about 40% share. Agrotech and Geotech have small market share (approx. 1-3%) in world as well as in India's technical textile market. India focuses on segments like packtech, homotech, clothtech, sportech, etc. currently, India consumes technical textile products from all 12 sectors and the demand has been growing continuously.

4.3 MMF Focused Technical Textiles Application Areas

Based on the desired attributes of the end product, various types of fibres/filaments are used for manufacturing the technical textiles. These raw materials are either natural fibres or manmade fibres/filaments. Similar to traditional textiles, manmade (MMF) fibres covers large portion of technical textiles. The key MMF manmade fibres, filaments used as raw materials in technical textiles are: Polyester, viscose, nylon, acrylic/mod acrylic,

polypropylene and the polymers like high density poly ethylene (HDPE), low density poly ethylene (LDPE), and poly vinyl chloride (PVC), etc.

Fig 4.2
Raw Material for Technical Textile Production during 2017



¹⁾ PET, PA, Viscose, ²⁾ without traditional, e.g., Poly Cotton workwear *Source: SRTEPC*

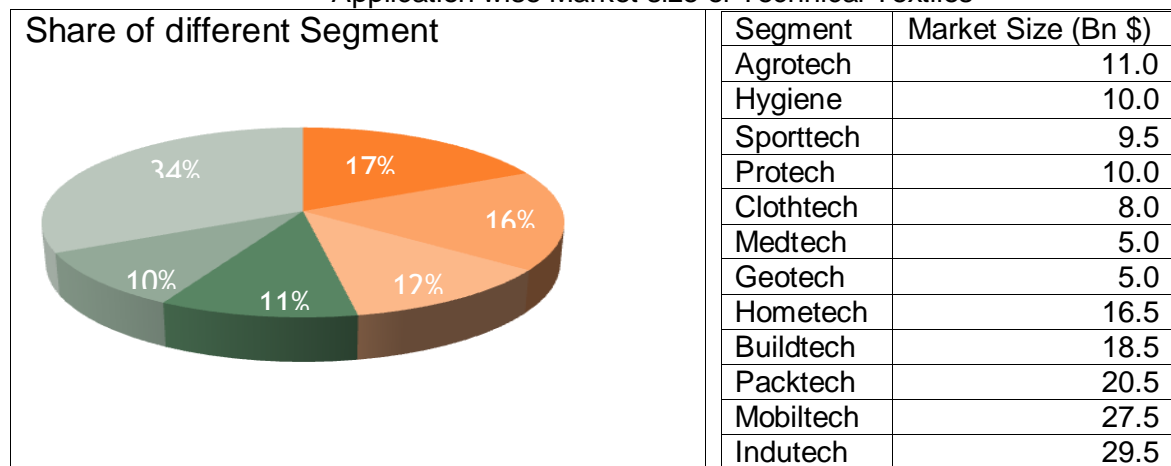
The above figure shows the raw material used in Million (Mn) tons for technical textile production in year 2017, this is mainly categorized into four parts, includes natural based yarns and fabrics, staple MMF based yarns and fabrics, staple fibres based nonwovens and the major part contains synthetic filaments and mineralic staple fibres and spunmelt nonwovens, etc. Presently technical textiles are mostly made up of high-performance synthetic fibre due to their cost, performance and durability. It is estimated that technical textiles consumes 28% of MMF out of total worldwide MMF consumption. Mobiltech, carpets, hometextiles and packtech are the major MMF consuming technical textiles.

In 2017, the world technical textile demand was estimated around 32 million tons of which nonwovens represented more than 30% share, being the fastest growing segment with 6% growth per annum. As the segments like nonwovens are growing faster than overall global TechTex market, their share is expected to increase in future.

Figure 4.3 indicates the world market for Technical Textiles in year 2017. The world market for Technical Textiles (including Nonwovens) was US\$ 171 bn. The

segments like Indutech, Mobile-tech, Packtech, Buildtech and Hometech are the 5 large and growing segments of world market technical textiles market, represent 2/3rd of world TT consumption.

Fig 4.3
Application wise Market size of Technical Textiles



Source: TC Research

4.4 Major Consuming Countries

The table 4.1 depicts the global consumption of technical textiles. The geographical distribution of technical textile demand in terms of value indicates that the EU, USA and China are major consumers of technical textiles. The EU, the USA and China represent about half of the world market for Technical Textiles. It is important to note that the emerging economies show highest demand and growth compared to the developed regions/countries in the recent years. The EU is the No. 1 market with a consumption of US\$ 31 Bn followed by USA with US \$28 Bn. China has also been steadily growing as one of the major consumers of technical textiles with consumption of about US\$21 Bn during the period.

Country/ Region	Demand (\$ US)
EU	31
USA	28
China	21
All Others	91
Total	171

4.5 India's Demand for Technical Textiles

The production and demand for technical textiles has been growing significantly in India during last few years. The Technical Textiles contributes about 12-15

percent of the total Textile Value Chain. The comparative analysis indicates that the India is far behind to that of other countries like EU, where the TT industry constitutes 50 percent of the total Textile Value Chain (TVC). However, the technical textiles industry is continuously evolving with several of the traditional materials being substituted by technical textiles due to advantages such as cost and performance¹².

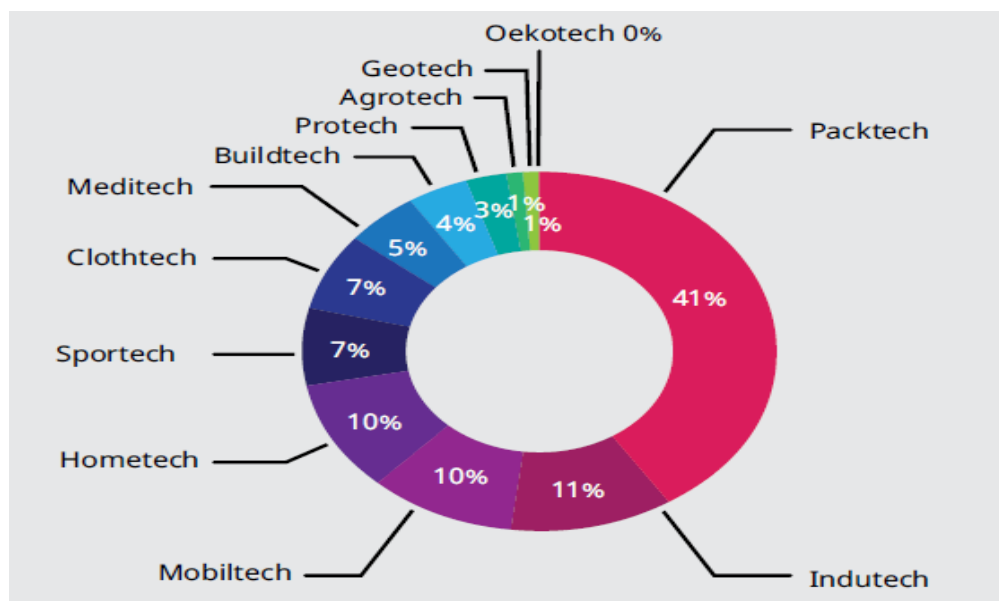
Table 4.2 shows the domestic technical textiles market from 2013-14 to 2017-18. During this period, technical textile market has grown at 13 percent CAGR and is estimated around US\$ 16.48 Bn in 2017-18 and US\$ 18.59 Bn in 2018-19.

The estimated segment wise market size of the technical textile:

Segment	2007-08	2013-14	CAGR % (2008- 13)	2017-18	2018-19	CAGR % (2013-19)	2023-24 (P)
Agrotech	78.4	131.8	8	228.94	247.25	8	336.38
Meditech	236.7	513.8	15	729.36	838.77	15	1467.01
Mobiltech	451.5	1045.4	16	1621.70	1881.17	13	3406.13
Packtech	2075.2	4422.8	14	6853.62	7813.12	14	13196.05
Sportech	404.4	658.9	8	1008.65	1089.34	3	1482.04
Buildtech	186.8	399.9	1	650.64	741.73	14	1252.75
Clothtech	491.6	759.9	7	1153.62	1234.37	7	1618.01
Homotech	616.3	1009.8	8	1722.70	1860.51	8.5	2531.20
Protech	184.7	308.7	9	445.25	485.32	9	685.07
Geotech	26.2	109.5	30	180.85	235.11	8	671.49
Oekotech	9.6	18.7	12	27.38	30.66	12	48.25
Indutech	454.8	1073.3	16	1861.99	2141.28	12	3745.12
Total	5216.3	10452.3	12.40	16484.68	18598.64		30439.49

Source: TC Analyses

¹²Government of India's Initiatives in Technical Textiles & Notification of HSN Codes for Technical Textiles, 29th January 2019.



Source: Office of Textile Commissioner, Govt. of India¹³ & TC Research

The demand for technical textiles in India is expected to grow in the upcoming years due to a broadening application in end-use industries, such as automotive, Indutech, hygiene & healthcare, geotech and medtech. Government is also encouraging the stakeholders by providing 15% subsidies on capital investment through ATUFS scheme. In addition to this, a state government also gives incentives to attract technical textile investments. Government is taking efforts to increase the domestic consumption of technical textiles, for eg. increasing spending on defense sector. Government is also planning to mandate the use of technical textile products.

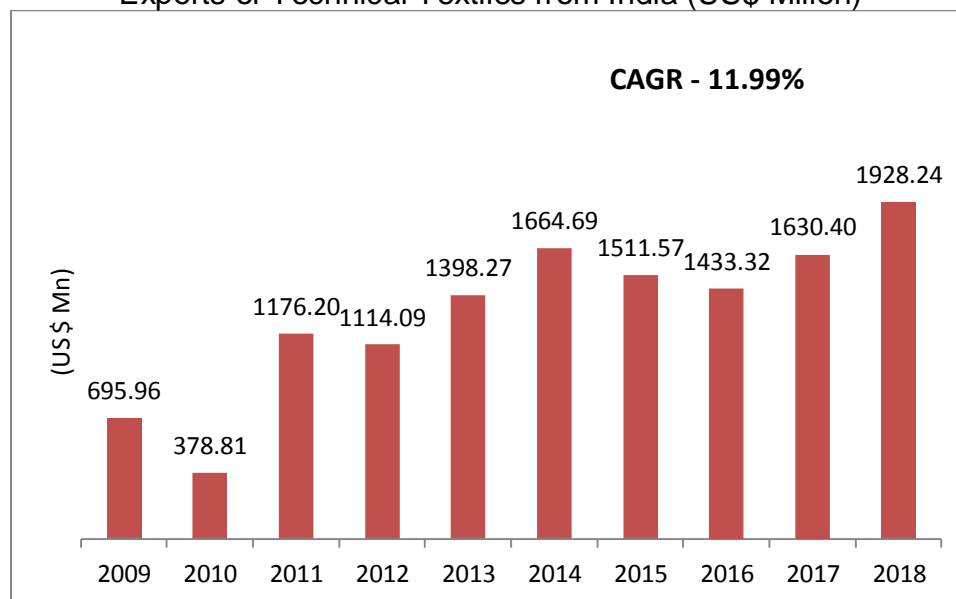
4.6 India's Trade in Technical Textiles

The study has also analysed India's trade in Technical Textile will respect to the world. For this purpose, 207 products lines notified by the government as Technical Textiles is taken into consideration. The trend indicates that India's trade in technical textiles with rest of the world has been growing during last 10 years. While the export of technical textiles has increased from US \$0.70 Bn during in 2009 to US\$ 1.98 Bn during 2018 with a CAGR of 11.99%. The growth in export further validates the emergence of technical textiles as an important and emerging area of the Textile and Apparel (T&A) of the country and has a

¹³ Adapted from Inside View, A Wazir Advisors Publication, January 2019.

potential to enhance the growth trajectory of the industry in the international market.

Fig 4.5
Exports of Technical Textiles from India (US\$ Million)



Source:TC Research

4.6.1 Segment Wise Export of Technical Textiles

The segment wise export of technical textiles indicates that the growth rate for segment like indutech, Packtech, Geotech Agrotech and Non-woven has accelerated during last 10 years. The contribution of packtech has created excellent avenue of growth with about 42% share in the overall export of technical textiles in 2019.

Table 4.3
Segment wise export of Technical Textile from India

Segment						(Mn \$)	
	2009	2012	2014	2016	2018	Share	CAGR
Meditech	40.50	66.88	74.44	73.00	135.80	7.04	14.39
Buildtech	43.74	99.10	288.96	107.94	92.44	4.79	8.67
Indutech	123.24	207.53	214.48	277.64	226.91	11.77	7.02
Packtech	184.97	359.08	584.65	527.77	802.79	41.63	17.72
Geotech	39.37	39.83	50.91	57.40	112.33	5.83	12.36
Mobiltech	133.65	125.56	214.19	128.50	217.79	11.29	5.58
Sportech	8.43	15.29	15.91	15.60	16.95	0.88	8.07

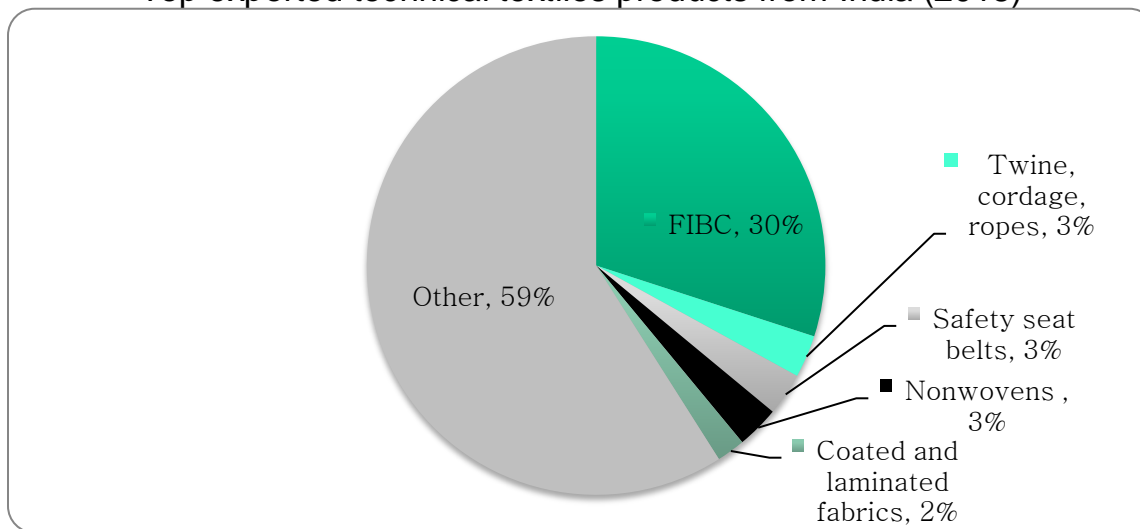
Segment	2009	2012	2014	2016	2018	Share	CAGR
Clothtech	18.29	22.77	23.78	22.54	27.37	1.42	4.58
Agrotech	17.85	40.43	52.47	55.34	74.94	3.89	17.29
Hometech	28.84	24.00	21.85	17.75	11.32	0.59	-9.87
Protech	26.51	44.73	30.00	30.35	62.31	3.23	9.96
Non-Woven	30.57	68.88	93.07	119.48	147.28	7.64	19.09
Total	695.96	1114.09	1664.69	1433.32	1928.24	100.00	11.99

Source: TC Research

The major products contributed to the export basket are as follows:

Segment	Products
Hometech	Weaving & Knitting: Bed & Bath, Curtains & Drapes, Upholstery, Sun shading, etc Non-woven: Drapes, Duvet filling, Sun shading, Digital print substrate.
Mobitech	Woven: Straps & Belts, Tyre cord, Seating & Headliner, Flooring / Trunk liner, Filters Non-woven: Filters, Flooring, Acoustic Insulation, decorative cabin interior felts.
Pack-tech	Woven & Knitted: Big bags (FIBC), Shoppers, Sacks, Nets & Twines Non-woven: Spunmelt nonwoven for shoppers, Bags
Others	Sewing thread, Hygiene & Medtech, Filtration, Agro & Geotextiles, Building textiles, etc Non-woven: Spunmelt & Carded non-woven for disposable (e.g. wipes or diapers) and durable (e.g. filter or Agrotech) use.

Fig 4.6
Top exported technical textiles products from India (2018)



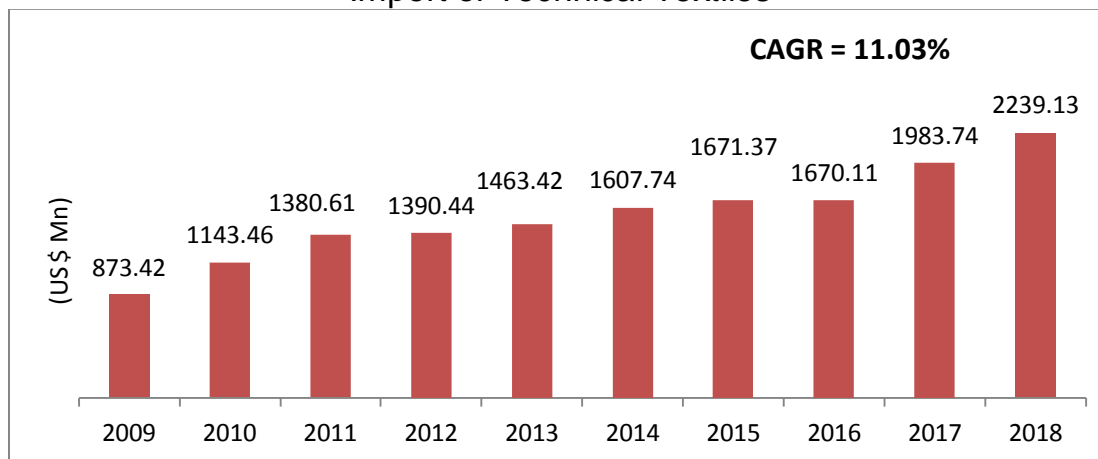
Source: TC Research

The top exported technical textile products comprise a large part of packtech products. India is the world's largest producer and exporters of FIBC. Apart from packtech, India also exports cords, twine, ropes, safety belts, coated laminated fabrics, nonwovens, etc.

4.6.2 Import of Technical Textiles

India has been importing technical textiles substantially from the rest of the world. The import of technical textile has grown from US\$ 0.87 Bn in 2009 to US \$ 2.23 Bn in 2018. India imports Technical Textile products mainly from countries like China, Taiwan, Korea, etc. See figure 4.7

Fig.4.7
Import of Technical Textiles



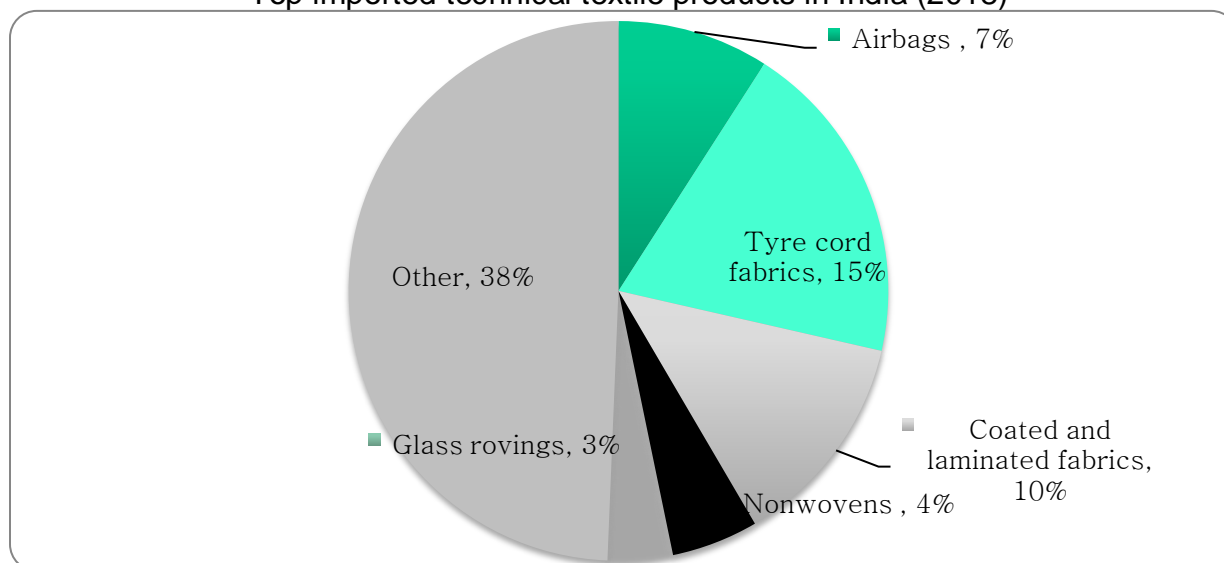
4.6.3 India's Imports by Sub-Segments

Among different sub-segments imported by India, Mobiltech has contributed about 33.43% followed by Indutech with 17.02% and Geotech with 11.12%. It is important to note that the sub-segments like Meditech, Packtech, Protech and non-woven has been experiencing substantial growth with CAGR of 43.72%, 24.81%, 19.46% and 19.63% during last 10 years.

Segment						(Mn \$)	
	2009	2012	2014	2016	2018	Share	CAGR
Meditech	4.94	10.38	76.45	64.68	129.13	5.77	43.72
Buildtech	79.74	126.92	142.25	127.62	174.82	7.81	9.11
Indutech	141.03	192.64	218.43	294.15	381.20	17.02	11.68
Packtech	7.94	6.08	24.02	12.13	58.34	2.61	24.81
Geotech	128.00	206.43	221.39	250.26	248.97	11.12	7.67
Mobiltech	361.56	573.09	601.72	536.45	748.57	33.43	8.42
Sportech	7.60	13.53	13.83	11.66	14.07	0.63	7.08
Clothtech	13.14	24.99	23.77	36.02	33.40	1.49	10.92
Agrotech	23.01	45.63	24.06	21.46	39.58	1.77	6.21
Hometech	39.13	51.62	62.02	61.65	73.92	3.30	7.32
Protech	11.65	20.14	29.40	30.00	57.72	2.58	19.46
Non-Woven	55.69	119.00	170.40	224.04	279.40	12.48	19.63
Total	873.42	1390.44	1607.74	1670.11	2239.13	100.00	11.03

Source: TC Research

Fig 4.8
Top imported technical textile products in India (2018)



The top imported technical textiles products include airbags, Nylon tyre cord fabrics, coated laminated fabrics of 100% polyester, glass rovings (for composites) and some part of low GSM (less than 25 gsm) nonwovens, etc.

4.6.4 Projected Growth of Technical Textiles

Indian Technical Textile market is about US \$17.40 Bn during 2017-18 and US \$ 18.54 Bn 2018-19 and growing with a CAGR of about 14% during last 10 five years. Unlike conventional textiles (readymade garment and home textiles), India is yet to find a significant place in global Technical Textile market. Although slow, but a perceptible sign of growth has been observed in few specialized fields of the technical textiles production and trade. Since technical textile manufacturing activities are still in a nascent stage, the demand is growing at a rapid pace from a small base and has contributed 0.75% of GDP and about 12% share of the textile market in 2018. It has a high potential for growth as the end use market of the product as well as the application base of the technical textile is growing significantly during last 10 years. With 2,100 technical textiles units, the industry is still in nascent stage with high growth potential.

Segment	2019-20	2020-21	2022-23	2024-25	2025-26	2028-29	2029-30
Agrotech	166.00	179.28	209.11	243.90	263.41	331.83	358.37
Meditech	781.36	898.57	1188.36	1571.60	1807.34	2748.74	3161.05
Mobiltech	1508.39	1704.48	2176.45	2779.11	3140.40	4531.27	5120.33
Packtech	6552.63	7470.00	9708.01	12616.52	14382.84	21308.81	24292.04
Sportech	719.96	741.56	786.72	834.63	859.67	939.38	967.57
Buildtech	592.41	675.34	877.68	1140.63	1300.32	1926.48	2196.19
Clothtech	930.86	996.02	1140.34	1305.58	1396.97	1711.35	1831.14
Hometech	1289.79	1399.42	1647.44	1939.40	2104.25	2687.74	2916.19
Protech	399.71	435.69	517.64	615.01	670.36	868.14	946.27
Geotech	137.94	148.98	173.77	202.68	218.90	275.75	297.81
Oekotech	26.31	29.46	36.96	46.36	51.92	72.95	81.70
Indutech	1507.96	1688.91	2118.57	2657.53	2976.44	4181.68	4683.48
Total	14613.31	16367.70	20581.03	25952.96	29172.81	41584.10	46852.14

Source: TC Research

Table 4.6
Segment wise Projected Export of Technical Textiles

(Mn \$)

Segment	2019	2020	2022	2024	2025	2028	2030
Meditech	155.37	177.76	232.72	304.71	348.69	522.62	684.59
Buildtech	101.72	112.14	136.94	168.12	186.59	256.47	318.17
Indutech	242.97	260.19	298.49	342.56	367.03	451.72	519.03
Packtech	956.16	1140.58	1629.42	2337.80	2803.88	4857.02	7023.68
Geotech	141.55	181.45	310.10	548.91	736.37	1811.34	3329.10
Mobiltech	253.30	296.39	410.59	573.72	679.34	1131.58	1592.18
Sportech	18.80	20.89	25.84	32.02	35.65	49.26	61.13
Clothtech	28.64	29.97	32.83	35.96	37.63	43.16	47.28
Agrotech	88.61	105.05	149.10	215.03	260.13	477.10	739.69
Homotech	10.28	9.34	7.75	6.45	5.89	4.52	3.80
Protech	68.52	75.35	91.11	110.17	121.14	161.08	194.77
Non Woven	176.22	211.00	303.15	436.61	524.41	911.28	1319.89
Total	2242.13	2620.12	3628.03	5112.05	6106.78	10677.15	15833.32

Source: TC Research

Table 4.7
Projected Market Size of India's Technical Textiles

(Mn \$)

Segment	2019	2020	2022	2024	2025	2028	2030
Agrotech	242.31	271.05	342.72	440.87	504.03	784.35	1098.07
Meditech	834.81	959.12	1266.07	1671.32	1920.29	2912.83	3845.63
Mobiltech	1588.15	1804.78	2336.66	3033.11	3458.45	5141.55	6712.51
Packtech	6704.08	7693.21	10145.21	13404.92	15420.41	23548.95	31315.72
Sportech	717.79	740.85	789.65	842.34	870.28	961.29	1028.70
Buildtech	621.38	704.55	906.83	1168.68	1327.22	1946.36	2514.35
Clothtech	898.60	960.83	1098.57	1256.12	1343.21	1642.55	1878.42
Homotech	1199.03	1299.13	1526.12	1793.92	1945.29	2481.70	2919.99
Protech	435.23	475.06	566.01	674.40	736.15	957.53	1141.04
Geotech	269.27	319.39	471.00	736.58	939.06	2066.66	3626.91
Oekotech	23.49	26.31	33.00	41.39	46.36	65.13	81.70
Indutech	1589.36	1768.15	2190.07	2715.35	3024.56	4185.37	5202.52
Non-Woven	176.22	211.00	303.15	436.61	524.41	911.28	1319.89
Total	15299.72	17233.43	21975.04	28215.61	32059.74	47605.55	62685.46

Source: TC Research

4.7 India's Demand for MMF Based Technical Textiles

MMF fibres are essential part of the technical textiles industry. India is world's second largest producer of the MMF after China. Out of global production of 79,962 Kt, India has contributed about 5.7 KT accounting about 7% of the total production. The domestic availability of basic major raw materials for technical textiles like polyester, nylon, polypropylene, etc. are one of key success factors for technical textiles growth in India.

The fibre wise export of the technical textiles indicates that the contribution of the manmade based technical textiles is about 77%. The quality, durability and other parameters of the manmade fibre has always put it on the top for the manufacturing of different technical textile products as compared to other fibre based products. The domination of the manmade fibre based products in the export basket has further proved the significance for future growth of this important emerging sub-sector of the T&A industry.

Table 4.8
Projected Market Size of India's Technical Textiles

Fibre							(Mn \$)	
	2009	2012	2014	2016	2018	CAGR	Share	
Manmade	411.01	781.23	1300.84	1001.34	1490.55	2.76	77.30	
Other Veg text / Jute	51.04	91.59	80.40	103.92	87.13	1.62	4.52	
Other textiles	213.32	197.03	244.15	291.22	293.79	3.77	15.24	
Cotton	17.07	37.84	34.03	32.47	50.84	8.36	2.64	
Wool	3.30	5.19	4.66	4.14	5.17	2.10	0.27	
Jute	0.22	1.22	0.62	0.23	0.77	4.51	0.04	
Total	695.96	1114.09	1664.69	1433.32	1928.24	2.98	100.00	

Source: TC Research

Similarly, the import basket of technical textiles is also dominated by manmade fibre based technical textiles as indicated in Table 4.8. The manmade fibre based products contribute more than 72% to the overall import basket of technical textile products during 2018.

4.8 India's Imports by Fibre

Fibre	2009	2012	2014	2016	2018	CAGR	Share
Manmade	626.13	993.71	1175.97	1197.96	1620.09	6.62	72.35
Other Veg text / Jute	7.33	7.30	25.60	12.80	57.03	17.37	2.55
Other textiles	232.77	380.24	398.81	451.08	551.27	6.69	24.62
Cotton	7.11	9.08	7.20	8.06	10.42	7.65	0.47
Wool	0.06	0.09	0.12	0.17	0.31	21.94	0.01
Jute	0.02	0.03	0.03	0.05	0.01	-30.57	0.00
Total	873.42	1390.44	1607.74	1670.11	2239.13	6.85	100.00

Source: TC Research

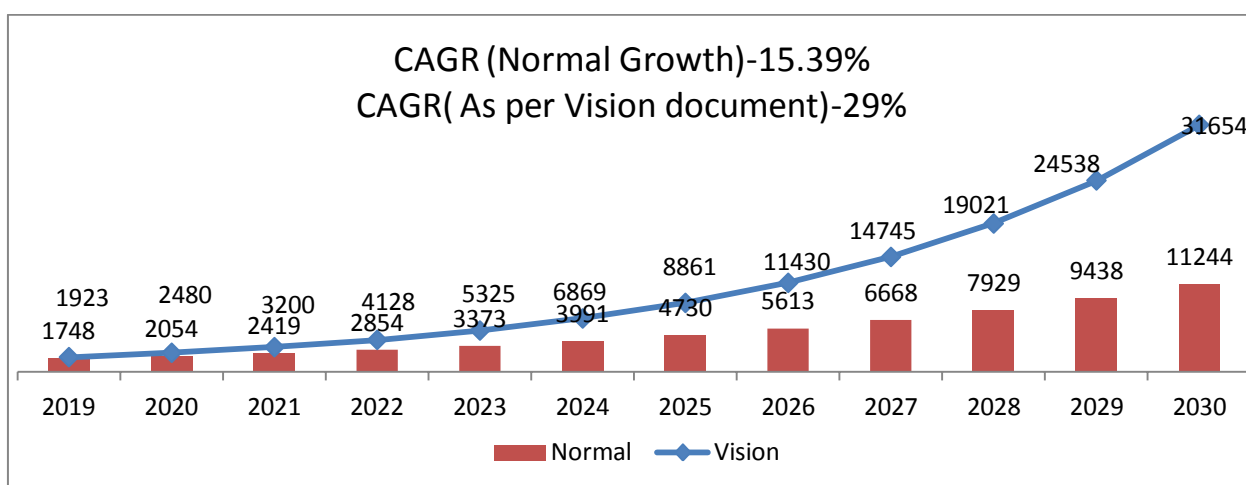
The contribution of the manmade fibre base products would be substantial and more than 70 % of the overall market of technical textiles. Based on the contribution of different fibres and projection of products to overall market basket indicates that if the present growth rate of export is continued, the export of technical textiles would reach around US \$30.8 Bn by 2024-25, out of which the contribution of the manmade fibre-based textiles would be around US\$ 21.6 Bn. Similarly, at the current rate of growth of export of T&A, the manmade base technical textile would contribute more than US\$ 3.5 Bn by 2024-25 to the export basket. However, there is a possibility of further growth in the export of technical textiles more than that of projected figure as the application and use base of the products are continuously growing and expected to grow further in future as well.

Segment	2019	2020	2022	2024	2025	2028	2030
Meditech	66.51	75.57	97.57	125.98	143.14	210.00	271.13
Buildtech	89.11	99.73	124.93	156.50	175.16	245.58	307.63
Indutech	182.17	196.25	227.75	264.31	284.73	355.97	413.12
Packtech	875.49	1056.09	1536.73	2236.11	2697.37	4734.63	6889.42
Geotech	29.65	29.23	28.40	27.60	27.21	26.06	25.33
Mobiltech	242.14	287.34	404.63	569.79	676.15	1129.87	1591.06
Sportech	18.63	20.75	25.75	31.97	35.61	49.25	61.12
Clothtech	0.04	0.03	0.02	0.02	0.02	0.01	0.01
Agrotech	80.21	93.38	126.57	171.55	199.72	315.17	427.19

Segment	2019	2020	2022	2024	2025	2028	2030
Hometech	7.97	7.38	6.32	5.42	5.02	3.98	3.41
Protech	1.14	1.25	1.53	1.87	2.07	2.79	3.40
Non-Woven	154.89	187.29	273.84	400.38	484.13	855.92	1251.46
Total	1747.94	2054.29	2854.05	3991.49	4730.33	7929.23	11244.27
% in Total TT Exports	78	78	79	78	77	74	71

Source: TC Research

Fig 4.9
Projected Technical Textiles Exports



However, if the growth rate of 29% is achieved in the production and export growth as envisaged in the vision document, the Technical Textile would grow to US\$ 8.86 Bn by 2025 to US\$31.85 Bn by 2030. In such a scenario, the contribution of MMF based textiles would be US\$ 6.20 Bn by 2025 to US\$ 22.15 Bn by 2030. Hence, the MMF textile would play a crucial role in the overall performance of the Technical Textile for enhancing the export basket.

4.9 Key Growth Drivers

The key growth drivers for the Technical Textiles are as follows:

- Growth in technical textile consuming sector:** A significant number of technical textile products are consumed by different industries such as automotive, healthcare, infrastructure, oil & petroleum, etc. With an increase in investments in industry sectors and associated growth, the technical textile segment is also likely to grow.

- **Growth due to regulatory support:** Several countries have made the usages of technical textile products mandatory for personal and public safety such as usage of fire-retardant fabric at public places, uses of protective equipment in hazardous industries, installation of airbags in cars, etc.
- **Increasing role of technology:** Technology plays an important role in development of technical textile products. Some of the technological application in this segment include: 3D weaving, 3D knitting, thermoforming. Thermoforming in textiles is a heat treatment process that is used to shape composites containing fabric layers into various shapes, which is widely adopted in the Indutech, Mobiltech, Packtech, and Hometech products. 3D weaving is a weaving process used for manufacturing products like geotextiles, surgical implants, conveyor belts etc. Thus, increasing use of these technologies is likely to contribute in the growth of technical textile sector.
- **Increasing adaptability of technical textile products and higher disposable income:** Growing awareness about the superior functionality and durability of technical textiles will encourage higher consumption of these products. In India, per capita income is growing, that is the country's per-capita income is estimated to have risen by 10 percent to INR 10,534 a month during the financial year ended March 2019¹⁴. Along with other things, this will enhance consumption of technical textile products too.
- **Favourable Government Policies:** Government of India has allowed up to 100 percent FDI under automatic route for the technical textiles segment. Global manufacturers of technical textiles products will thus be able to establish manufacturing units in India, either alone or through partnerships with Indian industries. As a result of this policy, several international technical textile manufacturers, like Ahlstrom, Johnson & Johnson, Du Pont, Procter & Gamble, 3M, SKAPS, Kimberly Clark, Terram, Maccaferri, Strata Geosystems, have initiated operations in India. Additionally, Government of India has taken the following initiatives to technical textile sector in India¹⁵.

¹⁴<https://www.livemint.com/politics/policy/india-s-per-capita-income-rises-10-to-rs-10-534-a-month-in-fy19-1559318636062.html> (accessed on September 23, 2019).

¹⁵Government of India's Initiatives in Technical Textiles & Notification of HSN Codes for Technical Textiles, 29th January 2019.

1) Notification of 207 HSN Codes in Technical Textiles.

To fulfil long-standing demand of industry to declare Technical Textile items as separate category, Government of India has notified 207 HSN Codes as Technical Textiles. This will help in clear classification of technical textiles products and providing relevant incentives to manufactures in this sector offered by Central and State Governments.

2) Technology Mission on Technical Textiles (TMTT)

Ministry of Textiles had launched Technology Mission on Technical Textiles (TMTT) with Two Mini- Missions for a period of five years from 2010-11 to 2014-15 with a total fund outlay of Rs. 200 crores. The scheme was launched during December 2010. TMTT was extended for another two years (2015-16 & 2016-17) with financial allocation of Rs.55.3 cr. The objectives of the Mini-Mission- I were "Standardization, creating common testing facilities with national / international accreditation, indigenous development of prototypes and resource center with I.T. infrastructure". Under the mission, the eight Centers of Excellence (COEs) have been established to provide infrastructure support at one place for the convenience of manufacturers of technical textiles.

3) Focus Incubation Centre (FIC)

In order to help the potential investors to enter into technical textiles, Ministry of Textiles has set up 9 Focus Incubation Centres (FIC) with the financial support under the scheme. These FIC are located at ATIRA, NITRA, PSG Tech, DKTE, SITRA and 4 IITs at Kharagpur, Mumbai, Delhi and Kanpur.

4) Scheme for Promoting usage of Agrotextiles in North East Region

Ministry of Textiles, Government of India had launched a Scheme for Promoting Usage of Agrotextiles in North-Eastern Region from June 2013 to March 2019. The aim of the scheme is to encourage utilization of Agrotextiles in improving the Agriculture, horticulture & floricultural produce of the N-E states through creating demonstration set-up depicting the benefit of usage of Agrotextile products suitable for the region. A total of 44 Demonstration Centers were setup across the 8 north-eastern states. Further a total of 1242 agrotextiles kits were distributed to farmers in NER states.

5) Scheme for Promoting usage of Geotechnical textiles in North East Region

Ministry of Textile, Government of India had launched a Scheme for promoting usage of Geotechnical Textiles in North-Eastern Region which was operational from March, 2015 to March, 2019. The objective of the scheme was to promote and utilize Geo textiles in development of the infrastructure in the NE states by providing technological and financial support for meeting additional costs, if any, due to the usage of Geo textiles in existing/ new projects in road, hill/ slope protection and water reservoirs. Till April 2019, a total of 40 projects were approved with a cost of Rs. 102 crores.

6) Scheme for Promoting usage of Agrotextiles in India (Excluding North East Region)

Learning from the success of schemes for promoting usage of Agrotextiles in NER, one new Component "Scheme for Promoting Usage of Agrotextiles in India (excluding North Eastern States)" was introduced & funded under Mini-Mission-II of Technology Mission on Technical Textiles (TMTT) for a period of two years (2015-16 & 2016-17) with a fund outlay of Rs. 5.00 crores. Under this scheme a total of 10 Demonstration Centers were setup across India and a total of 200 agrotextile kits were distributed to farmers.

4.10 Key Challenges faced by Technical Textile Sector¹⁶

- **Non-Availability of the Specialised Raw Materials:** Technical Textiles industry uses rawmaterial from both natural and manmade fibre for manufacturing. The basic raw materials like cotton, jute and manmade fibres like Polyester filament yarn, Polyester staple fibre, Nylon 6, Nylon 6.6 (filament and tyre cord yarn), polypropylene chips & filament yarn, Viscose staple fibre and filament yarn, High density polyethylene are available in the country. However, some specialised raw materials like carbo, aramid and meta aramid, glass fibre, nylon 11, high tenacity PFY, Kelvar are not available in the country and mostly imported from other countries like USA, Japan, German, etc. The lack of such raw materials has potential to arrest or slow down the growth of

¹⁶ Compiled from "Knowledge Paper on Advantage India: Emerging Global Manufacturing Hub for Technical Textiles and Material of Technical Textiles (Retrieved from http://www.texmin.nic.in/sites/default/files/scheme_technical_textile_070116.pdf on September 23, 2019).

the technical textile industry of the country. The product and export basket of the technical textile is also limited due to lack of rawmaterials.

- **Overdependence on imported technology and machinery for most of the high-end technical textile products:**

The technical textile industry requires new and innovative technology for manufacturing high end products. The traditional technology has also been used in the process of production of some segments of technical textiles like packtech, meditech, hometech, agrotech, etc. The new technologies like multi directional and multi dimensionl weaving and knitting, narrow weaving, composite manufacturing, braiding, nonwoven manufacturing, coating, etc are vital for manufacturing the specialised products. Some of the latest available technology available in the world are as follows:

Technology	Technology Provider	Technical Textile Products
Extrusion	Starlinger (Austria) Lohia (India) Oerlikon (Switzerland)	Parachute fabric, Hot air balloon fabrics, Tape based fabrics
Weaving	Dornier (Germany) Picanol (Belgium) Iteima (Italy)	Nets, Mats, FR fabrics, Seat Cover Fabrics
Warp knitting, Multidirectional weaving	Karl Mayer (Germany)	Shoes fabrics, Mesh, Swimwear, Biaxial, Multi-axial fabrics for composites
Processing	Benninger (Switzerland) Thies (Germany) Fongs (Germany)	Circuit boards, Labels, umbrella fabrics
Nonwovens	Andritz (Austria) Dilo Group (Germany) Autefa (Germany) Trutzschler (Germany) CTMTC (China) Oerlikon (Switzerland)	Wipes, Diapers, Napkins Insulations, Upholstery, Carpet backing, FR suits and fabrics, Ballistic, Filters, Bags, Surgical items
Coating, Lamination and finishing	Coatema (Germany) Monforts (Germany) Brückner (Germany) Saati (Italy)	Waterproof fabrics, Bags, Sacks, Laces, Tapes, Belts, High altitude clothing, Speciality fabric
Composites	Pultrex (UK)	Parachute fabric, Hot air balloon fabrics,

Even if some technology is available in the country, it is not sufficient to cater to the domestic demand nor to boost of production in all segments of the technical textile industry. Major technologies developed in India are as follows:

- There are 3 major technologies involved in technical textiles which are nonwoven, woven and other technologies like braiding, knitting etc.
- India has in-house technology manufacturing facilities, for example, tape extrusion, circular weaving, etc. which results into India's growth in packtech production. India is the world's largest packtech exporter with substantial trade with the rest of the world.
- Lohia, the Kanpur based original machinery manufacturer (OEM), has developed state of the art tape extrusion line, circular weaving technology, coating lines, printing machines and other pre-treatment and post treatment machinery for tape-based products which are majorly, making of end products used in packtech, geotextile, agrotextile.
- In addition, India has a good access to the European and other overseas technologies for technical textiles manufacturing. However, the major machinery used is imported, from European, Chinese, Korean, etc.
- Looking at the double-digit growth in the nonwoven industry, indigenous nonwoven manufacturing machines for producing various kind of nonwovens (Needle punch, Spun lace, spunbond, etc.) are also needed by Indian technical textile industry, this will lead to greater encouragement for focused research in technical textile product development.
- India has developed a technical know-how for the use of high-tech weaving, knitting and coating technologies which is highly used in manufacturing various technical textile products like coated textiles, artificial leather, carpets, outdoor fabrics, coated furnishing fabrics, etc
- Development of indigenous machines shall boost the India technical textile industry by reducing the capital expenditure on the machinery. Major development should be done in the high-tech weaving and knitting segment; also, in the coating and laminating segments. Indigenous technology can help to find the best solution for local problems by meeting the specific requirements of Indian technical textile industry, in addition to faster and better servicing for maintenance, repair and upgradation.

- **Non-availability of skilled manpower specifically trained for technical textiles.**

The technical textile has emerged as an important non-traditional sector of the T&A industry. The technology associated in the production of TT is modern and different to that of the traditional one. Hence, the skill set required for the employee in the process of production is different than that of other traditional textile manufacturing. The Samarth Scheme of Ministry of Textiles has identified it as one of the thrust areas of skilling but it has to go a long way to address the issue of skilling. The course development, standardisation of the training and imparting training to the trainers are some of the challenges need to be addressed quickly.

- **Production mainly focusing on commodity products and not very R&D intensive**

Since technical textile products are specially designed for a specific functionality, R&D plays an important role. In several countries, there is a growing demand for hi-tech and speciality technical textile products, thus Indian manufacturers should build expertise in developing hi-tech products

- **Lack of Scale in the Production of Technical Textiles**

The manufacturing of technical textiles is in the infant stage except few segments like packtech, where the industry is little more matured. The manufacturing base is small as technological bottlenecks in addition to low volume of production leading to high cost of production as compared to global peers. The volume is less and leads to lack of scale economies in the process of production. The details are as follows:

Table 4.12: Comparison of India and Global Peers:

India		Global Peer	
Industry	Turnover (USD Mn)	Industry	Turnover (USD Mn)
Arvind–Advanced Textiles	268	Glatfelter Pennsylvania	950
Flexituff International	187	SIOEN (Global leader of Coated Technical Textiles)	562
Garware Wall Ropes	146	Forbo, Germany	331

India		Global Peer	
Industry	Turnover (USD Mn)	Industry	Turnover (USD Mn)
Supreme Groups	85	Avogol Nonwoven	88.5
Mayur Uniquoters	85	PEGAS Nonwoven	245
SRF	75	Borgers, Germany	999
Welspun	55	SEFAR Switzerland (Sefar is the leading manufacturer of precision fabrics from monofilaments)	149.4
BHOR	126	Hartman, USA (Leader in Meditech)	101.2
KHOSLA profil Pvt. Ltd	42	Tencate, USA (Global Leader in Geotex)	697
Autotech Nonwoven	22		
Kusumgar Corporates Pvt.Ltd	21		
JCT Ltd	113		

Source: TC Research

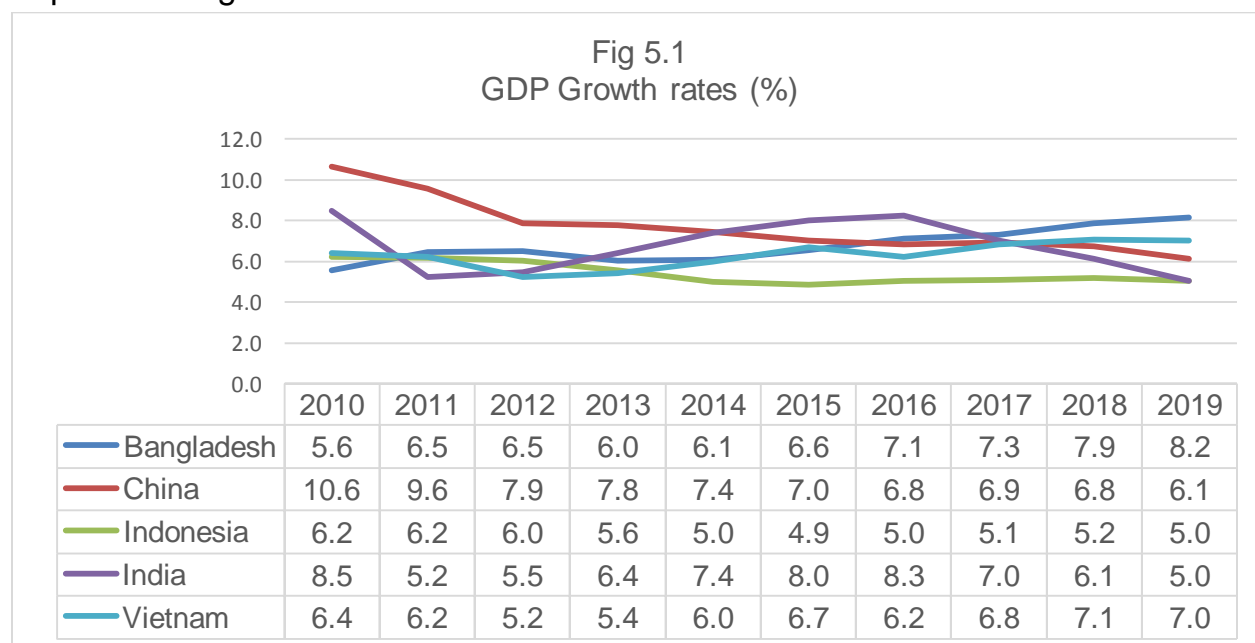
- Lack of awareness among the end users or consumers:**
 Currently end-use industries lack awareness about the benefits of using technical textile which is needed for generating greater demand.
- Lack of Foreign Direct Investment:**
 Attracting foreign and domestic investment in the sector is one of the pre-requisite for the growth of the highly capital-intensive sectors like technical textiles. However, Indian T&A industry as a whole has just invited US\$166 Million during 2018-19, which is very minimal. The contribution towards TT industry is very less leading to low rate of growth than its potential.

Chapter 5

Cost Benchmarking & Competitiveness of the Identified Nations

5.1 Macro-Economic Indicators

We identified countries, viz China, Bangladesh, Indonesia and Viet Nam, and assess India's competitiveness vis-à-vis to these countries. China is the largest nation in terms economy size. China's GDP is recorded at US\$ 11537.16 Bn in 2019 (Constant 2010 series) and has been growing at an average growth rate of 7.7% in last ten years. India's GDP is recorded at US\$ 2963.95 Bn in 2019 and it has grown at an average growth rate of 6.7% from 2010 to 2019. The GDP of Indonesia, Bangladesh and Viet Nam in 2019 is recorded at US\$1204.47Bn, US\$ 209.97 Bn and US\$ 200.86 Bn respectively and have grown at CAGR of 5.4%, 6.8% and 6.3% respectively. The GDP growth rate in the last ten years is depicted in Figure 5.1.



The exchange rates of these nations are given in Table 5.1. The currencies of China, India and Bangladesh have depreciated by 14.29%, 9.86% and 9.41% respectively.

Country	Unit	2015	2016	2017	2018	2019	Depreciation (%)
Bangladesh	\$/Taka	77	78	81	84	85	9.41
Viet Nam	\$/Dong	21921	22369	22709	23022	23187	5.46
Indonesia	\$/Rupiah	13400	13308	13377	14239	13886	3.50
China	\$/Yuan	6	7	7	7	7	14.29
India	\$/Rupee	64	67	65	68	71	9.86

Source: TC Research

5.2 Manmade Fibre Production

The entire value chain of the MMF Textile and Apparel (T&A) is based on the fibre and yarn production which are further processed to produce fabric, made-ups and apparels for end-use consumption. China is the top producer of MM fibre in the world with production of 13.88 Mn MT in 2018 and the production has grown at a CAGR of 3.67% in the last nine years. The MM fibre production in India has grown from 1.3 Mn MT in 2009 to 2.22 Mn MT in 2018 registering a CAGR of 3.67% between 2010 to 2018. During the same period, the MM fibre production in Indonesia and Vietnam has recorded a CAGR of 3.08% and 26%, respectively. Vietnam's production of MMF fibre has increased from 0.03 Mn MT in 2009 to 0.24 Mn MT in 2018. The production details of MM fibre of various countries are shown in Table 5.2.

								(‘000 MT)
Country	2010	2012	2014	2015	2016	2017	2018	CAGR
Bangladesh	0	0	0	0	0	4	40	NA
Viet Nam	35	55	90	110	150	180	240	25.99
Indonesia	915	997	1187	1116	1091	1066	1106	3.08
China	10786	13010	13577	14068	14323	14199	13884	3.67
India	1448	1544	1815	1951	2017	2101	2216	6.12

Source: TC Research

5.3 Manmade Yarn Production

China is the top producer of MM yarn in the world with production of 34.91 Mn MT in 2018 and the production has grown at a CAGR of 9.16% from 2010 to

2018. The MM yarn production in India has grown from 2.18 Mn MT in 2009 to 4.04 Mn MT in 2018 recording a CAGR of 7.10% during this period. The MM yarn production in Indonesia has decreased from 0.72 Mn MT in 2009 to 0.71 Mn MT in 2018 registering a marginal decrease of -0.11% in the CAGR. On the other hand, the production of MM yarn in Viet Nam has recorded a CAGR of 21.50% during the same period and it was valued 0.53 Mn MT in 2018. The annual production figures of MM yarn are given in Table 5.3.

								(‘000 MT)
Country	2010	2012	2014	2015	2016	2017	2018	CAGR
Bangladesh	50	45	45	45	46	47	50	0.45
Viet Nam	134	245	303	337	342	390	531	21.50
Indonesia	742	693	707	704	676	692	714	-0.11
China	19217	24116	29829	33223	34083	34264	34906	9.16
India	2764	2892	3268	3379	3596	3718	4044	7.10

Source: TC Research

5.4 Textile & Apparel Trade

5.4.1 Exports

The global trade is concentrated in South Asian nations and four of the identified countries are in the top 10 chart of the global suppliers list. China is the top exporter of T&A to world and its exports have recorded a CAGR of 3.01% between 2010 to 2019. Viet Nam ranked at 13th position in 2009 has climbed the ladder and reached the second spot in 2019. The exports from Viet Nam have grown at a CAGR of 13.73% during the last ten years to attain this position. Similarly, Bangladesh which was at the 10th position amongst the exporters in 2009 has climbed the ladder and reached the third spot within a span of 10 years. The exports from Bangladesh have grown at a CAGR of 10.85% during the last ten years. The export performance of the identified nations is given in Table 5.4.

(US \$ Bn)								
Country	2010	2012	2014	2016	2017	2018	2019	CAGR
China	199.53	246.06	287.58	255.07	257.82	266.34	260.57	3.01
Viet Nam	13.30	18.15	25.24	28.70	31.81	36.66	42.34	13.73
Bangladesh	16.75	21.42	0.00	35.60	37.23	41.49	42.31	10.85
India	27.13	32.68	38.60	35.42	37.23	37.11	35.49	3.03
Indonesia	11.19	12.42	12.70	11.80	12.50	13.19	12.82	1.52

Source: TC Research

As far as MMF based T&A exports are concerned, in 2019 the share of MMF based T&A products' exports of China, Viet Nam, Bangladesh, India and Indonesia in total T&A exports was 52.62%, 48.89%, 20.36%, 26.73% and 49.64% respectively. The country wise exports of MMF based T&A is given in Table 5.5.

(US \$ Bn)								
Country	2010	2012	2014	2016	2017	2018	2019	CAGR
China	85.76	113.17	140.80	125.73	127.85	137.00	137.11	5.35
Viet Nam	4.51	7.40	11.34	13.06	14.93	17.78	20.70	18.44
Bangladesh	1.09	1.37	0.00	6.34	6.83	8.22	8.61	25.80
India	5.75	7.48	9.94	9.59	10.63	9.59	9.48	5.71
Indonesia	5.17	5.95	6.26	5.74	5.94	6.35	6.36	2.34

Source: TC Research

As evidenced above, the growth rate of export of MMF based T&A exports from Bangladesh has grown more than twice as that of its total T&A exports during the last ten years. Further, as far as growth rates are concerned, the MMF based T&A exports from all these countries have an edge over their total T&A exports.

5.4.2 Imports

China is the top importer of T&A amongst the identified countries and its imports have recorded a CAGR of 0.83% during the last ten years. The T&A imports of Bangladesh, India and Viet Nam have recorded significant growth rates as all these nations lack domestic resources to meet its exporting requirements as most of the products imported by these nations are raw materials/ intermediaries used for production of end-use products for consumption in both domestic as well

as export market. The imports of Viet Nam have grown at a CAGR of 13.88% during the last ten years. Similarly, Bangladesh's imports have grown at a CAGR of 6.26% and that of India have witnessed 8.74% growth during the last ten years. The year wise imports of T&A of the identified nations are given in Table 5.6.

(US \$ Bn)								
Country	2010	2012	2014	2016	2017	2018	2019	CAGR
China	27.14	37.92	32.85	25.49	28.04	31.10	29.23	0.83
Viet Nam	7.04	9.03	12.05	13.15	14.73	17.01	22.69	13.88
Bangladesh	6.58	8.09	0.00	9.60	10.80	12.36	11.37	6.26
India	3.91	5.15	5.85	6.08	6.60	7.34	8.32	8.74
Indonesia	6.19	8.14	8.57	8.16	8.80	10.02	9.37	4.72

Source: TC Research

As far as MM based T&A imports are concerned, the share of MM based T&A products' imports from the world to China, Viet Nam, Bangladesh, India, and Indonesia in total T&A imports in 2019 is 36.29%, 58.79%, 38.99%, 45.96% and 53.09% respectively. The country wise imports of MM T&A are given in Table 5.7.

(US \$ Bn)								
Country	2010	2012	2014	2016	2017	2018	2019	CAGR
China	10.92	11.98	12.05	10.03	10.87	11.21	10.61	-0.32
Viet Nam	3.96	5.43	7.19	7.97	8.80	10.01	13.34	14.45
Bangladesh	1.60	1.95	0.00	3.51	3.87	4.64	4.43	12.01
India	1.81	2.34	2.91	2.72	3.05	3.64	3.82	8.66
Indonesia	2.54	3.79	4.08	4.24	4.56	5.23	4.98	7.75

Source: TC Research

5.5 MMF Products Competitiveness in the World:

An analysis was carried out to ascertain the competitiveness of these countries in MMF products in the world. The index of Revealed Comparative Advantage (RCA) was utilized to ascertain the competitiveness.

China and Viet Nam exported a total of 320 MMF T&A products each while India and Indonesia exported 319 MMF products each. There are 74 MMF T&A products of India which enjoy competitive advantage in the world market. The number of products enjoying competitive advantage in China, Indonesia, Viet Nam and Bangladesh are 96, 58, 37 and 33 respectively. The number of products which have lost their competitive advantage in the span of last ten years for India, China, Indonesia, Viet Nam and Bangladesh are 16, 12, 11, 22 and 23 products respectively. See Table 5.8 for more details.

Description	India	China	Viet Nam	Bangladesh	Indonesia
All time RCA	53	67	25	15	41
RCD to RCA	21	29	12	18	17
All time RCD	180	173	232	246	214
RCA to RCD	16	12	22	15	11
Cyclical	49	39	29	23	36
Total	319	320	320	317	319

Source: TC Research

As far as product categories are concerned, India's competitiveness strength lies in yarn, fabric and garments, which collectively contribute around 86% of the products. These product categories enjoy competitive advantage in the world market. The share of these product categories in China & Indonesia is around 83% and 90% respectively. In case of Viet Nam and Bangladesh the contribution of garments products enjoying competitive advantage is 70% and 97%, respectively. The details are in Table 5.9.

Product Category	India	China	VietNam	Bangladesh	Indonesia
Yarn	22	13	4	0	17
Fabric	24	41	4	0	19
Fibre	2	0	0	0	3
Technical Textiles	3	4	1	1	2
Made ups	4	11	2	0	1
Garments	18	26	26	32	16
Others	1	1	0	0	0
Total	74	96	37	33	58

Source: TC Research

5.6 Cost Competitiveness of identified countries:

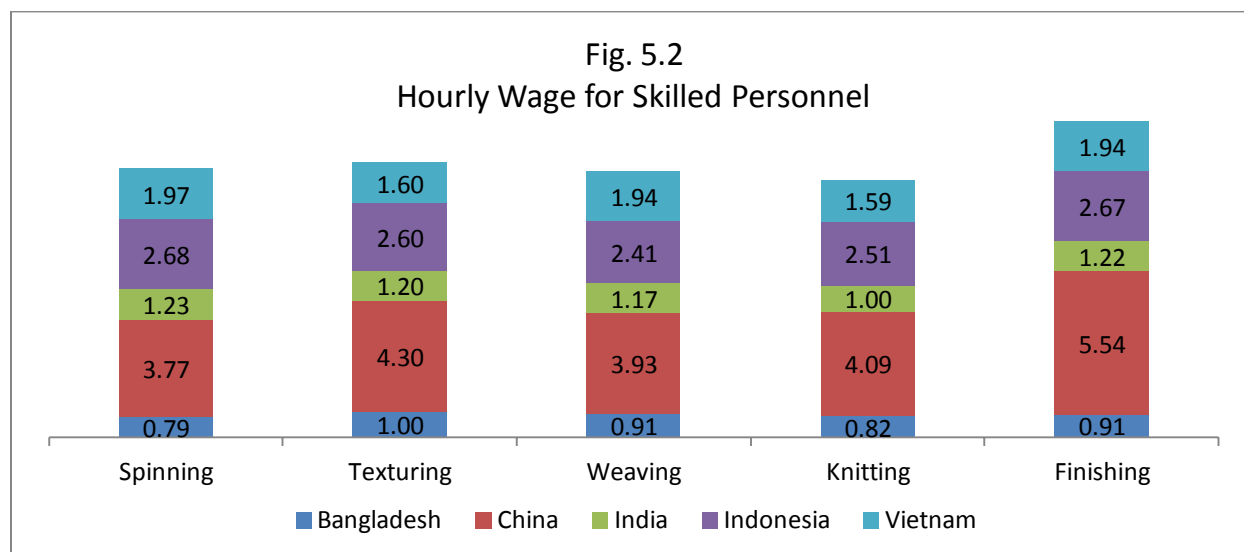
In order to assess the competitiveness of the countries under the study, the cost competitiveness analysis study carried out by International Textile Manufacturers' Association has been used in this study. The comparative estimates of the cost involved in production of products is discussed here.

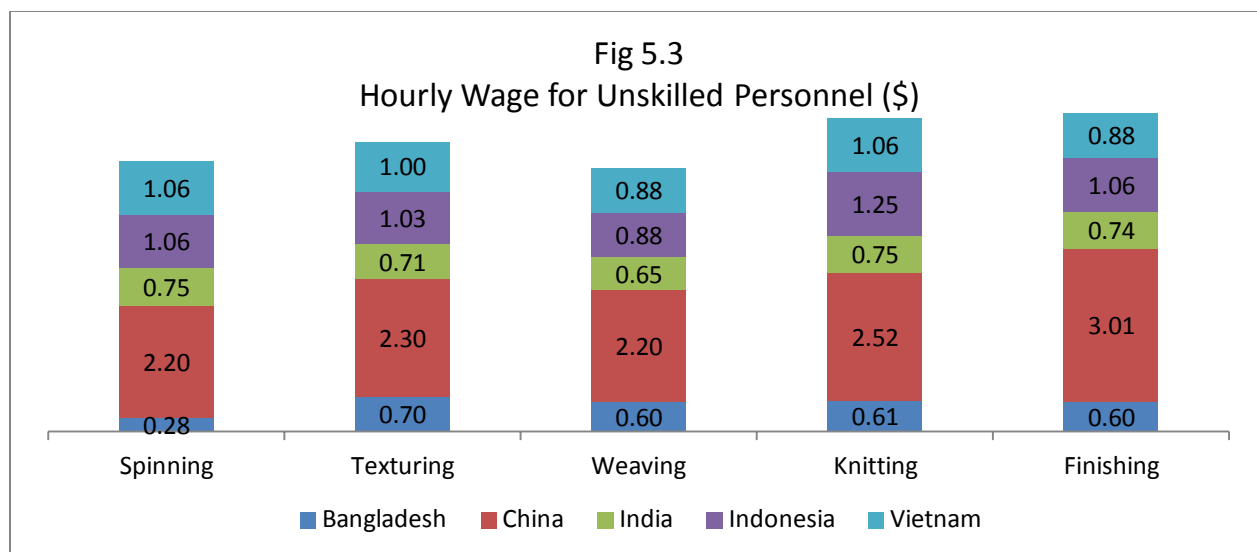
The various cost factors considered for analysis in the Textile Value Chain are wages, cost of electric power, cost & maintenance of buildings, depreciation period, capital interest rates, customs, import tax, raw material cost etc.

5.6.1 Wages:

The hourly wage rates for both skilled and unskilled personnel were analysed, barring Bangladesh, the wage rates for aforementioned categories is more in all the three nations namely China, Indonesia and Viet Nam.

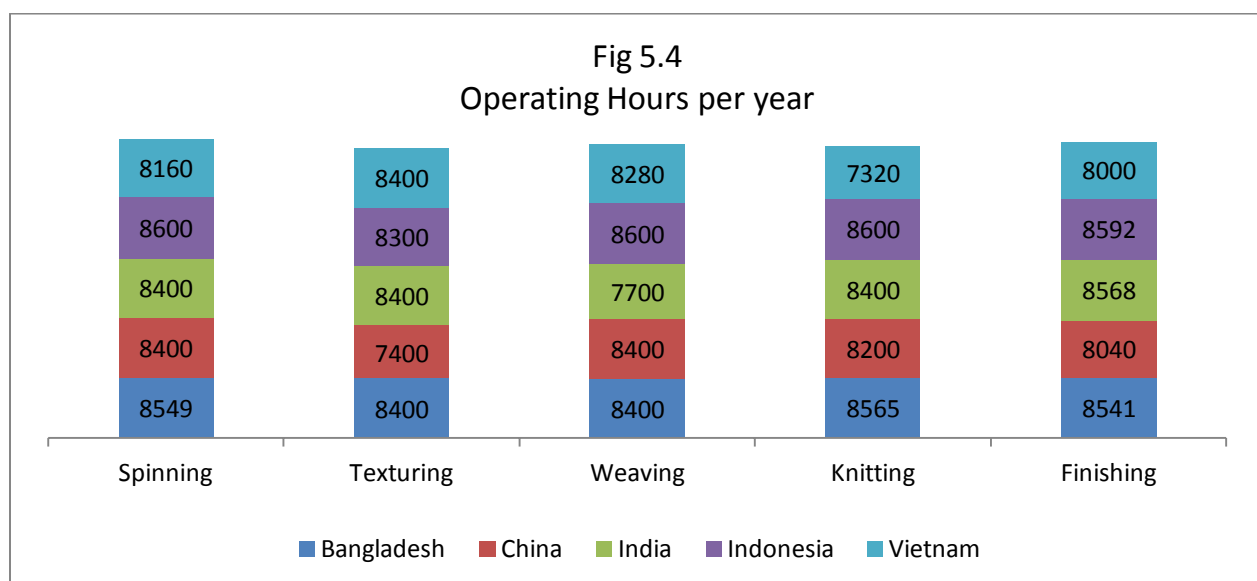
The average hourly wages of skilled manpower in the entire TVC (Spinning, Texturing, Weaving, Knitting and Finishing) in Bangladesh, China, India, Indonesia and Viet Nam are \$0.89, \$4.33, \$1.16, \$2.57 and \$1.81 respectively. Similarly, the average hourly wages of unskilled manpower in the entire TVC in Bangladesh, China, India, Indonesia and Viet Nam are \$0.56, \$2.45, \$0.72, \$1.06 and \$0.98 respectively. The segment wise wages are given in Fig. 5.2 and Fig. 5.3.





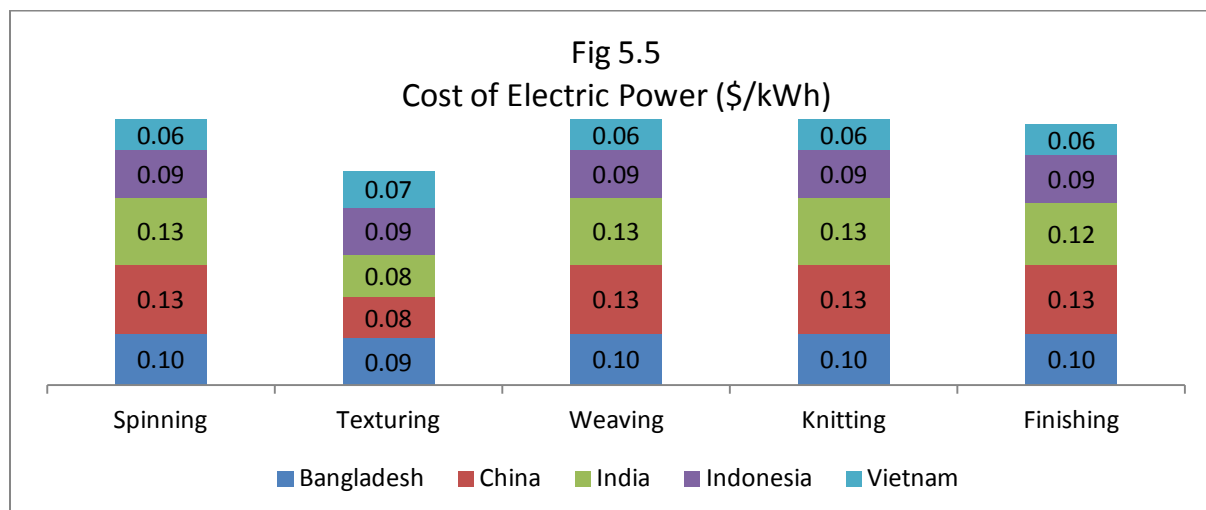
5.6.2 Operating hours (per year):

The average operating hours of the TVC in India is 8293.60 hours per year. The industry in Viet Nam and China works for fewer hours as compared to India but Indonesian and Bangladeshi counterparts operate a greater number of hours than India. The segment wise details are depicted below:



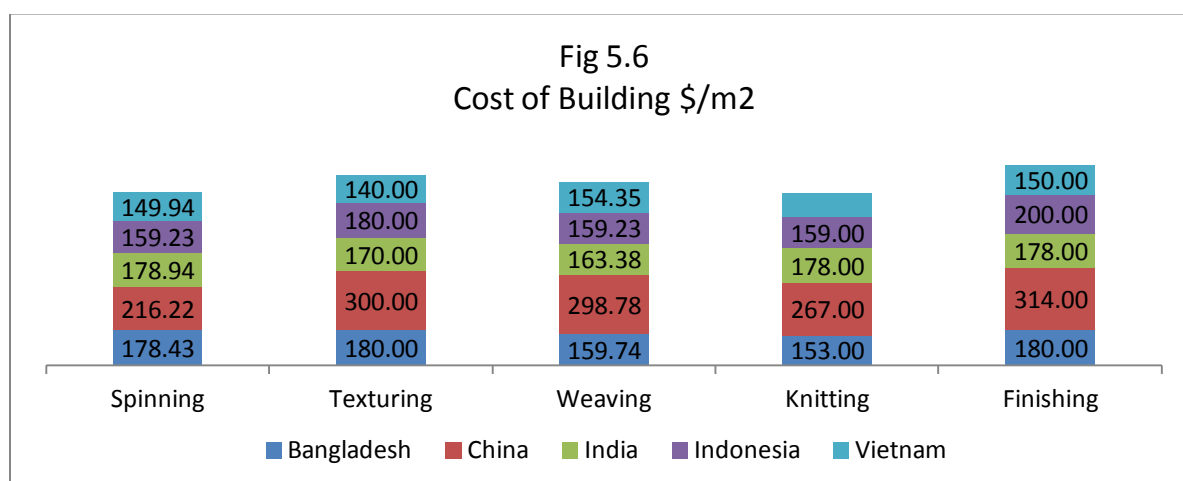
5.6.3 Cost of electric power (per kWh):

The average cost of electric power (\$/kWh) are almost same in India and China and much less in Bangladesh, Indonesia and Viet Nam. The cost in Bangladesh, China, India, Indonesia and Viet Nam are \$0.10, \$0.12, \$0.12, \$0.09 and \$0.06, respectively.



5.6.4 Cost of buildings (per m2)

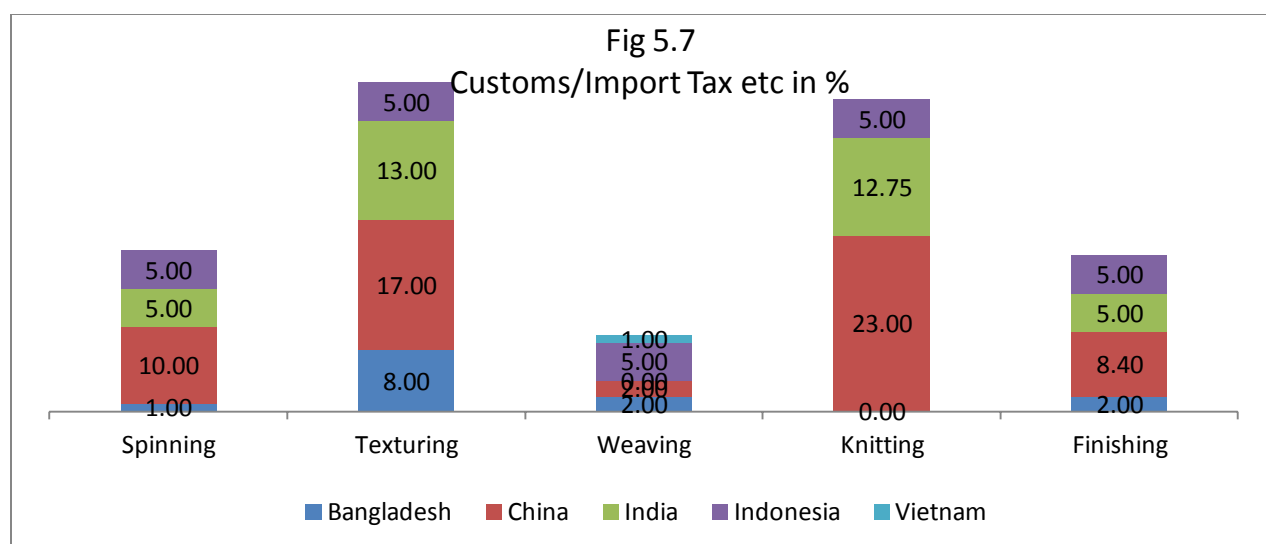
Average cost of building in India is \$ 173.66/m² in 2018. Barring China (\$279.20), the average cost of building is less in other countries like Bangladesh (\$170.23), Indonesia (\$171.49) and Viet Nam (\$144.26). The segment wise details are as given in Fig. 5.6.



Annual building maintenance is almost same in all the countries at 1% of building cost.

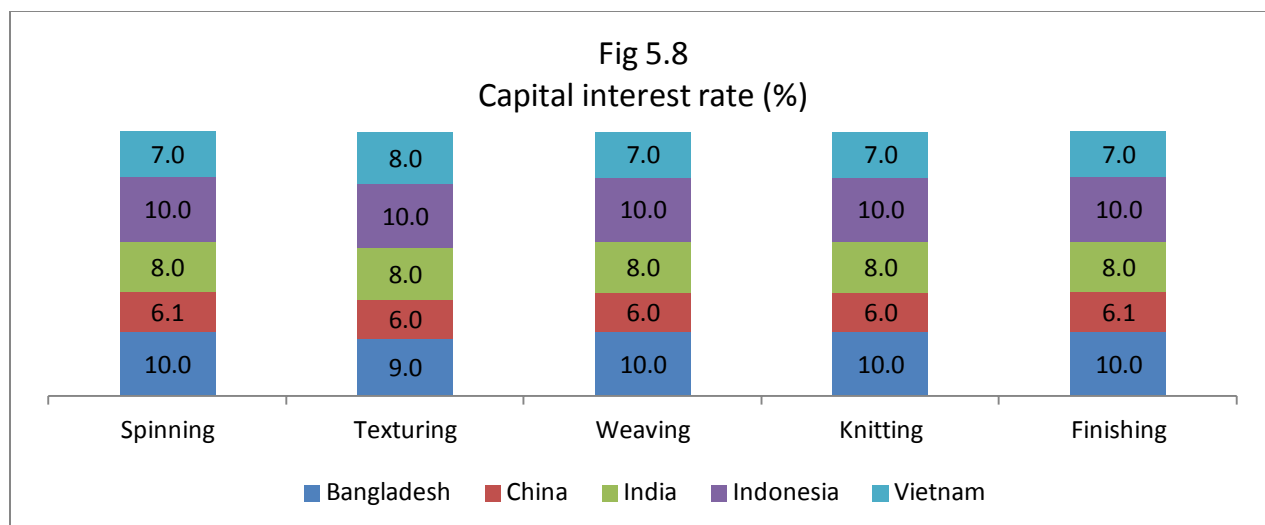
5.6.5 Customs, import tax, etc. (% of machinery price)

The machinery used in weaving activity in India attracts 0% customs/import tax whereas texturing machinery attracts 13%. In India, the customs, import tax on machinery used in spinning is 5%, in knitting 12.75% and in finishing it is 5%. Highest customs, import taxes of 23% are imposed by China on knitting machinery. The details are in Fig. 5.7.



5.6.6 Capital interest rate (%)

In most segments, the capital interest rate is 10% in Indonesia and Viet Nam, while India it is 8%. In China, it is lowest with 6% rate. Please see figure 5.8 for more details.



5.6.7 Raw material cost, etc

Spinning: Raw Material cost in spinning is lowest [\$1.779/kg cotton (1-1/8", ring) and \$1.702/kg cotton (1-1/16", rotor)] in India and highest in China [\$2.512/kg cotton (1-1/8", ring) and \$2.470/kg cotton (1-1/16", rotor)].

Texturing: Raw Material cost of polyester POY 75 den in texturing is lowest (\$1.12/kg) in China and highest in Viet Nam (1.28/kg).

Weaving: Raw Material cost of cotton 1-1/8" and 1-1/16" is lowest in India (\$0.33/mtr & \$0.42/mtr) and highest in China (\$0.47/mtr & \$0.61/mtr). The cost of polyester is lowest (\$0.11/mtr) in China and highest in Viet Nam (\$0.13/mtr).

Knitting: Raw Material cost of rotor yarn is lowest in India (\$0.61/kg) and highest in China ((\$0.88/kg).

Finishing – Raw material cost of woven fabric is lowest in India (\$0.34/mtr) and highest in China (\$0.48/mtr). Similarly, the cost of knitted fabric is lowest in India (\$1.78/kg) and highest in China (\$2.51/kg)

The segment wise details are as given below:

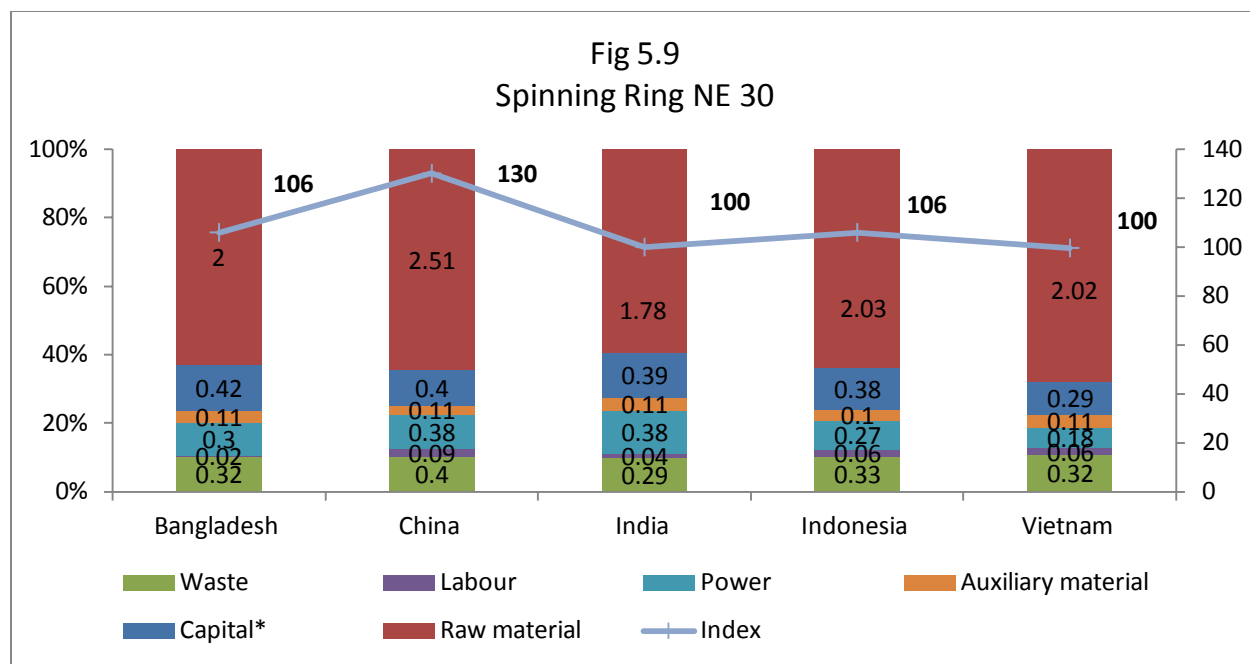
Table 5.10 Cost Comparisons						
Raw material	Unit	Bangladesh	China	India	Indonesia	Vietnam
Spinning						
cotton 1-1/8", ring	\$/kg	2.003	2.514	1.779	2.034	2.023
cotton 1-1/16", rotor	\$/kg	1.927	2.470	1.702	1.957	1.946
Texturing						
Polyester POY 75 den	\$/kg	1.22	1.12	1.20	1.17	1.28
Weaving						
Cotton 1-1/8"	\$/mtr	0.38	0.47	0.33	0.38	0.38
Cotton 1-1/16"	\$/mtr	0.47	0.61	0.42	0.48	0.48
Polyester POY	\$/kg	0.12	0.11	0.12	0.12	0.13
Knitting						
Ring yarn (Single Jersey)	\$/mtr	0.46	0.57	0.4	0.47	0.46
Rotor yarn (Lapique)	\$/mtr	0.69	0.88	0.61	0.7	0.7
Textured yarn (Interlock)	\$/mtr	0.25	0.23	0.25	0.24	0.26
Finishing						
finished woven fabric	\$/mtr	0.380	0.480	0.340	0.390	0.380
finished knitted fabric	\$/kg	2.000	2.510	1.780	2.030	2.020

5.7 Benchmarking of Manufacturing Costs:

5.7.1 Spinning (Ring NE 30)

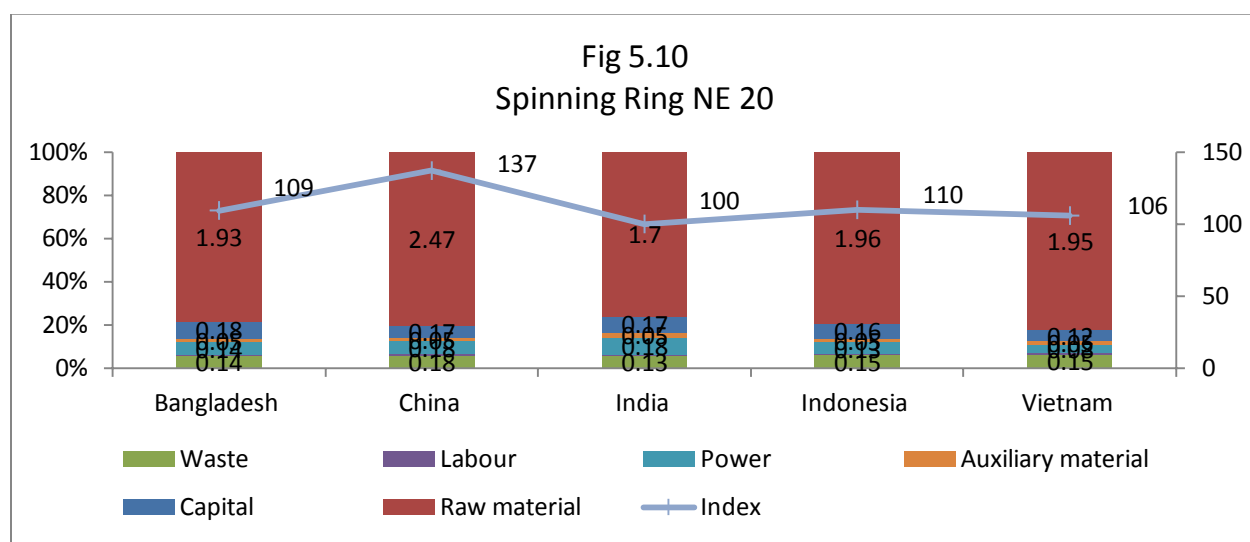
The raw material cost is the major component of the manufacturing cost of Ring NE 30 yarn and it varies from 60% in India to 68% in Viet Nam. Cost to capital is the second major component in the manufacturing cost in Bangladesh (13%) and India (13%). Wastage is the second major component in case of Viet Nam (11%).

Both cost of capital and wastage is 10% in China. Overall, the production of ring yarn (NE30) is costlier in China, Bangladesh and Indonesia as compared to India by 30%, 6%, 6% respectively. The details are given in Fig. 5.9.



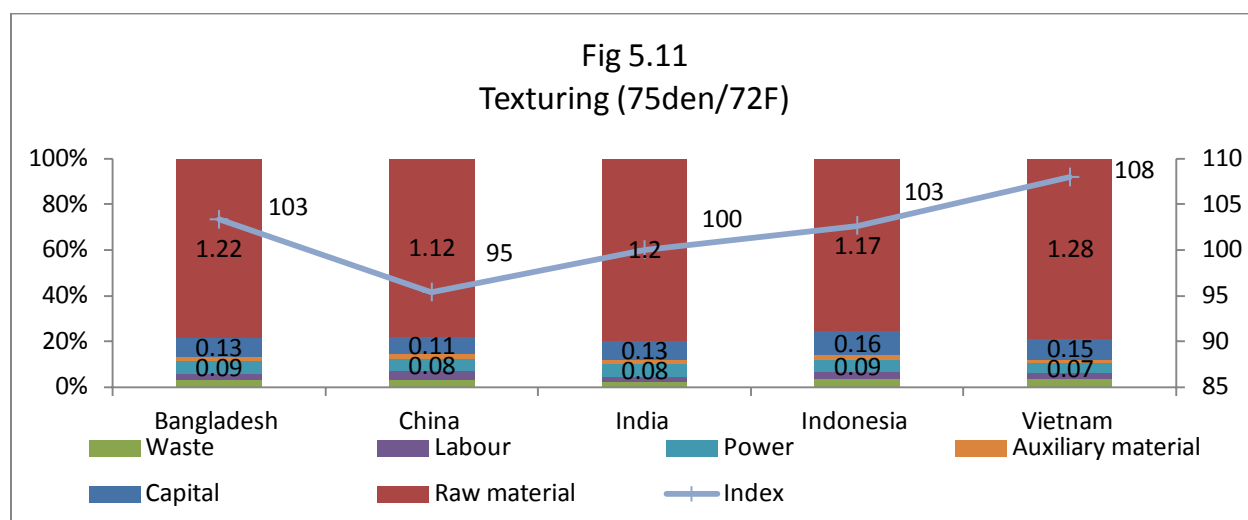
5.7.2 Spinning (Ring NE 20)

The raw material cost is the major component of the manufacturing cost of Ring NE 20 yarn and it varies from 76% in India to 82% in Viet Nam. Cost to capital is the second major component in the manufacturing cost in Indonesia (7%), Bangladesh (7%). Capital cost and power cost in India is 8%. Cost of capital, power and wastage is 6% in China. Overall, the production of ring yarn (NE 20) is costlier by 37% in China, 10% in Indonesia, 9% in Bangladesh and 6% in Viet Nam as compared to India. The details are given in Fig. 5.10.



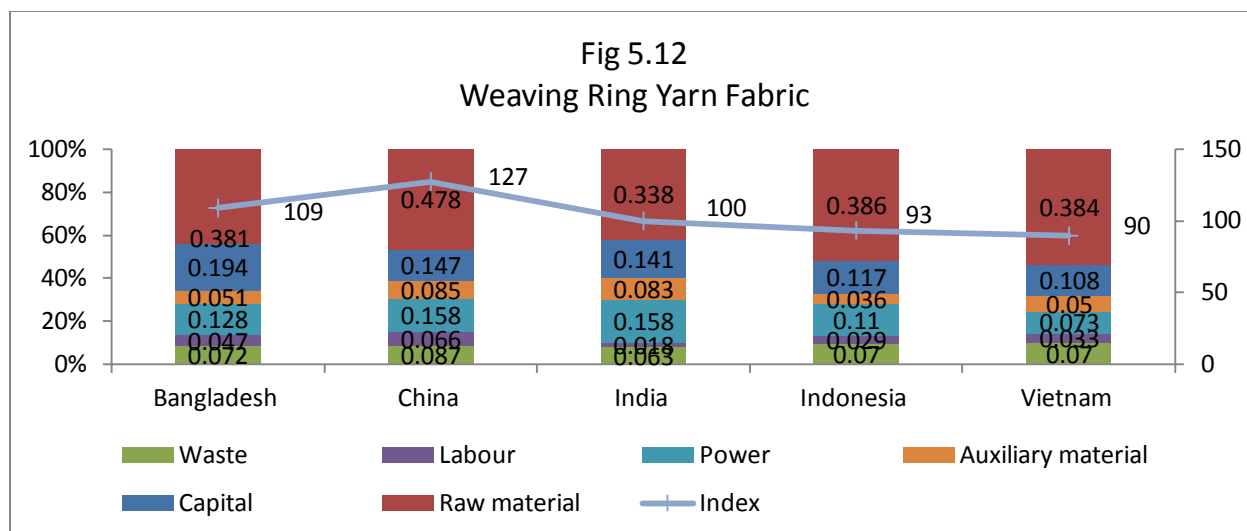
5.7.3 Texturing (75den/72F)

The raw material cost is the major component of the texturing cost of Polyester (75den/71F) and it varies from 75% in Indonesia to 79% in India & Viet Nam. Cost of capital is the second major component in the manufacturing cost followed by power in all these nations. Overall, the production of textured yarn is costlier in Viet Nam, Indonesia and Bangladesh by 8%, 3% and 3% respectively. In China the manufacturing cost is less by 5% as compared to India. The details are given in Fig. 5.11.



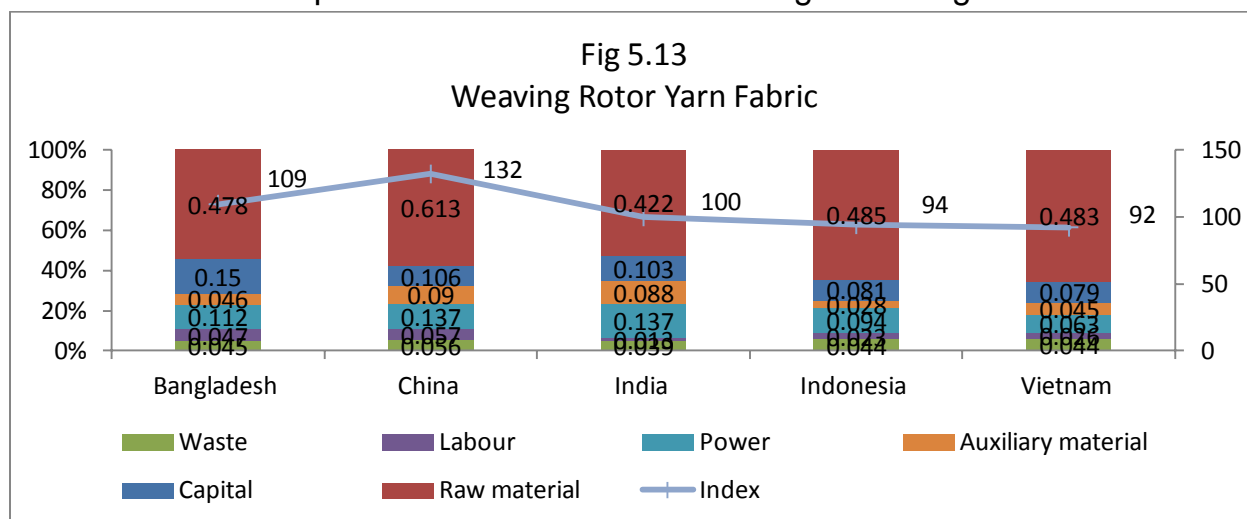
5.7.4 Weaving (Ring Yarn Fabric)

The raw material cost is the major component of the manufacturing cost of Ring yarn fabric and varies from 42% in India to 53% in Viet Nam. Cost of capital is the second major component in Bangladesh, Indonesia and Vietnam while power in India and China in the manufacturing cost. Overall, the production of ring yarn fabric is costlier by 27% in China and 9% in Bangladesh and it is less by 10% in Viet Nam and 7% in Indonesia as compared to India. The details are given in Fig. 5.12.



5.7.5 Weaving Rotor Yarn Fabric

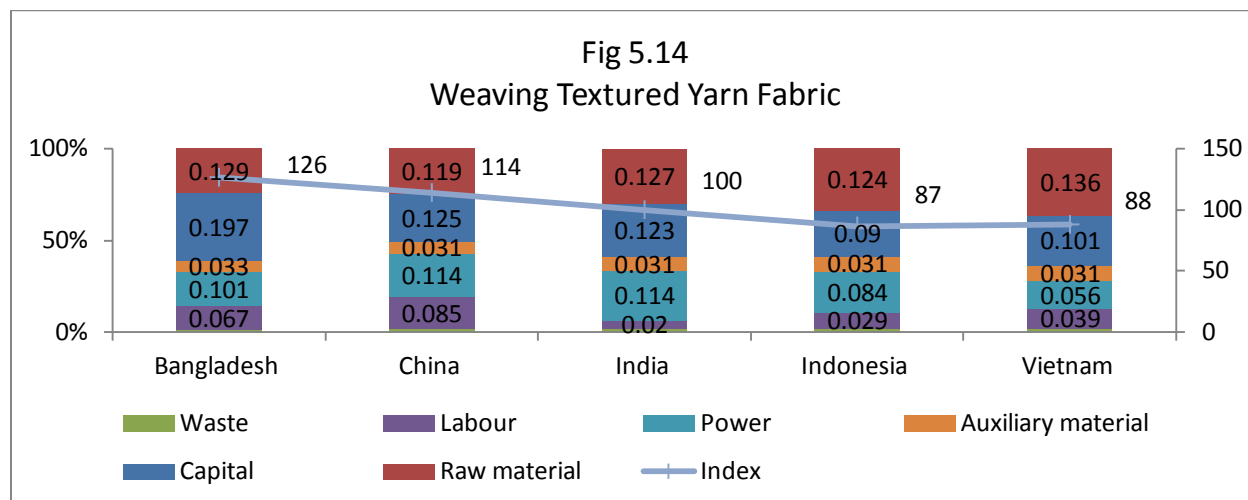
The raw material cost is the major component of the manufacturing cost of rotor yarn fabric and it varies from 53% in India and 64% in Indonesia. Cost of capital is the second major component in the manufacturing cost in Bangladesh & Viet Nam while cost to power is the second component in the manufacturing cost in China, India and Indonesia. Overall, the production of rotor yarn fabric is costlier by 32% in China and 9% in Bangladesh and it is less by 8% in Viet Nam and 6% in Indonesia as compared to India. The details are given in Fig. 5.13.



5.7.6 Weaving Textured Yarn Fabric

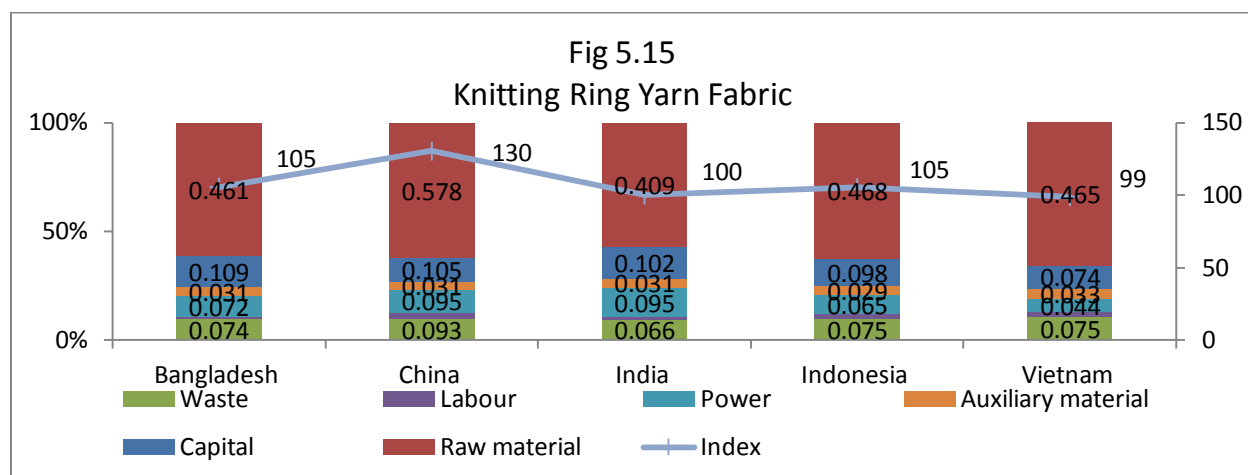
The raw material cost is the major component of the manufacturing cost of textured yarn fabric in Viet Nam, Indonesia and India whereas cost of capital is

the major component in Bangladesh and China. Overall, the production of textured yarn fabric is costlier by 26% in Bangladesh and 14% in China in Indonesia and Viet Nam it is less by 13% and 12% respectively as compared to India. The details are given in Fig. 5.14.



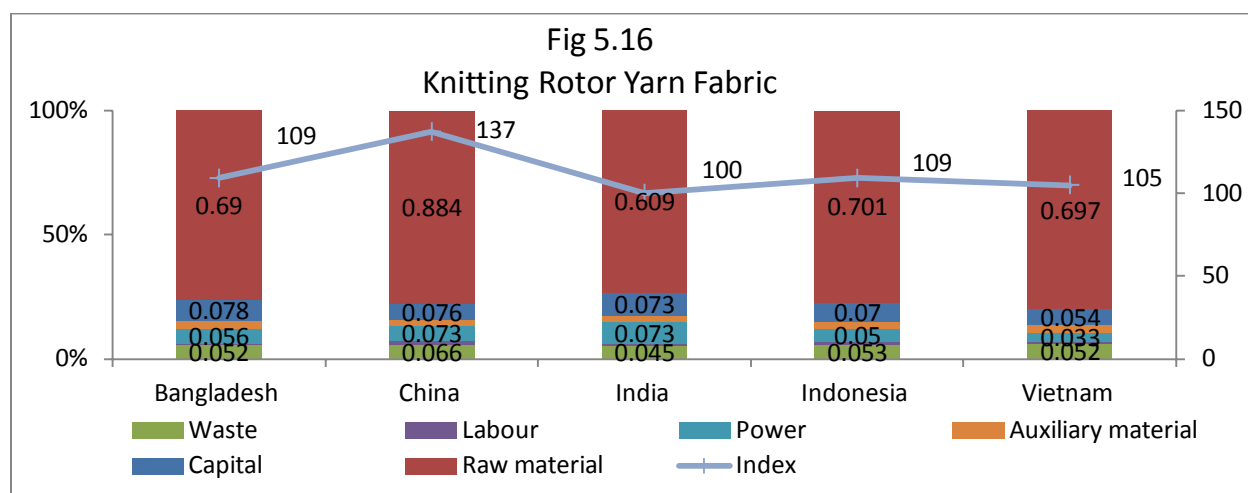
5.7.7 Knitting (Ring Yarn Fabric)

The raw material cost is the major component of the manufacturing cost of knitting ring yarn fabric and it varies from 57% in India to 66% in Viet Nam. Cost of capital is the second major component in the manufacturing cost followed by power cost and wastage. Overall, the production of knitting ring yarn fabric is costlier by 30% in China and 5% each in Bangladesh & Indonesia and it is less by 1% in Viet Nam as compared to India. The details are given in Fig. 5.15.



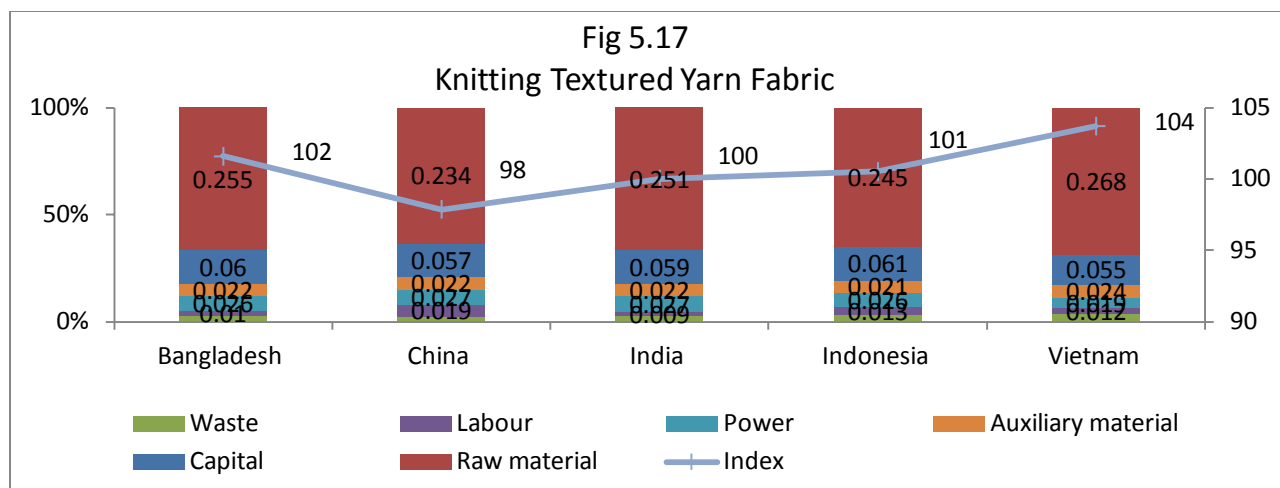
5.7.8 Knitting (Rotor Yarn Fabric)

The raw material cost is the major component of the manufacturing cost of knitting rotor yarn fabric and it varies from 73% in India to 80% in Viet Nam. Cost of capital is the second major component in the manufacturing cost followed by power and waste. Overall, the production of knitting rotor yarn fabric is costlier by 37% in China, 9% each in Bangladesh & Indonesia and by 5% in Viet Nam as compared to India. The details are given in Fig. 5.16.



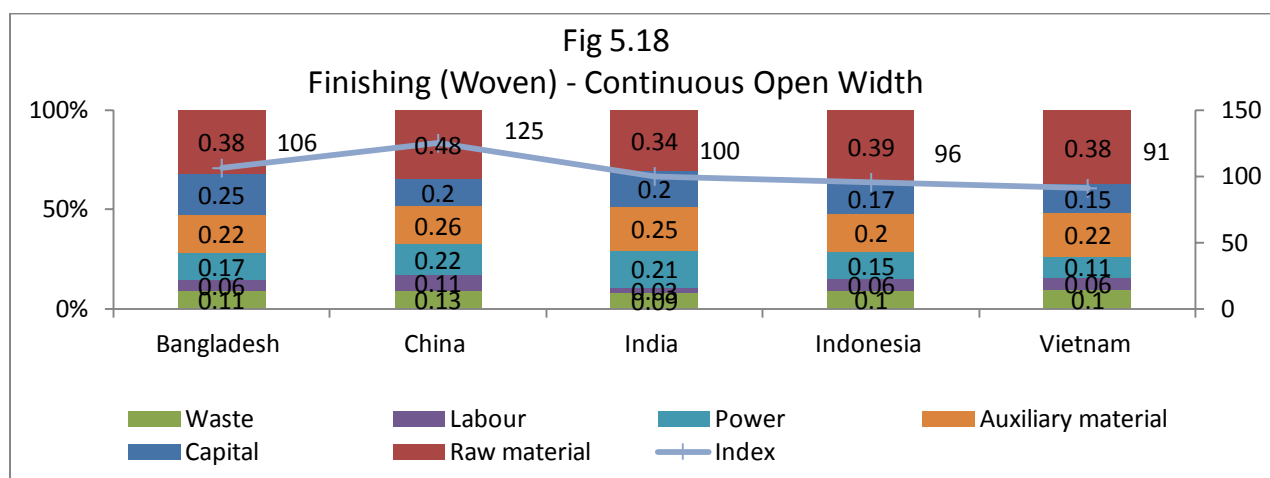
5.7.9 Knitting (Textured Yarn Fabric)

The raw material cost is the major component of the manufacturing cost of knitting textured yarn fabric and varies from 63% in China to 69% in Viet Nam. Cost of capital is the second major component in the manufacturing cost followed by power and auxiliary material. Overall, the production of textured yarn fabric is costlier by 4% in Viet Nam, 2% in Bangladesh and 1% in Indonesia and it is less by 2% in China as compared to India. The details are given in Fig. 5.17.



5.7.10 Finishing (Woven - Continuous Open Width)

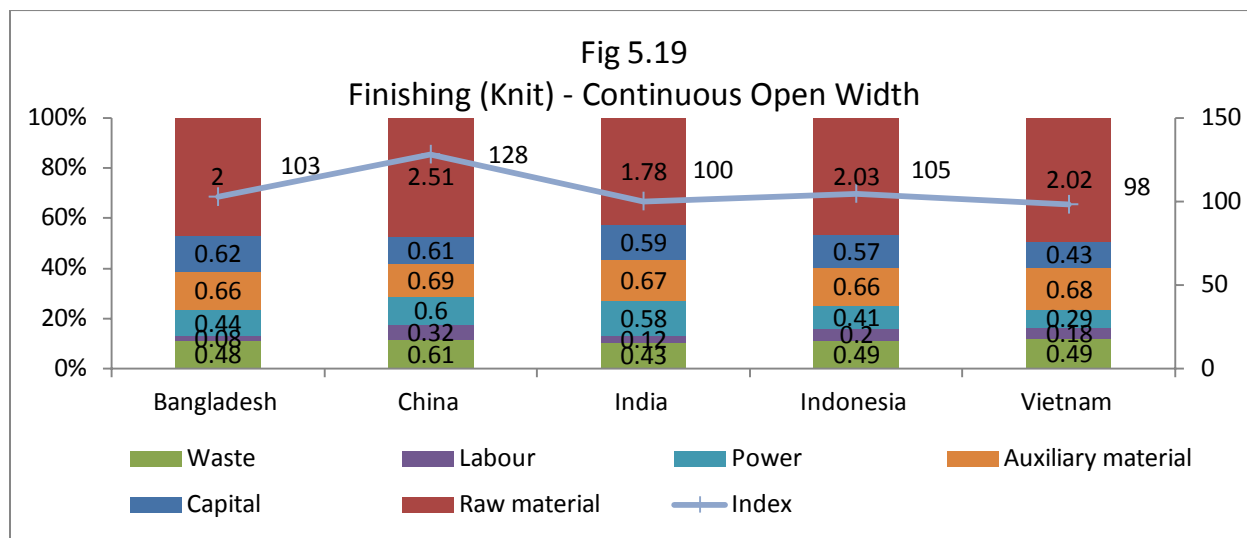
The raw material cost is the major component of the manufacturing cost of continuous open width woven fabric and it varies from 30% in India to 37% in Viet Nam. Cost of capital is the second major component in the manufacturing cost in Bangladesh while cost of auxiliary material is the second component in the manufacturing cost in China, India, Viet Nam and Indonesia. Overall, the finishing of continuous open width woven fabric is costlier by 25% in China and 6% in Bangladesh and it is less by 9% in Viet Nam and 4% in Indonesia compared to India. The details are given in Fig. 5.18.



5.7.11 Knit - Continuous Open Width

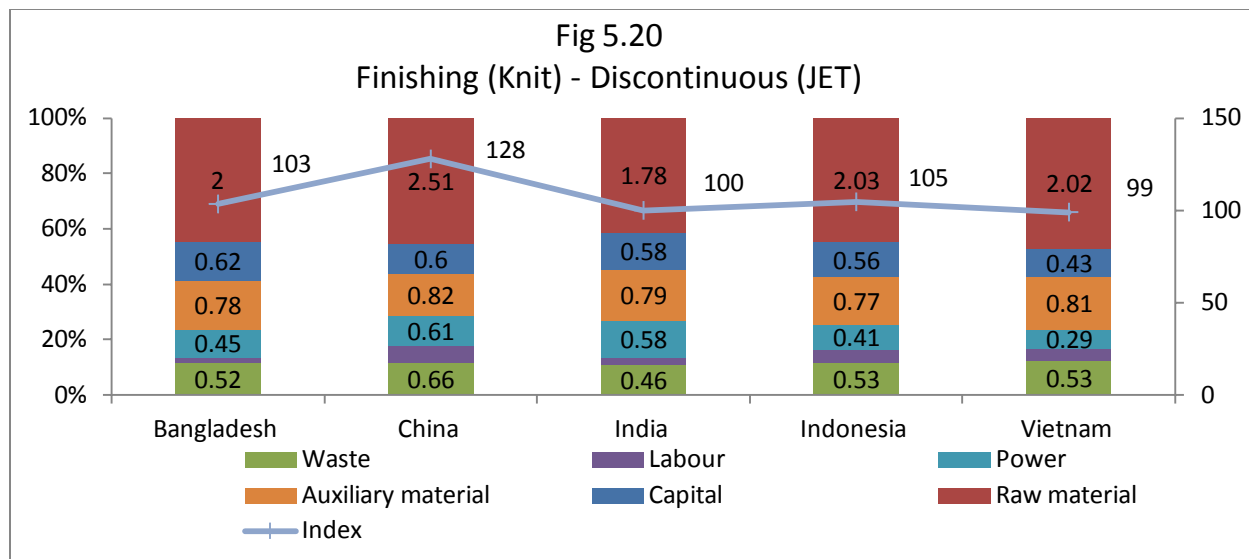
The raw material cost is the major component of the manufacturing cost of continuous open width knitted fabric and it varies from 43% in India to 49% in

Viet Nam. Cost of auxiliary material is the second major component in the manufacturing cost followed by cost of capital and waste. Overall, the finishing of continuous open width knitted fabric is costlier by 28% in China 5% in Indonesia and 3% in Bangladesh and it is less by 2% in Viet Nam as compared to India. The details are given in Fig. 5.19.



5.7.12 Finishing (Knit) - Discontinuous (JET)

The raw material cost is the major component of the manufacturing cost of discontinuous knitted fabric and it varies from 41% in India to 47% in Viet Nam. Auxiliary material is the second major component in the manufacturing cost followed by cost of capital and waste. Overall, the finishing of discontinuous knitted fabric is costlier by 28% in China 5% in Indonesia and 3% in Bangladesh and it is less by 1% in Viet Nam as compared to in India. The details are given in Fig. 5.20.



Chapter 6 Technology, Innovations and Investments in MMF Textiles

6.1 Technology Trend in MMF industry

The MMF textile industry is more technology oriented than that of other fibre-based products. India's manmade fibre textile industry depends both on indigenous and imported technology for production in the entire value chain. In this report, we assessed the availability of technology in the production process of the industry both from domestic and imported markets.

Domestic Technology:

The Indian Textile Machinery Industry is highly unorganised and SME based. Barring a few big units most of the units are in SMEs. The capacity of the machinery industry was about RS. 10,000 crores in 2018 and expected to reach to Rs.15,000 crores by 2019-20. The number of units have also increased from 1450 in 2008 to about 3000 units in 2018 indicating a significant growth in the industry. The growth in terms of turnover is also promising.

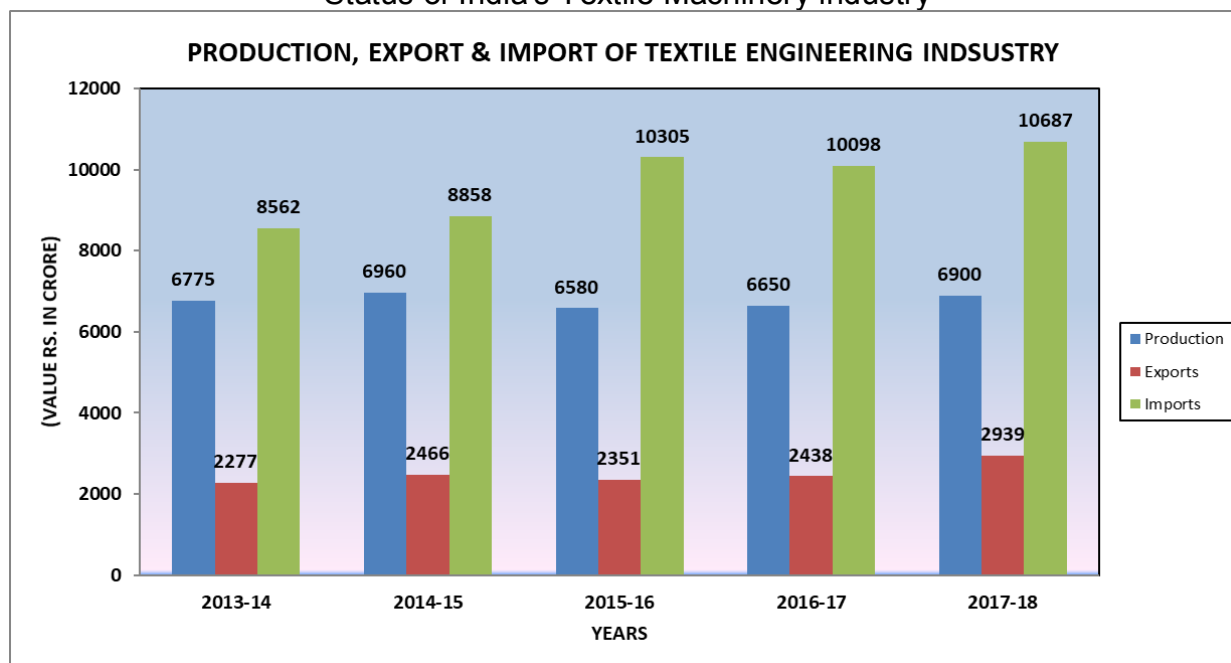
Table 6.1		
Domestic Textile Engineering Industry		
Year	No. of Units	Turnover of TEI (Rs. Crores)
2007-08	1450	3500
2013-14	NA	7,500
2019-20	3000	15,000
Source: TC Research and TMMA		

Although Textile Engineering Industry (TEI) has grown in the 10 years, there are several constraints faced by the industry. About 80% of the industries are in SMEs and focused mostly in the production of accessories and hence experiences constraint in catering the growing need of the T&A industry. This leads to more dependence on imported technology from other countries. Fig. 6.1 provides details about the production, import and export of the TEI.

India is largely dependent on the imported machinery/technology in the manufacturing in the Textile Value Chain (TVC) including manmade fibre-based textile products. We analysed the key trends in the import of technology by India

to know the level of technology the industry is using vis-à-vis other countries in the value chain. The analysis is based on the ITMF textile machinery report and the key trend in the trade in textile machinery in the critical are of the production chain. Figure 6.1 shows the import of textile machineries across the value chain from texturizing, spinning, weaving/ knitting and processing.

Fig.6.1
Status of India's Textile Machinery industry



6.2 Draw Texturising Industry

An additional process of enhancing the appearance of fabric is Draw-Texturizing process; where the fibres are modified to change their texture and the physical appearance. It includes bulking, crimping and coiling of the fibres. The texturizing industry is largely represented by new technology of developing the structure of fibres to produce draw texturized yarn. North America & Western Europe dominates in the installed number of draw texturizing machines growing at CAGR 14% and 16% respectively, since 2010. The highest fall in installed capacity is observed in South America while in Asia & Oceania it has declined at a CAGR of 2%. Interestingly, installed capacity in the Eastern Europe has also declined by 1% CAGR since 2010 however, it has potential to grow.

China has the maximum draw texturizing machines in the world in 2010 i.e. 409,000 which has declined at a CAGR of 2% having 351,000 draw texturized machines in 2018. India's draw texturized machines decreased to 9,000 machines with investment reducing massively at CAGR -20%. Indonesia, invested heavily in the draw texturized machines to integrate to its value chain reaching to 5,000 machines in 2018 from 1,000 machine in 2010 with a CAGR of 22%.

Regions	2010	2018	CAGR
North America	3	8	14%
South America	21	4	-18%
Western Europe	2	6	16%
Eastern Europe	6	6	-1%
Total Asia & Oceania	537	475	-2%

Source: SRTEPC

Countries	2010	2018	CAGR
China	409	351	-2%
India	54	9	-20%
Taiwan	2	2	0%
Indonesia	1	5	22%
Vietnam	21	17	-3%

Source: SRTEPC

It may be noted that the global shipments of single heater draw-texturing spindles (mainly used for polyamide filaments) increased by 48 percent from nearly 15,500 in 2017 to 22,800 in 2018. With a share of 91 percent, Asia & Oceania was the strongest destination for single heater draw-texturing spindles. China and Japan were the main investors in this segment with a share of 68 percent and 11 percent of global deliveries, respectively. On the other hand, in the category of double heaters draw-texturing spindles (mainly used for polyester filaments) the positive trend continues and global shipments increased by 50 percent on an annual basis to about 490,000 spindles. Asia's share of

worldwide shipments grew to 93 percent. China remained the largest investor accounting for 68 percent of global shipments. Hence, India's investment in this important segment is less than that of global peers.

6.3 Spinning industry – Ring Spun

The spinning industry forms the core of the value chain as it converts fibre into yarn, which is used in the next stage to make fabrics through various processes. In current times, spinning industry is highly automated as compared to other stages of the value chain and comparatively requires less manpower.

The global ring spinning industry is largely concentrated in Asia having 90% of global installed capacity of 245 Mn spindles. As per ITMF data, in the last 10 years (2009-2018), the installed capacity of number of spindles in various regions have declined, except the Asian region, since 2009. The highest fall in installed capacity was observed in Europe while in Asia & Oceania it has grown at CAGR of 2% showing major investment is coming in this region. Interestingly, installed capacity in the Africa region has also declined by 5% CAGR since 2009.

China has the maximum installed capacity in the world reaching its peak to 121 Mn spindles in 2013. However, it declined to 104 Mn spindles by 2018 majorly due to consolidation and discarding of old technologies.

India's installed capacity increased to 52 Mn spindles with investment growing at CAGR 4%, majorly attributed to Government policies which encouraged investment to strengthen this industry being the largest producer of cotton in the world and have maximum value addition. Bangladesh and Vietnam, the largest clothing exporters and non-cotton producing countries, invested heavily in the spinning industry to integrate to its value chain reaching to 13 Mn and 7.8 Mn spindles in 2018, respectively.

Table 6.4 World installed ring spinning capacity (in Mn spindles)				Table 6.5 Top countries with ring spinning installed capacities (in Mn spindles)			
Regions	2009	2018	CAGR	Countries	2009	2018	CAGR
North America	5.8	4.1	-4%	China	99	104	1%
South America	9.9	7.2	-3%	India	35	52	4%
Western Europe	3.4	0.9	-14%	Pakistan	11.4	14	2%
Eastern Europe	4.1	1	-15%	Bangladesh	5	13	11%
Africa	5.6	3.5	-5%	Indonesia	6	12	8%
Total Asia & Oceania	184.2	220	2%	Turkey	6.5	8	2%
				Vietnam	2.1	7.8	16%

6.3.1. Spinning Machinery (Short Staple)

The total number of shipped short-staple spindles increased by about 126,000 units to a level of 8.66 million. Shipments increased for the second consecutive year, but the global trend slowed down. Most of the new short-staple spindles (92 percent) were shipped to Asia & Oceania where delivery decreased by -2 percent. In 2018, the most dynamic destinations were Korea, Rep, Turkey, Vietnam and Egypt with increases of +834 percent, +306 percent, +290 percent, +285 percent, respectively. The six largest investors in the short-staple segment were China, India, Uzbekistan, Vietnam, Bangladesh, and Indonesia.

6.3.2 Spinning (Long Staple)

Global shipments of long-staple (wool) spindles decreased from 165,000 in 2017 to nearly 120,000 in 2018. This effect was mainly driven by a drop in deliveries to Asia & Oceania (-48,000 units). This region remained the major destination for this type of machinery but deliveries to China and Iran dropped by -60 percent. The biggest investors were Turkey, Iran, China, Italy, and Vietnam. Some 721,000 open-end rotors were shipped worldwide in 2018. This represents an 83,000-units increase compared to 2017. 91 percent of global shipments went to Asia & Oceania where the share to total deliveries improved by +20 percent to 658,000 rotors. However, China, the world's largest investor in open-end rotors, increased its investments by +7 percent in 2018 while deliveries to Thailand, Malaysia, and Egypt rose by over 3 times.

6.4 Weaving Industry – Shuttle-Less Weaving Machine

The next stage of the textile value chain is weaving and knitting industry to prepare fabrics for processing to be used for making garments and other end-products. The weaving industry, which is largely represented by old technology of power looms around the world, is getting transformed with new technologies of high-speed shuttle-less weaving machines. Like spinning, the installed capacity of shuttle-less weaving machines are dominated by Asia with highest installed number of 951,000 machines in China alone representing 56% of global installed capacity. Except South America and Western Europe, all other regions invested in shuttle-less weaving with highest growth coming from Asia led by China, India and Bangladesh. Africa has also added shuttle-less weaving machines where its numbers reached to 19,000 in 2018 grown at CAGR of 4.5% since 2010.

China added 363,000 machines during 2010-18, an increase of 60% while India added 80,000 machines during the same period which is 150% over its capacity in 2010, highlight the increasing need of high productivity to compete in international market. Turkey, which has relatively advanced technologies in the textile industry, added 13,000 machines during 2010-18, retaining the third position. Bangladesh and Vietnam, in the process of integrating their value chain, have added capacities in shuttles-less machines to reach to total installed numbers of 44,000 and 9000 respectively.

Table 6.6 World installed shuttle-less weaving machines ['000 numbers]				Table 6.7 Top countries with installed shuttle-less weaving machines ['000 numbers]			
Regions	2010	2018	CAGR	Countries	2010	2018	CAGR
North America	51	72	5.0%	China	588	951	7.1%
South America	65	56	-2.1%	India	53	133	14.1%
Western Europe	35	33	-0.8%	Turkey	40	53	4.2%
Eastern Europe	110	110	0.0%	Bangladesh	16	44	15.5%
Africa	14	19	4.5%	Pakistan	27	39	5.5%
Total Asia & Oceania	855	1,417	7.5%	Vietnam	2	9	21%

It is important to note that in 2018, worldwide shipments of shuttle-less looms increased by 39 percent to 133,500 units. Thereby, shipments of air-jet and water-jet looms increased by +21 percent to 32,750 and +91 percent to 69,240, respectively. The deliveries of rapier/projectile looms dropped by -5 percent to 31,560. The main destination for shuttle less looms in 2018 was Asia & Oceania with 93 percent of all worldwide deliveries. 92 percent of all water-jet looms, 83 percent of all rapier/projectile looms, and 99 percent of all Air-jet looms went to that region. The main investors were China and India in all three categories. Deliveries of weaving machines to the two countries reached 81 percent of total deliveries. Turkey and Bangladesh further played an important role in the rapier/projectile segment with a combined 18 percent of global shipments but India has to go long way in fully adopting the modern weaving machine as most of the production is being practised through traditional looms having low productivity and capacity utilisation.

6.5 Knitting Industry – Circular Knitting Machines

Another way of making fabrics is through the process of knitting which forms approximately 40% of total fabrics produced in the world and this share is expected to increase with increasing trends of body fitting clothes. In 2018, the total shipment of knitting machines in the world is 307,000 which is 45% higher than in 2010 and has grown at a CAGR of 5.5%.

Asia & Oceania dominates in the shipment of number of knitting machines with 93% global shares which grew at CAGR of 6.1% since 2010. Africa has also observed the growth in the number of installed knitting machines with 5500 by 2018.

China is a dominant player in the world with 201,000 number of knitting machines installed and have installed 58,000 in last 8 years. It is followed by India with 25,300 knitting machines which have grown at CAGR 15.2%. Bangladesh is the third largest players in terms of installed circular knitting machine with 13300 thousand machines. Vietnam has consistently added its to knitting capacities, shipment grew at CAGR of 25% during 2010-18.

Table 6.8 World cumulative shipment (<10-year-old) of circular knitting machines ['000 Nos.]				Table 6.9 Cumulative shipment of top countries (<10-year-old) of circular knitting machines ['000 Nos.]			
Regions	2010	2018	CAGR	Countries	2010	2018	CAGR
North America	5.7	3.5	-6.8%	China	143.5	201.0	4.9%
South America	7.4	7.4	-0.1%	India	9.4	25.3	15.2%
Western Europe	5.8	4.7	-2.9%	Bangladesh	8.3	13.3	6.8%
Eastern Europe	1.1	1.5	4.3%	Turkey	9.4	11.3	2.8%
Africa	3.3	5.5	7.9%	Indonesia	4.2	9.3	12.0%
Asia & Oceania	187.8	284.4	6.1%	Vietnam	1.8	8.7	25.4%

6.6 Circular & Flat Knitting Machinery

Global shipments of large circular knitting machines fell by 4 percent to 26,300 units in 2018. Asia & Oceania was also the world's leading investor in this category with 85 percent of all new circular knitting machines shipped to the region. With 48 percent of worldwide deliveries, China was the largest investor. India and Vietnam ranked second and third with 2,680 and 1,440 units, respectively.

In 2018, the segment of electronic flat knitting machines decreased by -20 percent to around 160,000 machines. Asia & Oceania was the main destination for these machines with a share of 95 percent of world shipments. China remained the world's largest investor. The country kept its global share of 86 percent of worldwide shipments despite a decrease in investments from 154,850 units to 122,550 units.

6.7 Finishing Machinery

In the segment of fabrics continuous, in 2018 the shipments of Washing (stand-alone), Singeing Line, Relax Dryers/Tumblers, Tenters, and Sanforizers/Compactors increased by +58 percent, +20 percent, +9 percent, +3 percent, and +1 percent, respectively. Deliveries in the other sub-segments decreased. In the category "fabrics discontinuous", shipments of Air-jet dyeing

machines increased by +16 percent and deliveries of overflow dyeing and Jigger dyeing/Beam dyeing machines fell by -7 percent and -19 percent, respectively.

6.8 Innovation and Recent Trends in MMF Textiles

It may be noted that the growth rate and total volume of polyester, the major MMF, is significantly more than cotton or any other major fiber. In this context, the following key trends have been identified with respect to polyester fiber consumption¹⁷.

- Increasingly, there is an emphasis on fitness and health as a large number of people are opting for sports and physical exercises and therefore, consumers prefer comfort along with performance.
- Fashion cycles are very short; brands need to frequently introduce new products and styles in the market.
- Consumer expectations from companies have increased significantly and they expect companies to provide good quality products at affordable prices.
- There is an increasing awareness about environmental and sustainability issues and a sizable number of consumers consider sustainability aspect while making the purchase.
- Increasing demand for low-cost and high-performance material for automotive and industrial use.

Considering the above trends in the global market, polyester has proved to be the cost-effective and adaptable fiber type. It is recyclable and can be blended with other fibers like cotton and spandex for performance requirements. Polyester provides a combination of comfort and performance as it can be easily processed to improve the fiber properties. Therefore, it has wide acceptance in various end use categories like sportswear, leisurewear, women dresses, home textiles, automotive, carpet, other industrial segments etc.

In addition to growth in polyester fibre, the following trends are likely to contribute to the growth of technical textile¹⁸:

- **Growth of industry sectors:** Industries such as automotive, healthcare, infrastructure, oil & petroleum require a large number of technical textile products. With increasing investments in these industry sectors and increased

¹⁷<https://wazir.in/pdf/The%20Edge-MMF%20textile%20investment%20in%20India.pdf>

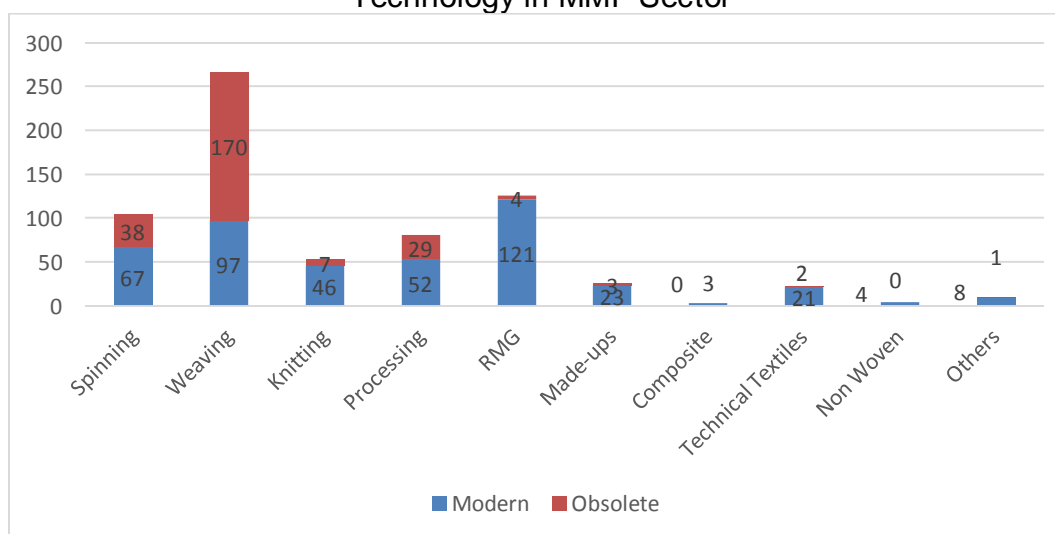
¹⁸<https://wazir.in/pdf/The%20Edge-MMF%20textile%20investment%20in%20India.pdf>

awareness level of the workers in these sectors regarding safety, consumption of technical textiles is likely to increase significantly.

- **Awareness about hygiene & safety:** The increasing focus on consumer awareness about hygiene & safety will support the growth of technical textile materials like baby diaper, sanitary napkins, wipes, high visibility clothing etc. in domestic markets. Higher level of per capita income level will make these products affordable to a large section of the population.
- **Easier availability of the technical textile products:** The Government of India has taken several initiatives to boost investment in technical textile sector of India which has decreased India's dependence on imported finished products within a wide range of technical textile category. Now technical textile products are easily available at competitive prices. These trends have supported the consumption growth of technical textile materials both at industry and consumer levels.

However, the technology level of the MMF textile industry may not be as per the level of the other competing countries of the world. The study examined the unit level data in the entire value chain of the MMF textile industry to assess the technology level adopted by the units in the process of the production. The study indicates that the weaving and processing are two important segments in the value chain that have experienced significant technological obstacle in the process of production as in Fig. 6.2.

Fig. 6 .2
Technology in MMF Sector



The study, the survey of units, indicates that in India about 36 percent MMF spinning industries are using old and obsolete technology in the production process. The weaving industry has been experiencing the major technological bottlenecks in the entire value chain as more than 98 percent units are using old and traditional technology. Since, this industry supplies fabrics to the RMG and made-up industries for value addition, the lack of technological advancement create huge gap in the entire value chain of the MMF textile industry. Similarly, about 36 percent of the processing industries were using obsolete technology. Hence, weaving and processing industries are two major technological constraint sub-sector in the MMF textile value chain of the country and have been influencing the entire MMF TVC both in the forward and backward value chain.

Table 6.10
Reasons for Not Upgrading the Technology

Segment	Non-availability of desired technology	Not covered under Govt. schemes	High cost of machinery	Lack of funds	Govt. funds	Ease of procurement	Others	Total
Spinning	8	14	19	23	13	7	9	93
Weaving	106	41	146	154	80	34	25	586
Knitting	2	1	3	2	2	1	0	11
Processing	2	6	14	17	4	1	9	53
RMG	2	4	4	2	2	2	0	16
Made-ups	0	1	2	1	1	0	2	7
Technical Textiles	2	1	2	1	0	1	0	7
Others	1	0	1	1	1	0	0	4
Total	123	68	191	201	103	46	45	777

We also studied the reasons for lack of adoption of the modern technology in the MMF textile industry. In the survey of MMF sector units, it was found that lack of funds was one of the major reasons for not upgrading the technology (201 units) followed by high cost of machinery (191 units) and non-availability of desired technology (123 units) in the country. These units mostly belonged to weaving segment (i.e., 154 units reported lack of funds, 146 unit reported high cost of funds).

Segment	Insufficient raw material	Non-availability of labour	Power quality	Lack of working capital	Labour issues	Lack of orders	Competition	Others
Spinning	6	14	8	3	5	8	14	1
Weaving	9	31	1	14	20	113	20	11
Knitting	0	7	0	2	2	17	2	3
Processing	4	5	2	4	8	20	7	11
RMG	1	7	0	3	2	47	9	1
Made-ups	1	7	1	1	0	6	2	0
Composite	0	0	0	0	0	1	0	0
Technical Textiles	4	2	1	2	1	4	2	0
Non-woven	1	0	0	0	0	0	0	1
Others	0	0	0	0	1	6	0	0
Total	26	73	13	29	39	222	56	28

MMF units reported that lack of orders was one of the major reasons for limited capacity utilisation. Total 222 units reported this as one of the critical problems in capacity utilisation. These firms were mostly from weaving segment (113 firms), followed by RMG (47 firms). Non-availability of labour was another problem which contributed in the limited capacity utilisation. A total of 73 firms cited this as one of the critical problems and out of this, 31 firms were in weaving segment while 14 firms were in spinning.

The trend and composition of the domestic and international scenario in the technology adoption for the MMF textile industry indicates that India's position as adaptor of the new technology in the production process need to be further augmented in the entire value chain of the MMF industry. The trends highlight the following findings:

- **Spinning:** The investment in 2018 was relatively slow due to various industry and economic trends, however there is shift in investment in emerging textile manufacturing countries.
- **Weaving:** Significant growth in the investment of shuttle-less weaving machines led by China. Major investment is coming from emerging countries. It is estimated that investment in the shuttle-less weaving machine in Asia will

continue, owing to integration of value chain and modernization of power loom sectors.

- **Knitting:** The overall trends of shipment of circular knitting have been positive with growth observed in key textile and garment producing countries in Asia. The industry should also think about adopting the latest technology in the value chain for optimizing the production and realizing better capacity utilization.

6.9 Technological Advancement

Technology Changes	Key advantages
Spinning Technology Advancements	
Modern spinning systems like compact spinning, air-jet spinning	Improvement in viscose in terms of smoother, clear appearance making it suitable for usage in fashion garments and replace cotton
Siro Spinning	Reduces the pilling and shrinkage in viscose fibre which further makes it suitable to use in place of cotton
Core spinning technology	Helps in making advanced yarn like stretch yarns that includes combination of cotton/viscose and spandex. For e.g. this has helped in growth of stretch denims over conventional denims
Solvent spinning technology for viscose	Increases wet and dry strength, lustre of fibre and makes it suitable to use instead of cotton in home textile, ladies tops etc.
Processing Technology Advancements	
Improved HTHP Soft-flow dyeing, Stenter with chemical padding /coating attachments	Ability to develop better product attributes (touch, feel, and comfort) from same fibre. Polyester fabrics treated/coated with wicking finish, breathable finishes etc. has replaced cotton consumption providing similar attributes of hand feel, breathability etc.

6.10 Investment in MMF Textile Industry

Investment is one of the critical factors for optimal sectoral growth. In the study, we examined investment in the T&A sector including MMF textile industries. A

comparative analysis of the investment in the textile industry indicates that India has attracted US\$ 166.45 Million of Foreign Direct Investment (FDI) during 2018-19, which is less than that of 2017-18. The total FDI during last 10 years was US\$ 2414.26 Million, on the other hand, the countries like Bangladesh, Indonesia and Vietnam have attracted more investment than India. Hence, the Indian industry is mostly depending on the domestic investment due to lack of Foreign Direct Investment (FDI).

Table 6.12
Country Wise FDI Attracted from 2009-10 to 2018-19 (in \$ Mn)

Country	2009-10	2011-12	2013-14	2015-16	2017-18	2018-19	Total
India	150.27	164.19	198.86	230.13	454.45	166.45	2414.26
Bangladesh	133.97	272.04	421.63	442.92	421.68	408.08	3296.36
Pakistan	27.8	29.8	(0.2)	20.0	49.7	76.8	205.9
Vietnam	2597.6	2531	3107.1	774.8	350.1	477.6	17645.4
Indonesia	154.8	473.1	422.5	321.3	305.39	114.0	3732.93
S. Korea	85.0	19.0	-	-	-	-	482.5

It is important to note that Vietnam has approved significant number of projects of T&A for investment between 2009 and 2018. FDI induced growth in the country, which has attracted US\$ 17.64 Bn during between 2010 to 2019, as shown in Table 6.13.

Table 6.13
Year Wise Projects Approved in Vietnam for T&A

Year	No. of projects	Total Regd. capital (Mn. \$)
2009	91.0	2,597.6
2010	108.0	3,503.0
2011	82.0	2,531.0
2012	84.0	1,546.7
2013	93.0	3,107.1
2014	109.0	1,786.8
2015	118.0	774.8
2016	139.0	970.7
2017	130.0	350.1
Prel. 2018	155.0	477.6

In view of lack of FDI in the T&A industry, efforts are made to know the level of investment, modernisation and capacity expansion being carried out by the domestic industry. Table 6.14 shows the planned period for modernization, capacity expansion and product diversification of the industry in the primary survey. It can be observed that most of the units have planned modernization, capacity expansion and product diversification in next two years (i.e., 2019-20 and 2020-21). The survey showed that most of the units focused on modernization (140 units) followed by capacity expansion (97 units).

Categories	Already Initiated	2019-20	2020-21	2021-22	2022-23	Total
Modernisation	12	56	63	9	0	140
Capacity Expansion	3	52	38	3	1	97
Product Diversification	3	26	14	4	0	47

Table 6.15 shows planned investment for modernization, capacity expansion and product diversification. It can be seen that most companies have planned to invest less than 5 crores for modernization, capacity expansion and product diversification. The segment wise details about the planned investments for modernization, capacity expansion and product diversification are given in appendix.

Categories	Planning	< Rs 5 crores	Rs 5 to 10 Crores	Rs 10 to 50 crores	Rs > 50 crores	Total
Modernisation	1	124	6	14	20	165
Capacity Expansion	2	93	8	8	11	122
Product Diversification	5	38	3	4	5	55

The surveyed firms have indicated to commit Rs. 101906.5 Lakhs for the proposed investment in the area of modernisation, out of which Rs. 130024 Lakhs for capacity expansion and Rs. 16322.5 Lakhs for product diversification. Since Indian MMF textile industry is experiencing both capacity constraints and the financial institutions were considered to be a major source of funding for

modernisation and capacity expansion while the product diversification is likely to be majorly funded by firms own sources.

Categories	Planned Investments (in Rs Lakhs)	Number of Firms		
		Own	Financial Institutions	Others
Modernisation	101906.5	69	88	2
Capacity Expansion	130024	53	58	5
Product Diversification	16322.5	28	18	4

6.11 MMF End-Product Examples Addressing Product Innovation and Sustainability¹⁹

Recently, several MMF products are developed which have considered the aspects of innovation and sustainability. Some of the major products are as follows:

- Nike's Flyknit athletic footwear: Nike Vapor Untouchable: <http://news.nike.com/news/nike-vaporuntouchable-cleat-merges-g-speed-strength-and-sustainability>
- Adidas/Parley for the Oceans footwear/Primeknit technology: <http://news.adidas.com/US/Latest-News/ALL/ADIDAS-AND-PARLEY-FOR-THE-OCEANS-SHOWCASE-SUSTAINABILITYINNOVATION-AT-UN-CLIMATE-CHANGE-EVENT/s/f66a1b3e-8a9f-48b5-825f-63ddc72c09e7>
- Aquafil ECONYL ® <http://www.econyl.com/>
- Unifi REPREVE <http://repreve.com/>
- RadiciGroup MERMAIDS challenge – mitigation of the migration of micro and nano-particles from synthetic textiles during laundering http://www.radicigroup.com/en/newsmedia/news/radicigroup-and-cnr_ismac-biella-take-up-the-mermaids-challenge-commitment-to-environmental-sustainability-30413
- ECOALF http://ecoalf.com/us_en/about/
- Tamicare <http://www.tamicare.com/>

¹⁹PCI Wood Mackenzie Report

- Bio-raw materials for MMF: The market share of bio-based polyester is estimated at less than one percent of the total polyester production²⁰. Bio-based polyesters include bio-based PET but also other polyesters such as PLA or bio-based PTT.

6.12 Innovation in Recycled Polyester

There are two types of recycling: first, mechanical recycling; and second, chemical recycling. In this section, we report the commercially available innovation in both mechanical recycling and chemical recycling.

Mechanical recycling

- BIONIC® materials (resins, fiber, yarns and fabrics) are made with plastic recovered from marine and coastal environments. BIONIC® has joined forces with Water keeper Alliance, a global network of grassroots leaders protecting everyone's right to clean water, on an initiative designed to protect the world's coastal and marine environments from plastic pollution. This network of coastal clean-up efforts is called STRONGER THREAD®
- Thread Ground to Good™ begins as raw material – the plastic bottles collected by people earning their way out of poverty. The raw materials are sourced from Haiti and Honduras. The fabric sold in their shop and the yarn sold to brands is manufactured by strategic mill partners in the Eastern and Western hemispheres.

Chemical recycling

- FENC's TOPGREEN®, Polygenta's perPETual and Teijin's Eco Circle™ commercially offer chemically recycled PET.
- In 2018 INVISTA launched LYCRA® T400® EcoMade fiber. More than 65% of the overall fiber content comes from a combination of recycled plastics (PET bottles) and renewable plant-based resources (corn). The LYCRA® T400® EcoMade recycled content is chemically recycled.

²⁰ Textile Exchange estimate based on European Bioplastics (20017) - Bioplastics Market Data 2017 and IVC data from their website.

Chapter 7

Findings from the Survey data

This section reports the findings from the field survey. The questionnaire used in the data collection is provided in the annexure 1.

7.1 Profile of Surveyed Firms

Table 7.1 shows the classification of manufacturing units covered in the field survey. Out of total 732 units, about of half (49 percent) of them were of small size, followed by medium size (24 percent). Large units comprised about 17 percent of the total surveyed units.

Table 7.1
Classification of Manufacturing Units According to Size

State	Micro	Small	Medium	Large	Total
Andhra Pradesh	0	0	0	1	1
Gujarat	3	57	61	23	144
Haryana	4	40	6	1	51
Maharashtra	6	13	7	8	34
MP	0	0	1	5	6
Punjab	12	38	34	19	103
Rajasthan	0	13	13	15	41
Tamil Nadu	16	65	40	36	157
Telangana	1	17	4	8	30
Uttar Pradesh	23	111	11	6	151
West Bengal	0	0	1	5	6
New Delhi	0	6	1	0	7
Dadra Nagar Haveli	0	1	0	0	1
Total	65	361	179	127	732

According to the value chain wise classification, about 36 percent of units (266 units) were in weaving, followed by 23 percent (167 units) in readymade garments and 12 percent (89 units) in spinning. 82 units belonged to processing while 58 units belonged to knitting. There were equal number of units (23 units) from both made-ups and technical textiles.

Figure 7.1 shows the distribution of firms according to the ownership. A majority of surveyed firms were proprietary (33 percent), followed by private limited firms (30 percent) and partnership firms (28 percent). Figure 7.2 shows the product

category wise distribution of firms included in the survey. Woven fabric and RMG units had the highest representation in the survey with 27 percent and 26 percent share, respectively. Yarn units (14 percent) and Carpets units (14 percent) were other two major categories of firms represent in the survey.

Figure 7.1:
Ownership wise Distribution of Surveyed Firms

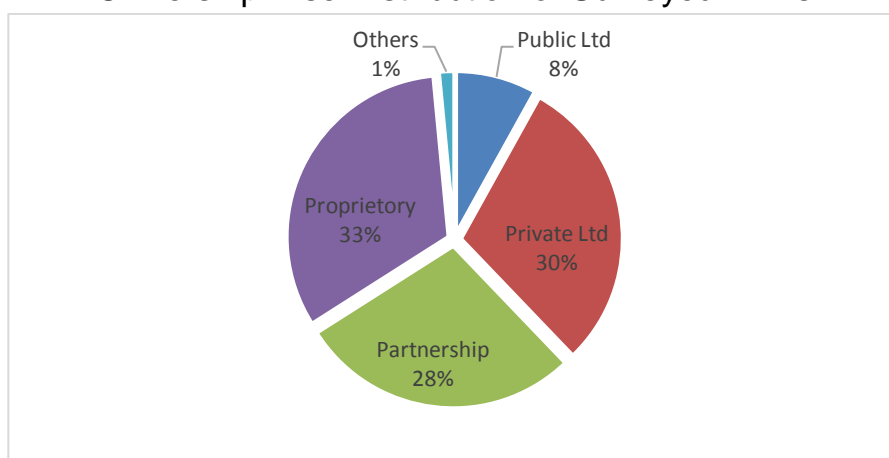
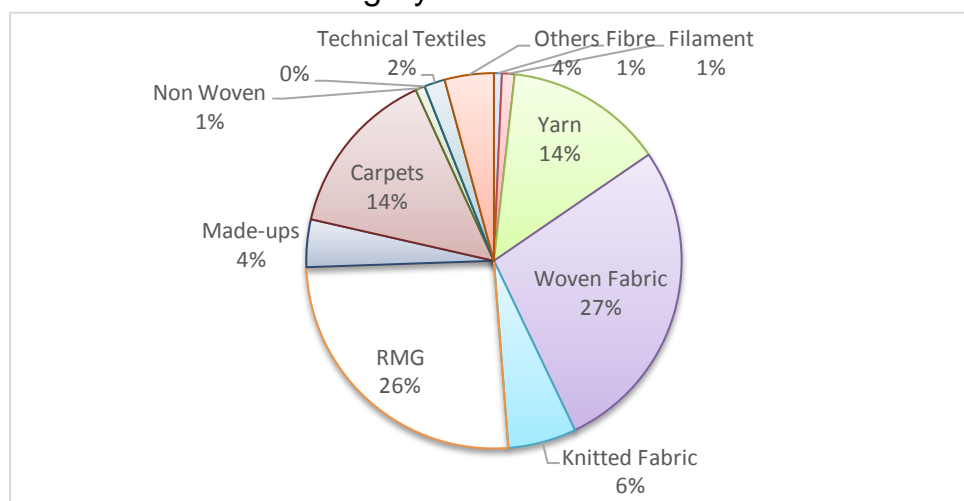


Figure 7.2:
Product Category wise Distribution of Firms



7.2 Raw Material Sourcing

Figure 7.3 provides the classification of surveyed firms according to the type of raw material sourced in the different categories of textiles. It can be observed that the firms using pure raw material dominated over the firms which have sourced blended form of raw material in all categories except spinning. In the

spinning categories, there were 49 firms which sourced blended raw material that is higher than the 40 firms which have used pure raw material.

Figure 7.4 provides the classification of surveyed firms according to the source of raw material in the different categories of textiles. It can be observed that the most firms used locally available raw material or used the raw material procured domestically in India. In our survey, we found out of total 732 firms only 11 firms used the imported raw material which majorly included 3 each in spinning and technical textiles.

Figure 7.3:
Distribution of Surveyed Firms According to the Type of Raw Material Sourced

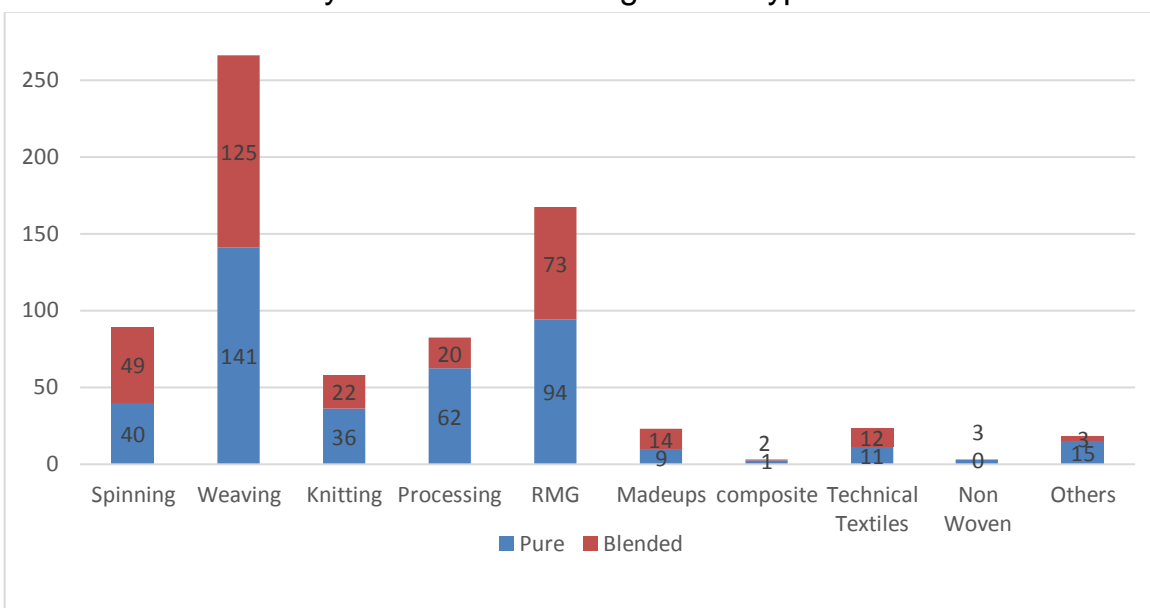
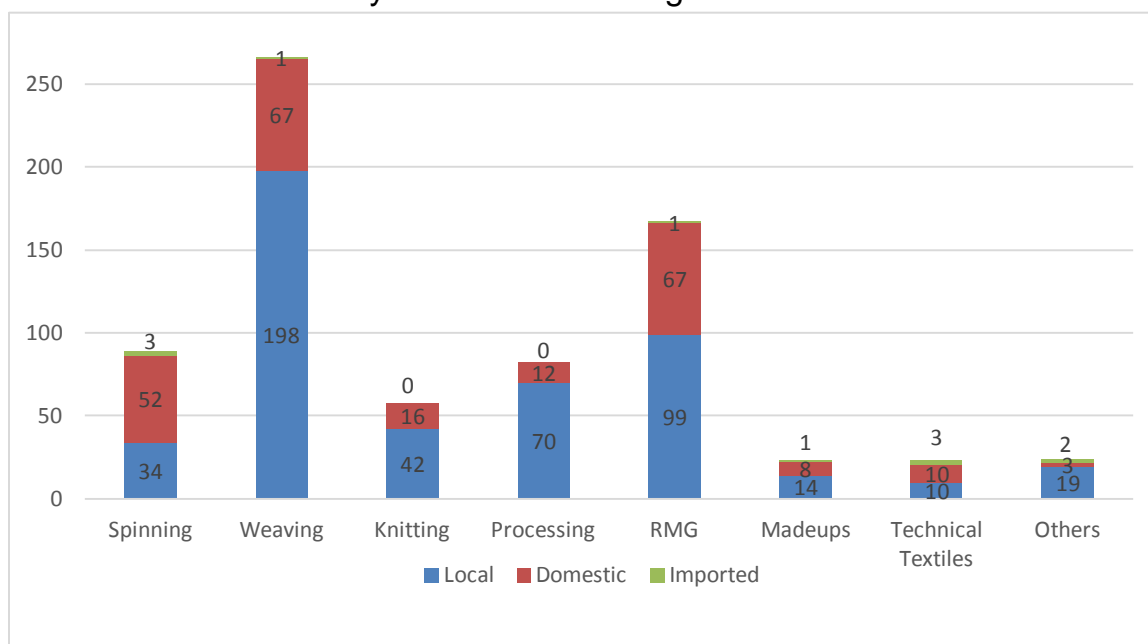


Figure 7.4:
Distribution of Surveyed Firms According to the Raw Material Source



7.3 Employment

Table 7.2 shows the employment generated by surveyed units in MMF sector in the last 5 years. Employment data are provided according to different categories such as managerial, supervisory and gender wise. It can be observed that the share of female in the overall employment has increased steadily from 18 percent in 2013-14 to 25 percent in 2017-18. However, overall employment has decreased by a CAGR of 1.2 percent in the last 5 years. According to various levels, shop floor jobs contributed highest in the total employment with 73 percent of jobs at this level in 2018. The supervisory and managerial roles contributed about 7 percent and 3 percent respectively.

Table 7.2:
Distribution of Employment according to Category and Gender

Category	2013-14		2014-15		2015-16		2016-17		2017-18	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Managerial	8398	327	7002	361	7241	384	8058	437	8384	435
Supervisory	12582	1489	12942	1632	14007	1830	14782	2184	15858	2212
Shop Floor	170747	41080	123624	43572	127982	46126	136156	51567	141924	57343
Others	43794	9508	34745	9313	37900	9314	38062	9400	39258	8952
Total	235521	52404	178313	54878	187130	57654	197058	63588	205424	68942
Grand Total	287925		233191		244784		260646		274366	
Percentage	82%	18%	76%	24%	76%	24%	76%	24%	75%	25%

7.4 Modernization, Capacity Expansion, Diversification and Investment

In our survey, a majority of surveyed units showed their willingness to modernise the units, capacity expansion and product diversification. These data are reported in figure 7.5. It can be seen that across all types of surveyed units the proportions of firms willing modernise, capacity expansion and product diversification are more than the firms not willing to do so.

Figure 7.6 shows the surveyed units according to their willingness to modernize, capacity expansion and product diversification. The figure reveals that the most weaving firms (145 firms) were willing to modernise while the firms in all the other categories were most interested in capacity expansion. The number was highest in RMG (112 firms) and spinning (51 firms) followed by almost equal number of firms in knitting (37 firms) and processing (38 firms) which showed their willingness to expand capacity. Further, a sizable number of firms in weaving (115 firms) and RMG (82 firms) showed their interest in product diversification.

Figure 7.5:
Willingness to Modernize/Capacity Expansion/Product Diversification

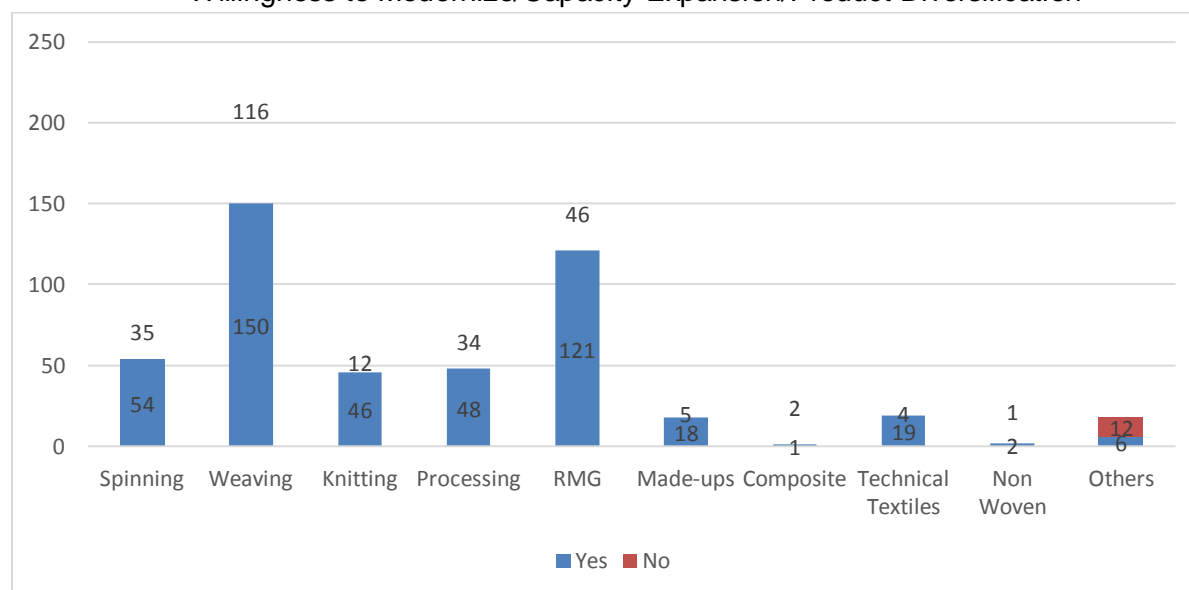


Figure 7.6:
Classification of Surveyed Units according to Willingness to Modernize, Capacity Expansion and Product Diversification

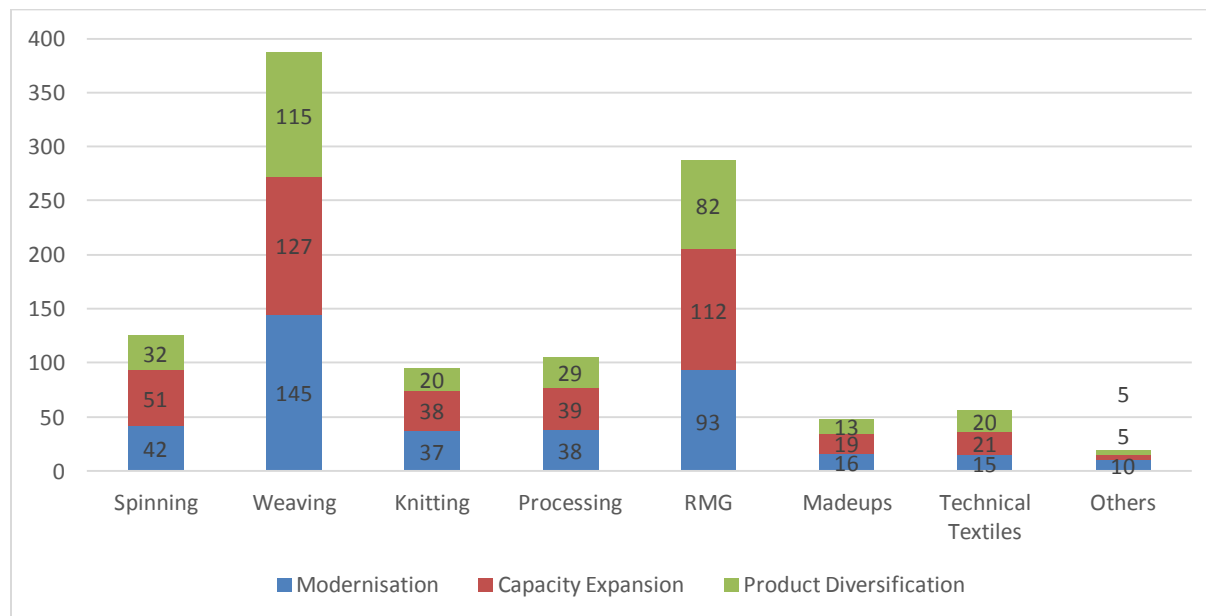


Table 7.3 and Table 7.4 shows the investment made by the surveyed in MMF sector from 2013-14 to 2018-19, in Lakh and in percentage share, respectively. It can be observed that the units in spinning segment have made the highest amount of investment with 32.4 percent share of total investment in 2018-19. In terms of values, the amount was 298796 Lakh. Historically too, the contribution of spinning segment has remained high and varied between 28.5 percent and 64.5 percent of total investment. The major segment which contributed significantly to the total investment is weaving with the contribution of 20.4 percent. However, a comparison of specific areas of investment shows that weaving segment made major investments in land and building (51.6 percent) while technical textiles segment made major investments in the skill development area (52 percent) in 2018-19. At aggregate level, in 2018-19, 61.4 percent of the total investment was in plant and machine while 36.7 percent was in land and building.

Table 7.3
Investments in MMF sector (in Rs lakhs)

Segments	Area	Up to 2013-14	2015-16	2016-17	2017-18	2018-19
Spinning	Land & Building	278157	133449	152043	143149	80236
	Plant & machine	936913	341358	371292	364617	214062
	Skill	228	332	67	104	50
	Others	26414	9483	11145	10689	4448
	Total	1241712	484622	534547	518559	298796

294230/2021/Economic Division

Segments	Area	Up to 2013-14	2015-16	2016-17	2017-18	2018-19
Weaving	Land & Building	35191	15788	184767	184762	174944
	Plant & machine	103244	21274	25162	30192	13099
	Skill	0	0	0	0	0
	Others	1149	313	364	436	0
	Total	139584	37375	210293	215390	188043
Knitting	Land & Building	14134	1657	16264	20258	16806
	Plant & machine	20571	3536	3927	5096	4029
	Skill	0	0	0	29	0
	Others	700	137	292	269	60
	Total	35405	5330	20482	25653	20896
Processing	Land & Building	34285	27986	29235	39077	3799
	Plant & machine	51853	36427	39498	80648	6053
	Skill	27	22	23	23	0
	Others	4681	881	693	2755	302
	Total	90846	65317	69449	122502	10154
RMG	Land & Building	2504	530	1525	663	820
	Plant & machine	1375	404	570	383	358
	Skill	0	0	0	0	0
	Others	33	0	5	5	0
	Total	3912	934	2100	1051	1178
Made ups	Land & Building	13779	3029	3867	4138	1288
	Plant & machine	26591	2075	3565	4171	729
	Skill	8	15	4	7	4
	Others	0	3	2	2	2
	Total	40377	5122	7438	8317	2022
Composite	Land & Building	47900	35305	8675	27469	0
	Plant & machine	2452	65935	86109	89931	111
	Skill	8	8	10	10	0
	Others	600	610	600	600	0
	Total	50960	101858	95394	118009	111
Technical Textiles	Land & Building	11564	4848	7251	9797	7903
	Plant & machine	37416	18278	16427	36596	36228
	Skill	0	26	0	0	60
	Others	19	191	365	659	723
	Total	48999	23344	24043	47052	44914
Non-Woven	Land & Building	0	0	112	132	137
	Plant & machine	0	0	1400	511	512
	Skill	0	0	0	0	0
	Others	0	0	0	0	0
	Total	0	0	1512	643	649
Others	Land & Building	32355	47875	49878	71387	53223
	Plant & machine	234183	250035	261297	672655	291641
	Skill	0	0	0	0	0
	Others	7501	8429	10416	18585	11942
	Total	274039	306339	321591	762627	356806
Total	Land & Building	469868	270466	453617	500832	339156
	Plant & machine	1414598	739324	809248	1284800	566823
	Skill	272	403	104	174	115
	Others	41097	20047	23882	33998	17477
	Total	1925835	1030240	1286850	1819803	923570

Table 7.4
Investments in MMF sector (% of Investment)

Segments	Area	Up to 2013-14	2015-16	2016-17	2017-18	2018-19
Spinning	Land & Building	59.2	49.3	33.5	28.6	23.7
	Plant & machine	66.2	46.2	45.9	28.4	37.8
	Skill	83.9	82.3	64.4	60.1	43.9
	Others	64.3	47.3	46.7	31.4	25.4
	Total	64.5	47.0	41.5	28.5	32.4
Weaving	Land & Building	7.5	5.8	40.7	36.9	51.6
	Plant & machine	7.3	2.9	3.1	2.3	2.3
	Skill	0.1	0.1	0.3	0.2	0.3
	Others	2.8	1.6	1.5	1.3	0.0
	Total	7.2	3.6	16.3	11.8	20.4
Knitting	Land & Building	3.0	0.6	3.6	4.0	5.0
	Plant & machine	1.5	0.5	0.5	0.4	0.7
	Skill	0.0	0.0	0.0	16.7	0.0
	Others	1.7	0.7	1.2	0.8	0.3
	Total	1.8	0.5	1.6	1.4	2.3
Processing	Land & Building	7.3	10.3	6.4	7.8	1.1
	Plant & machine	3.7	4.9	4.9	6.3	1.1
	Skill	10.1	5.5	21.8	13.1	0.0
	Others	11.4	4.4	2.9	8.1	1.7
	Total	4.7	6.3	5.4	6.7	1.1
RMG	Land & Building	0.5	0.2	0.3	0.1	0.2
	Plant & machine	0.1	0.1	0.1	0.0	0.1
	Skill	0.0	0.0	0.0	0.0	0.0
	Others	0.1	0.0	0.0	0.0	0.0
	Total	0.2	0.1	0.2	0.1	0.1
Made ups	Land & Building	2.9	1.1	0.9	0.8	0.4
	Plant & machine	1.9	0.3	0.4	0.3	0.1
	Skill	2.9	3.7	3.9	4.0	3.5
	Others	0.0	0.0	0.0	0.0	0.0
	Total	2.1	0.5	0.6	0.5	0.2
Composite	Land & Building	10.2	13.1	1.9	5.5	0.0
	Plant & machine	0.2	8.9	10.6	7.0	0.0
	Skill	2.9	2.0	9.6	5.8	0.0
	Others	1.5	3.0	2.5	1.8	0.0
	Total	2.6	9.9	7.4	6.5	0.0
Technical Textiles	Land & Building	2.5	1.8	1.6	2.0	2.3
	Plant & machine	2.6	2.5	2.0	2.8	6.4
	Skill	0.0	6.4	0.0	0.0	52.3
	Others	0.0	1.0	1.5	1.9	4.1
	Total	2.5	2.3	1.9	2.6	4.9
Non-Woven	Land & Building	0.0	0.0	0.0	0.0	0.0
	Plant & machine	0.0	0.0	0.2	0.0	0.1
	Skill	0.0	0.0	0.0	0.0	0.0
	Others	0.0	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.1	0.0	0.1
Others	Land & Building	6.9	17.7	11.0	14.3	15.7
	Plant & machine	16.6	33.8	32.3	52.4	51.5
	Skill	0.0	0.0	0.0	0.0	0.0

Segments	Area	Up to 2013-14	2015-16	2016-17	2017-18	2018-19
	Others	18.3	42.0	43.6	54.7	68.3
	Total	14.2	29.7	25.0	41.9	38.6
Total	Land & Building	24.4	26.3	35.3	27.5	36.7
	Plant & machine	73.5	71.8	62.9	70.6	61.4
	Skill	0.0	0.0	0.0	0.0	0.0
	Others	2.1	1.9	1.9	1.9	1.9

7.5 Challenges Faced by the Surveyed Firms

The challenges faced by the surveyed firms are reported from Figure 7.7 to 7.8. The challenges are broadly classified in four categories: technology, raw material, manpower and fiscal levies/duty structures. All figures show the responses in percentage and the number of responses for all three categories (very critical, serious and not so serious), while the total number of responses are given in Table 7.5.

Table 7.7:
Total Number of Responses in Different Areas

Technology	N	Manpower	N	Fiscal Levies/ Duty Structure	N	Raw Material	N
Technology know how	480	Skilled manpower	589	GST	652	Availability	560
Machinery imports	445	Skilling/ training programme	557	Tariffs	396	Quality	537
Maintenance of Machinery	452	Attrition of workers	516	Duty drawback	461	Price	592
Delivery of booked machines	412	Labor issues/trade union issues	550	Foreign trade policy	396	Others	36
Others	24	Others	39	Import related Others	412 53		

While a very few percentages of firms reported technology as a serious or very critical challenge, pricing of raw material was one of the major challenges in the raw material related challenge category. The surveyed firms faced the availability of skilled manpower and skilling/training as the major challenges in the manpower related challenges. Similarly, a good number of firms reported GST and duty drawback as two of the major challenges in the fiscal levies/duty structures related issues.

Figure 7.7:
Technology Related Issues

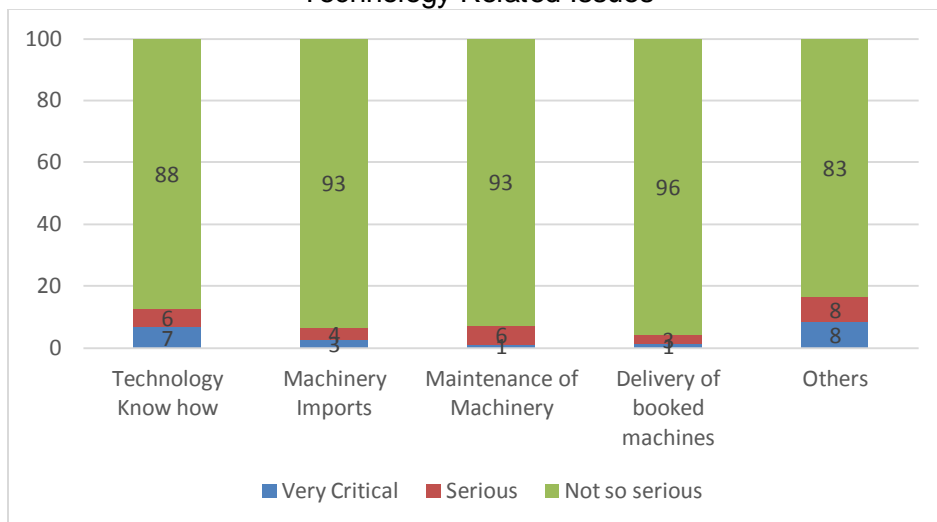


Figure 7.8:
Raw Material Related Issues

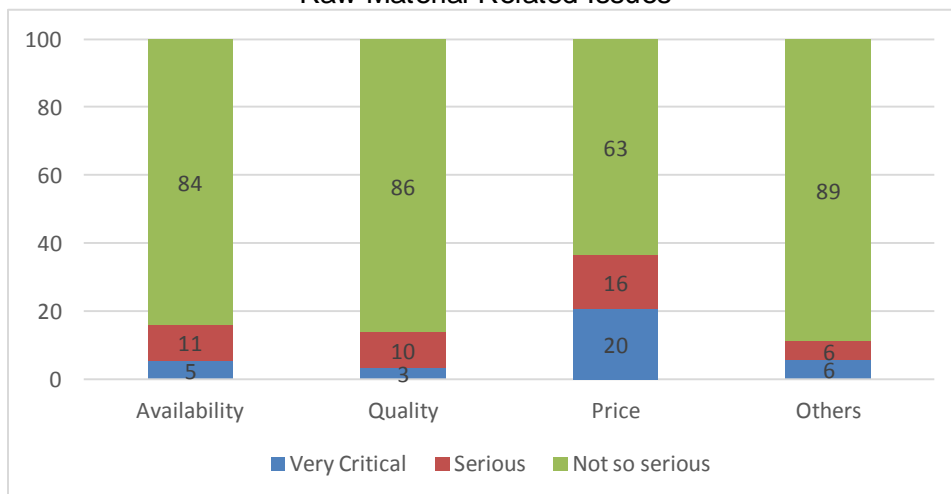
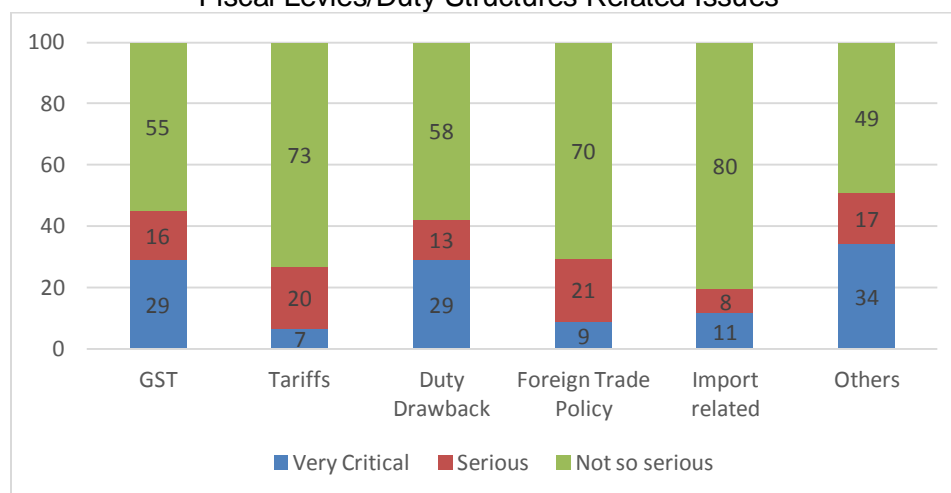


Figure 7.9:
Manpower Related Issues



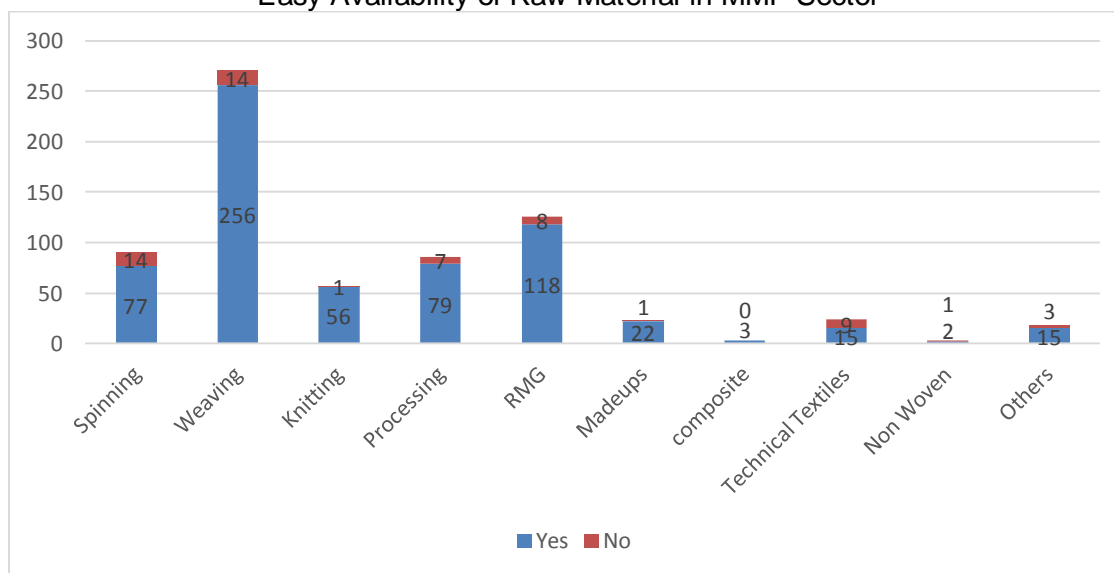
Figure 7.10:
Fiscal Levies/Duty Structures Related Issues



7.6 Availability of Raw Material in MMF Sector

Figure 7.11 shows the perception of surveyed MMF sector units about the easy availability of raw material. Most of units did not report availability of raw material as a major issue and out of total 701 responses; only 58 units suggested that raw material was a problem. However, 14 units each from spinning and weaving claimed that easy availability of raw material was a problem.

Figure 7.11:
Easy Availability of Raw Material in MMF Sector



Among those who claimed that raw material was a problem, 46 units said that locally available raw material is costly while 35 units said that duties are high. 29 units reported quality of raw material as an issue (Table 7.8).

Table 7.8:
Critical Problems associated with Raw Materials

Segment	Locally available raw material is costly	Desired quality is not available	Duties are High	Import related issues	Others
Spinning	13	4	11	3	12
Weaving	12	11	9	2	6
Knitting	0	0	2	0	0
Processing	12	6	8	0	10
RMG	4	3	1	1	0
Made-ups	2	0	0	0	2
Technical Textiles	3	3	4	1	0
Others	0	2	0	0	0
Total	46	29	35	7	30

7.7 Marketing Channels Used by MMF Units and Market Destinations

MMF units mainly used both direct (215 units) and agent (199 units) method of marketing channels for local supply while export was mainly done directly (225 units). Only 87 units employed the services of agent. Among segments, weaving units focused on direct exporting (107 units) while the ratio of weaving units of

direct and agent was equal (75 units each) for local supply. The equal number of firms from processing and RMG (38 units) reported the use of direct marketing channels for local supply (Table 7.9).

Most MMF sector firms (328 units) focussed on the domestic market. 202 units focused on export market while 96 units used both domestic and export market for selling their products. Within segments, RMG (81 units) and made-ups (12 units) relied more on export markets than domestic market. A sizable firm in the weaving (122 units), processing (55 units) and RMG (71 units) are dependent on domestic markets (Table 7.10).

Table 7.9:
Marketing Channels Used by MMF Units

Segment	Local Supply			Export		
	Direct	Agent	Both	Direct	Agent	Both
Spinning	22	48	20	16	16	10
Weaving	75	75	13	107	18	5
Knitting	9	8	3	8	5	2
Processing	38	17	4	10	9	0
RMG	38	34	7	51	23	11
Made-ups	4	7	1	12	7	1
Composite	2	2	0	1	2	0
Technical textiles	17	4	0	12	6	0
Non-woven	3	0	0	3	0	0
Others	7	4	0	5	1	0
Total	215	199	48	225	87	29

Table 7.10:
Major Market Destinations for MMF Sector

Segment	Domestic	Export	Both	Total
Spinning	51	5	29	85
Weaving	122	85	20	227
Knitting	10	6	14	30
Processing	55	7	5	67
RMG	71	81	0	152
Made-ups	3	12	7	22
composite	1	0	2	3
Technical Textiles	6	3	14	23
Non-woven	0	0	3	3
Others	9	3	2	14
Total	328	202	96	626

7.8 Perception of MMF Sector Units about Market Growth

In the survey, MMF sector units' perception about market growth was asked. The perception of units of different segment was mixed. In the largest segment, more than half of weaving units' (110 units) perception about market growth was negative while a majority of RMG firms seem to perceive market as growing. The same was the case with spinning (59 units) and processing units (35 units) which reported a positive perception about the market growth (Figure 7.12).

The competition was perceived to be a major reason (175 units reported this as a critical reason) which affected growth in the domestic market. A significant number of spinning, weaving and RMG units cited competition this as hindrance in growth. This was followed by cheap imports, however, only 35 units out of 245 units cited this as a critical reason for affecting growth (Table 7.11).

Figure 7.12:
Perception of MMF Sector Units about Market Growth

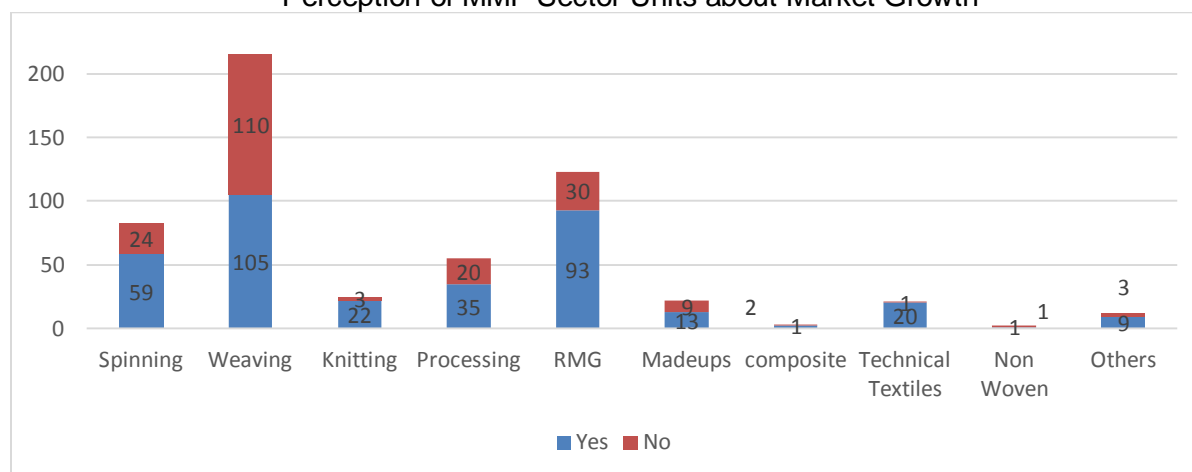


Table 7.11:
Critical Reasons Affecting Growth of Domestic Market

Segment	Competition	Cheap imports	Duties/ Levies	Lack of desired quality with competitors	Lack of quality with imports	Others
Spinning	42	8	5	1	2	6
Weaving	46	11	5	1	1	6
Knitting	6	1	0	0	1	1
Processing	24	5	0	1	0	0
RMG	40	3	0	0	0	3
Made-ups	6	0	0	0	0	1

Segment	Competition	Cheap imports	Duties/ Levies	Lack of desired quality with competitors	Lack of quality with imports	Others
composite	2	0	0	0	0	0
Technical Textiles	5	2	0	0	1	2
Non-woven	1	0	0	0	0	1
Others	3	1	0	1	0	0
Total	175	31	10	4	5	20

The competition as a topmost reason for growth hindrance was also true for export market. 133 MMF units out of 236 units cited competition as one of the critical reasons for hindrance in growth in export markets. In these 133 units, majority of firms were from RMG (53 units), followed by weaving (26 units) and made-ups (16 units). A very few units cited tariff and non-tariff barriers as growth hindrance in exports (Table 7.12).

Table 7.12:
Critical Reasons Affecting Growth of Export Market

Segment	Competition	Tariffs	Non-tariff barriers	Others
Spinning	16	3	0	4
Weaving	26	3	1	79
Knitting	5	1	0	1
Processing	6	0	0	2
RMG	53	0	0	3
Made-ups	16	0	1	0
Composite	2	0	0	0
Technical Textiles	6	2	1	1
Non-woven	1	0	0	1
Others	2	0	0	0
Total	133	9	3	91

7.9 Availing of Government Schemes and Its Effect on MMF Sector

The survey included the question on whether MMF sector units are availing government schemes or not and also type of government scheme such as central government versus state government. Around 69 percent of the units (453 out of 660 units) were availing government schemes while the remaining units (31 percent) were not availing any government schemes. A good number of weaving (200 units), RMG (85 units) and spinning (55 units) units were availing the government schemes (Figure 7.13).

Considering type of government schemes, about 89 percent of units (786 units out of 881 units) were availing central government schemes and only 11 percent units were availing state government schemes. The most of these, availing central government scheme, were contributed by the segments such as weaving (448 units), RMG (137 units), spinning (75 units) and processing (48 units) (Figure 7.14).

Figure 7.13:
Availing of Government Schemes

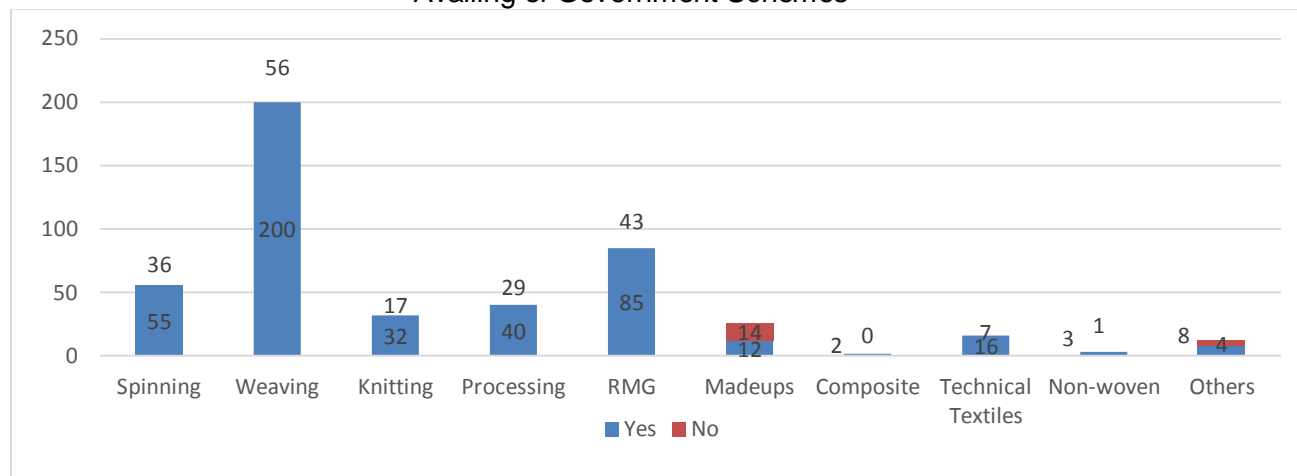
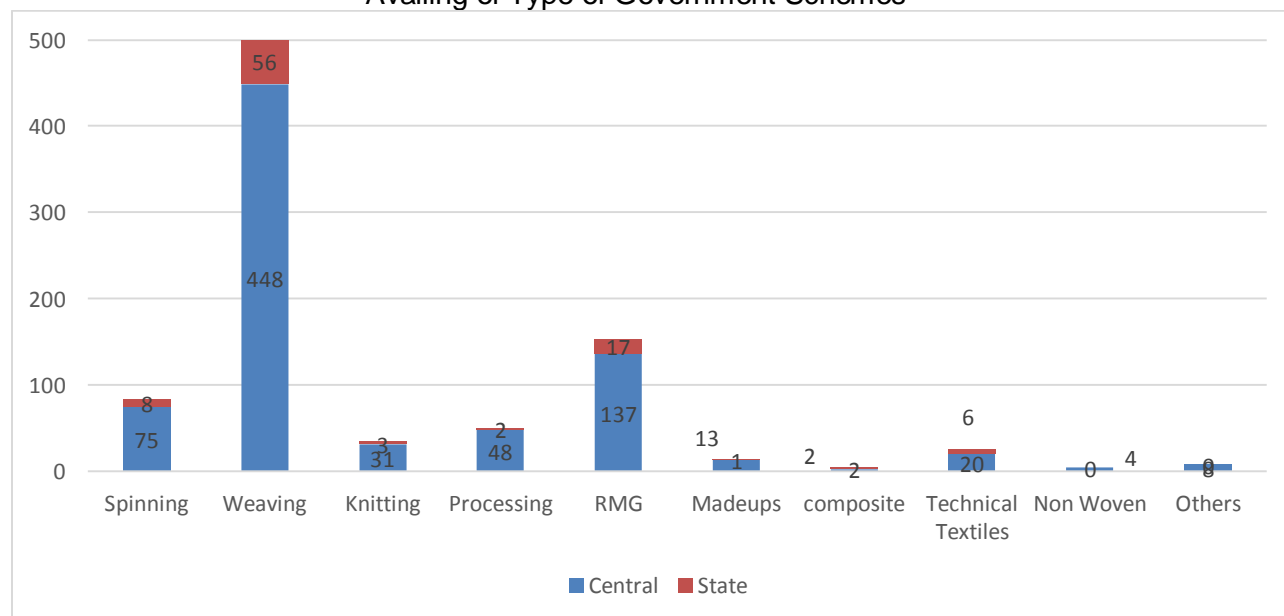
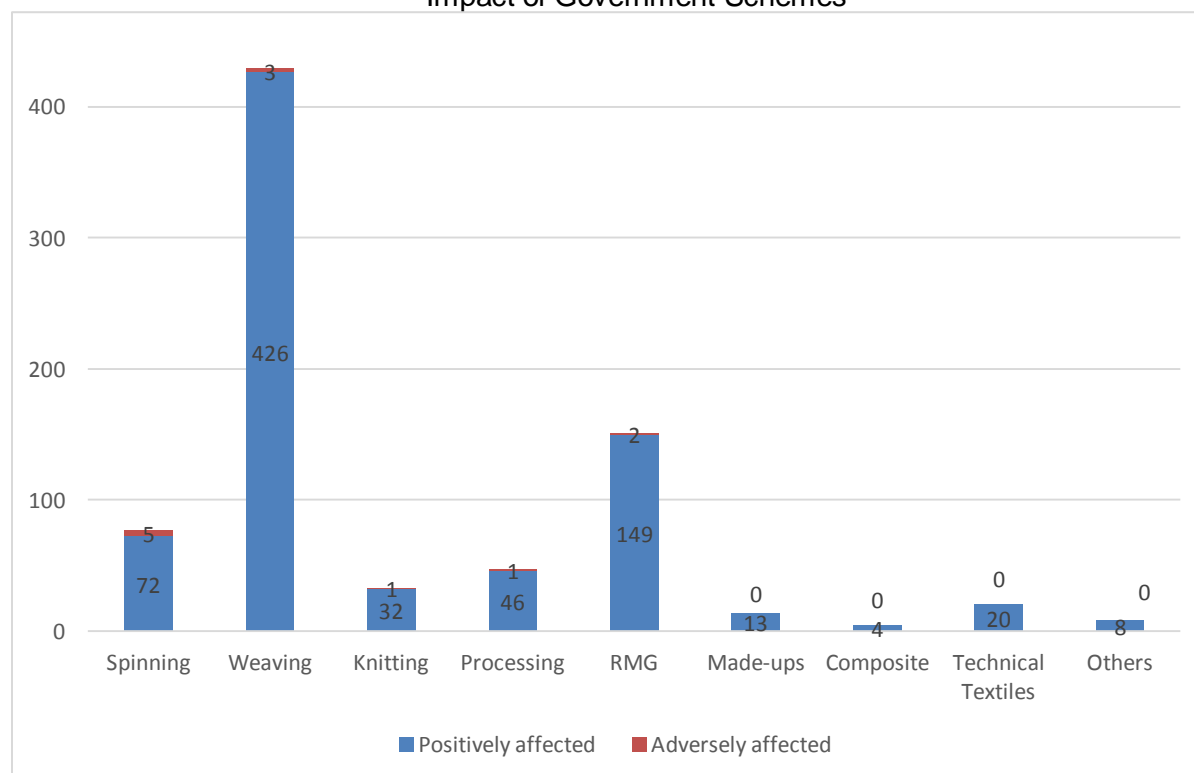


Figure 7.14:
Availing of Type of Government Schemes



98 percent of the units (770 units out of 780 units) reported that they were positively affected due to various government schemes such as TUFs (Technology Upgradation Fund Scheme), PMRPY (Pradhan Mantri Rojgar Protsahan Yojana), Duty Drawback, MEIS (Merchandise Exports from India Scheme), MDA (Marketing Development Assistance), etc. Considering the number of units, the maximum number of units benefited belonged to weaving segment (426 units), followed by RMG (149 units) and spinning (72 units) (Figure 7.15).

Figure 7.15:
Impact of Government Schemes



7.10 Manufacturers Awareness about Consumer Preferences

In the field survey, we checked the MMF manufactures' awareness about consumer preferences and it was found that most of the units in all the segments were aware about consumers' current trends in the MMF sector. A very few had no awareness about consumer preferences (Figure 7.16).

Out of 520 units, 330 units said that the demand for products are increasing. While the most segment of manufacturers said that the demand is increasing expect the largest segment - weaving which indicated that the demand is not

increasing/decreasing. Out of 240 units, 135 weaving units said that demand is decreasing and which can be a cause of concern for this segment (Figure 7.17).

Figure 7.16:
MMF Manufacturers' Awareness About Consumer Preferences

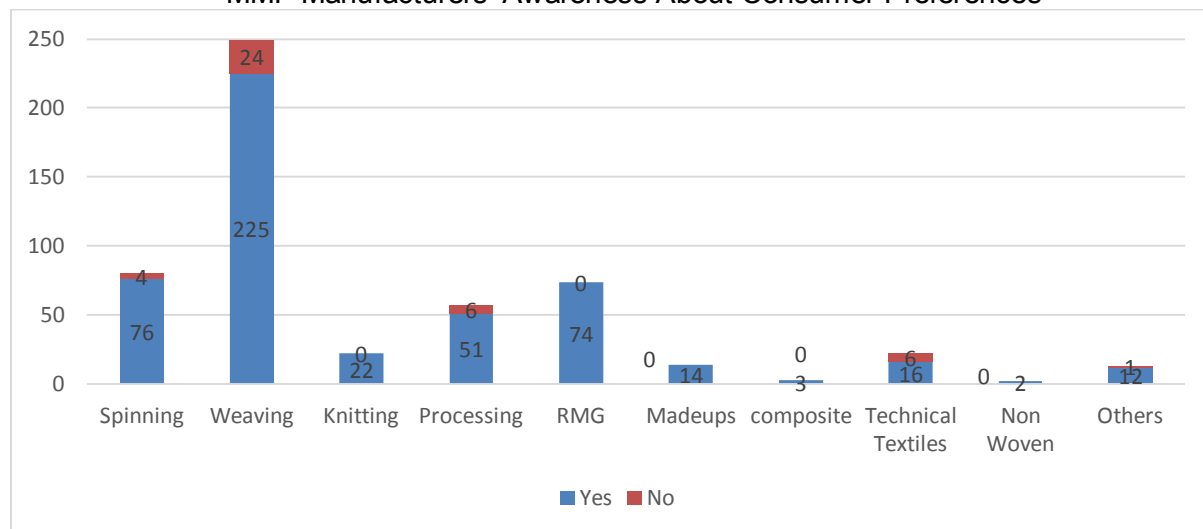
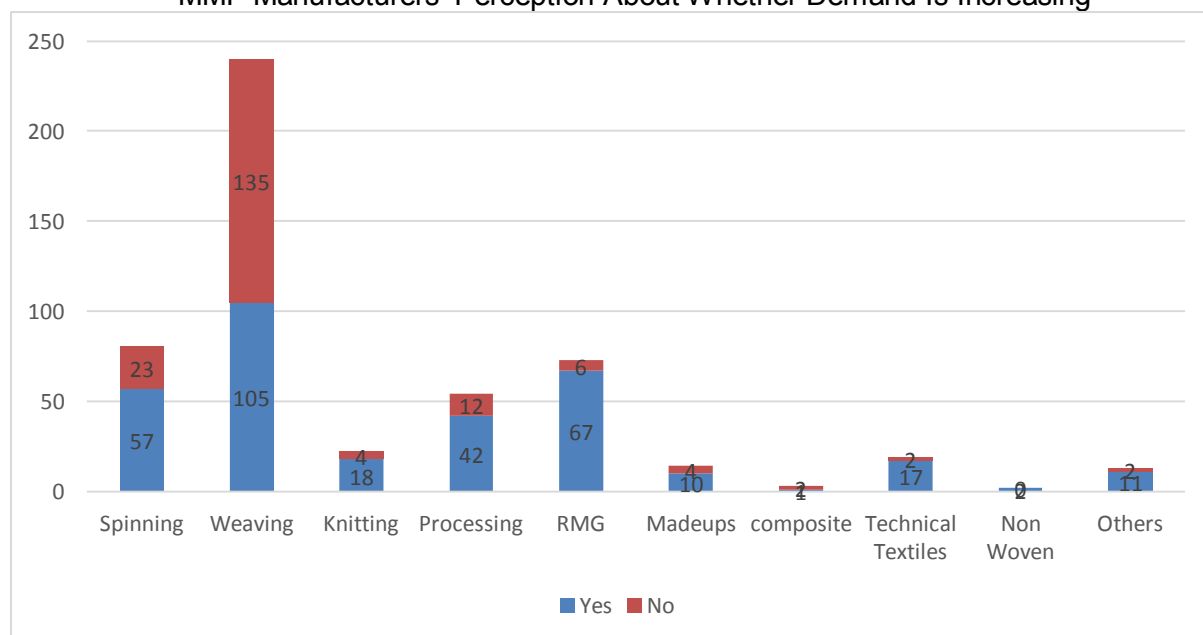


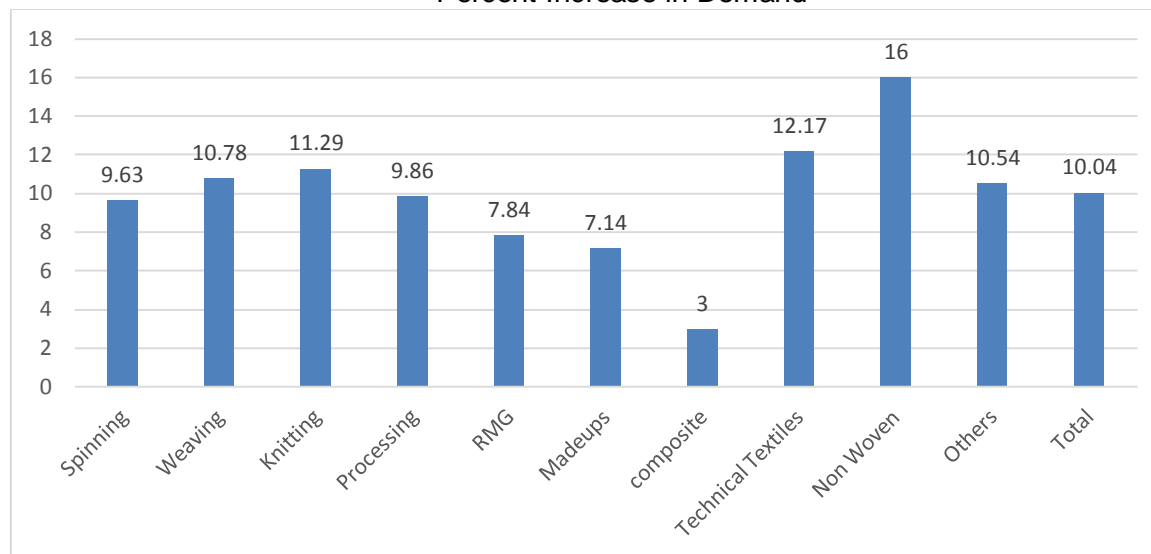
Figure 7.17:
MMF Manufacturers' Perception About Whether Demand Is Increasing



In the field survey, we also recorded the percentage change in demand observed/expected by various segments. The highest increase in demand was observed by non-woven segment (16 percent) followed by technical textiles

(12.17 percent). The increase in demand in other segments ranged between 7 percent and 11 percent except 3 percent in composite segment. On an average, there was a 10 percent growth in demand (Figure 7.18).

Figure 7.18:
Percent Increase in Demand



7.11 Factors Affecting Domestic Demand

The field survey included questions on the factors affecting the domestic demand and response on the same are reported in Table 7.13 and Table 7.14. A majority of units highlighted price as one of the major factors affecting domestic demand followed by consumer preferences. In the price category, nearly half of respondents belonged to weaving segment.

Table 7.13:
Factors Affecting Domestic Demand

Segment	Price	Preference	Fashion	Others
Spinning	45	17	5	4
Weaving	99	52	12	50
Knitting	7	5	5	1
Processing	22	8	14	4
RMG	19	43	3	4
Made-ups	3	3	2	1
composite	1	0	0	1
Technical Textiles	6	5	1	1
Non-woven	0	1	0	0
Others	4	2	1	0
Total	206	136	43	66

Also, the domestic consumption was perceived to be affected by price/affordability, preferences and fashion related factors. Segment wise, for weaving units, price/affordability was a major concern, followed by preferences and fashion. For spinning units, price/affordability was a major affecting the domestic consumption while for RMG units, consumer preference was a major factor.

Table 7.14:
Factors affecting Domestic Consumption

Segment	Price/ Affordability	Preference	Fashion	Climate	Durability	Usage	Others
Spinning	53	9	7	1	2	3	53
Weaving	128	40	37	12	1	5	128
Knitting	4	6	6	0	0	0	4
Processing	19	6	13	5	1	2	19
RMG	16	33	10	0	1	4	16
Made-ups	3	4	2	1	0	0	3
Composite	1	0	0	0	0	0	1
Technical textiles	10	1	2	1	2	1	10
Non-woven	2	0	0	0	1	0	2
Handlooms	0	0	0	0	0	0	0
Others	4	0	3	2	0	0	4
Total	240	99	80	22	8	15	240

7.12 Tools for Promotional Activities

Table 7.15 shows the tools deployed for promotional activities. The most units used the services of buying agent (249 units) for promotional activities followed by branding (155 units). While at the overall level, the use of buying agent was higher than the rest of other promotional methods, in weaving segment, the use of branding (108 units) was the highest followed by buying agent (59 units).

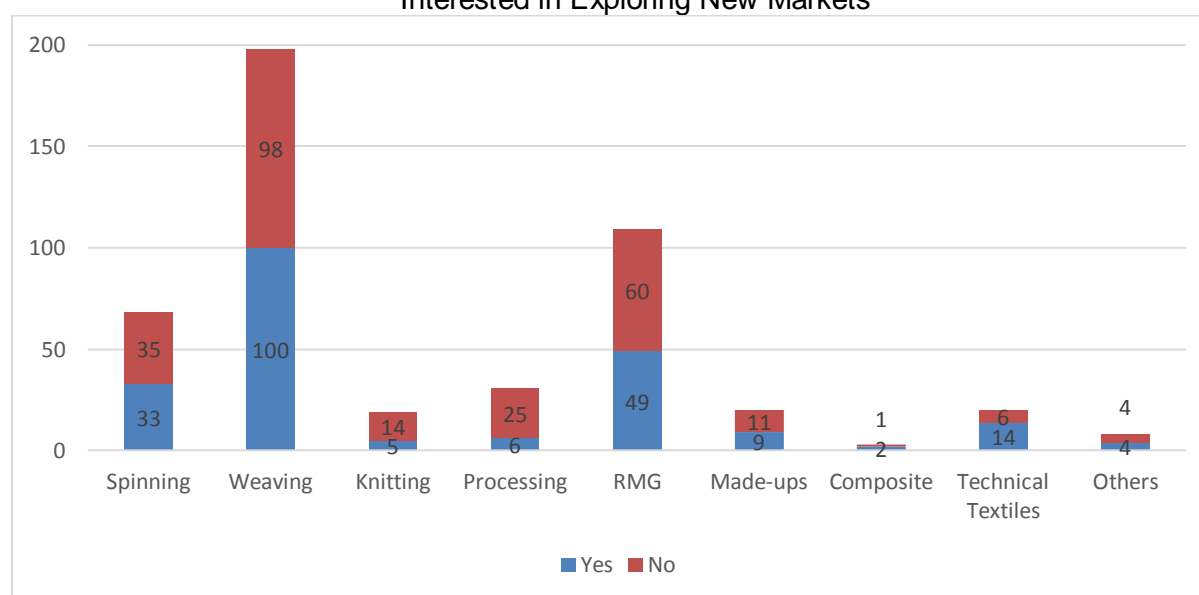
Table 7.15:
Tools Deployed for Promotional Activities

Segment	Branding	Advertising	Buying Agent	Others	Total
Spinning	12	9	56	10	87
Weaving	108	15	79	30	232
Knitting	8	5	14	1	28
Processing	1	1	23	11	36
RMG	9	15	54	7	85
Made-ups	2	0	9	1	12
Composite	1	1	3	0	5
Technical Textiles	11	11	7	1	30
Non-woven	1	1	0	0	2

Segment	Branding	Advertising	Buying Agent	Others	Total
Handlooms	0	0	0	0	0
Others	2	1	4	2	9
Total	155	59	249	63	526

Weaving and spinning segment units were equally divided in terms of their interest in exploring new markets. In both segments, nearly half of the units suggested that they are not interested in exploring new markets. While the proportion of number units not interested in exploring new markets was much higher in RMG, processing, and knitting segment (Figure 7.19).

Figure 7.19:
Interested in Exploring New Markets



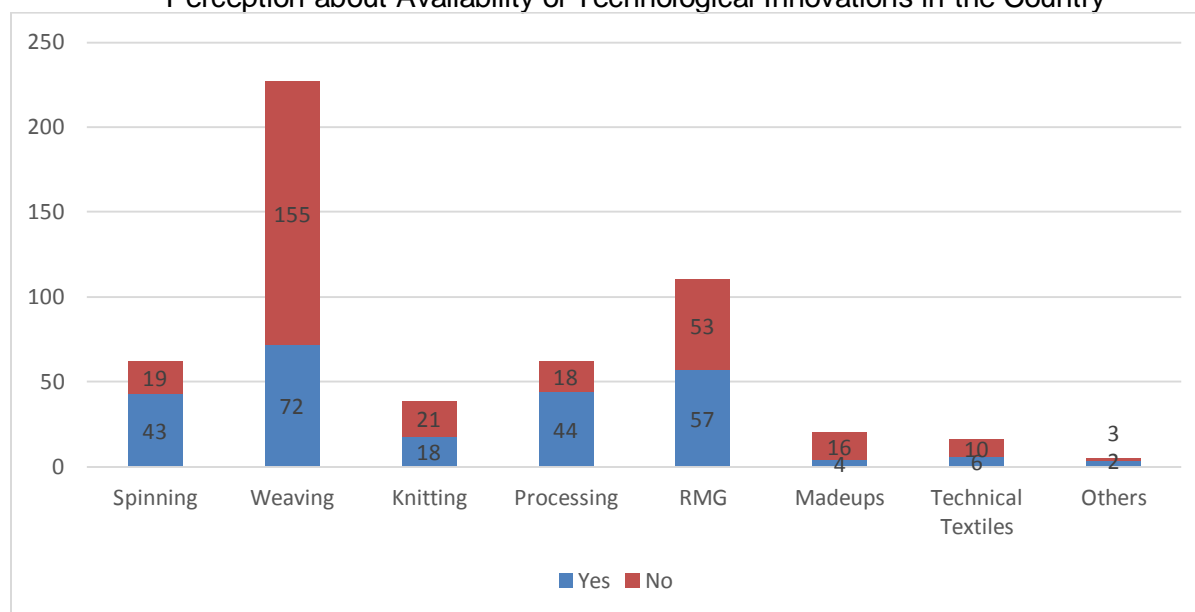
The most units expect support from export promotional councils (EPCs) in identifying new markets. Tariff and price were other two areas for support expected, though mainly by spinning units. Weaving units mostly focussed on the EPCs support in identifying new markets. Language and non-tariff barriers were least preferred areas in terms of expecting support for exports (Table 7.16).

It was observed in the survey that a majority of weaving units (155 units out of 227) believed that technological innovations are not available in the country. A similar perception was recorded by made-up and technical textiles units however, a majority of RMG, processing and spinning units had a relatively positive perception about the availability of technological innovations in the country (Figure 7.20).

Table 7.16:
Support Required for Exports

Segment	EPCs support in identifying new markets				Norms in the buying country	Non-tariff Barriers	Others
	Tariffs	Prices	Language				
Spinning	13	8	8	1	0	1	13
Weaving	100	1	5	0	0	0	100
Knitting	3	0	0	0	0	0	3
Processing	3	1	1	0	0	0	3
RMG	31	3	2	0	2	0	31
Made-ups	5	0	0	0	2	0	5
Composite	1	0	1	0	0	0	1
Technical Textiles	7	2	1	0	1	1	7
Non-woven	0	1	0	0	0	0	0
Others	1	1	1	0	0	0	1
Total	164	17	19	1	5	2	164

Figure 7.20:
Perception about Availability of Technological Innovations in the Country



In the survey, a good number of weaving units (164 unit out of 206 units) felt that capital was not available for adopting new technological innovations while on the other hand, RMG units (89 units out of 101 units) had positive perception about the availability of capital for adopting new technological innovations. The processing units were divided almost equally. Overall, spinning, knitting, made-ups and technical textile units generally had positive opinion (Figure 7.21). Most surveyed units did not perceive any impediment in attracting FDI as observed in the Figure 7.22.

Figure 7.21:
Perception About Availability of Capital for Adopting New Technological Innovations

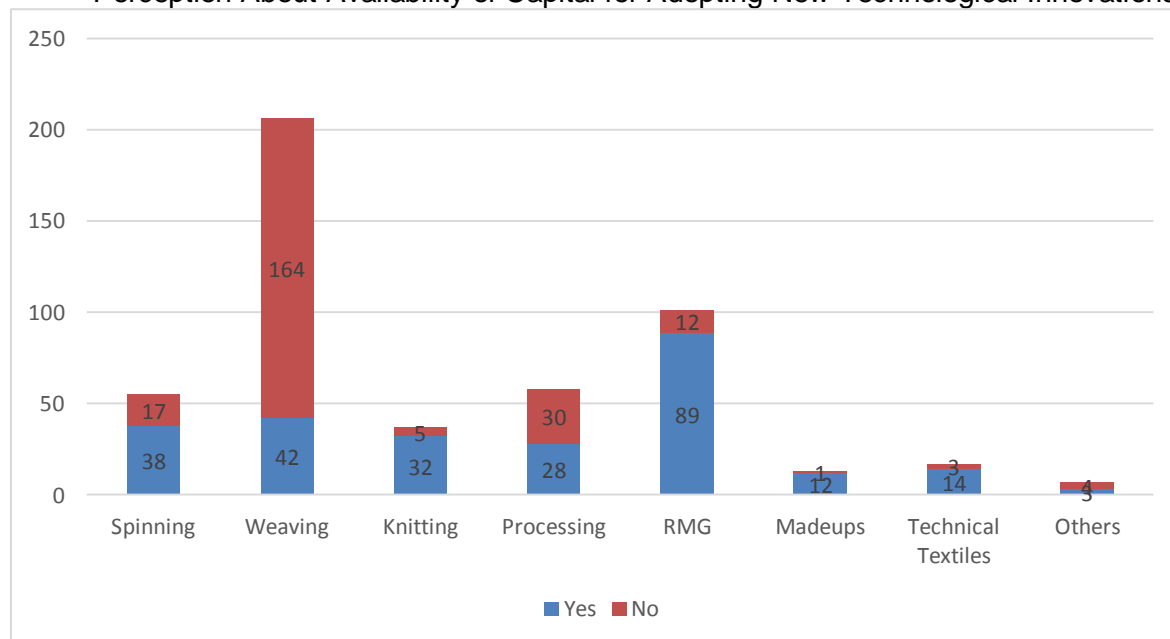
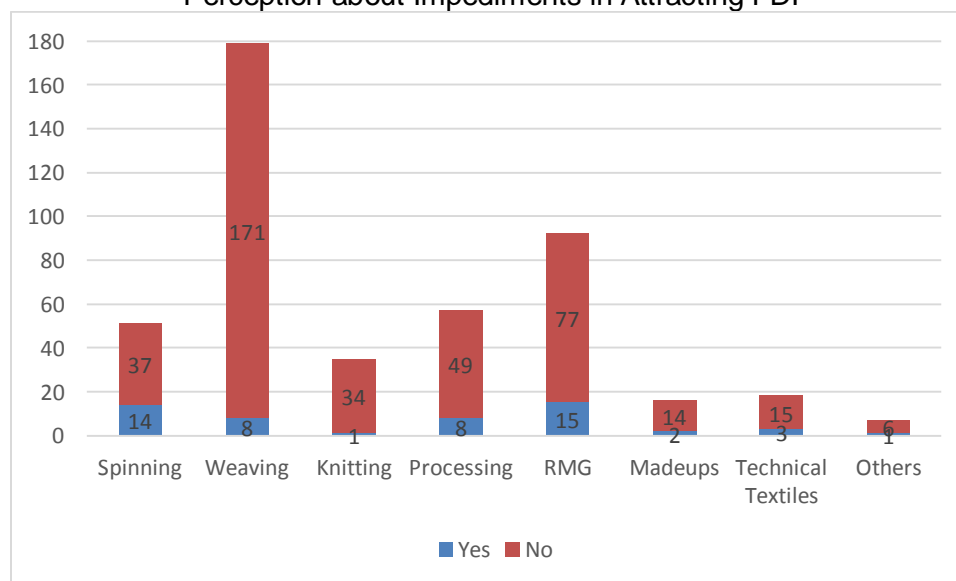


Figure 7.22:
Perception about Impediments in Attracting FDI

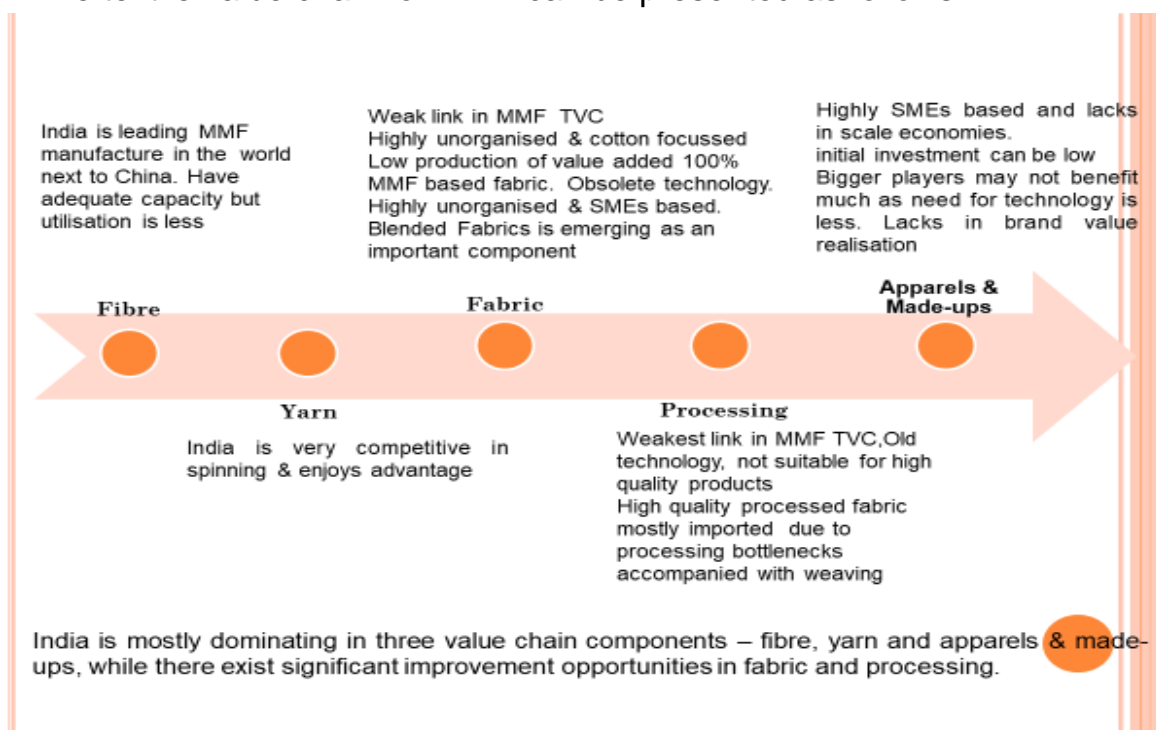


Chapter 8

Key Findings & Suggestive Measures

8.1 Background

- The global production and trade of textiles is primarily dominated by cotton and Man-Made Fibre (MMF) based Textiles Apparel (T&A) products. The manmade fibre-based T&A products have dominated the global trade contributing highest to the trade basket as compared to cotton-based products at a ratio of 55:45.
- India is one of the few countries in the world having presence in the complete Textile Value Chain (TVC) from fibre to a range of fabrics and apparels & made-ups. India offers entire range of cotton, polyester, viscose, nylon, acrylic and blended textile items to international buyers. However, natural fibre-based products have dominated the production and trade basket of the country vis-à-vis MMF textile with ratio of 65:35.
- The textile value chain for MMF can be presented as follows:



- MMF largely comprises polyester, nylon, acrylic, polyolefin and also include cellulosic fibre like viscose.

8.2 Global Fibre Production Scenario

- The global production of fibres was 98 million tons in 2017. The manmade fibre contributes 72.69 percent, cotton accounts for 26.09 percent and wool contributes about 1.22 percent. Of the MMF production, the share of synthetic fibres (such as polyester, polyamide, acrylic etc.) is 90.65 percent and cellulosic fibre is 9.35 percent. The MMF has grown with a CAGR of 4.94 percent from 2008 to 2017 and has further strengthened its position as world's leading fibre category.

Fibres	2008	2012	2017
Manmade	44203	60517	71600
Cotton	25448	23563	25700
Wool	1221	1166	1200
Total fibre	71521	85641	98500

Source: ASFI & CIRFS, EU & IVC, Germany

8.3 Indian Textile Sector Value Chain: Current Scenario and Challenges

8.3.1 Spinning:

Present Scenario

- Spinning segment is modernized & organised.
- India is well placed in producing both filament and spun yarn and is the 2nd largest player after China.
- India has capacity to produce 100% MMF and blended yarns.
- Produced 4.0 Mn tons filament yarn in 2018 with installed capacity of 6.5 Mn tons
- Produced 2.2 Mn tons MM staple fibres in 2018 with 3 Mn installed capacity. Produced 1.1 Mn ton blended yarn in 2018 with a share of 18% of total spun yarn.
- India has good strength in polyester as compared other MMF based yarns
- While Ludhiana and Surat have emerged as major centre for polyester and acrylic spinning, Silvassa, Vapi & Daman emerged for texturizing units.

- Coimbatore and adjacent area have emerged as viscose rayon and Bhiwandi for polyester/viscose blend.

Key Challenges

- Low capacity utilisation
- Lack of efficiency, productivity and high wastage: unavailability of skilled workforce like operator etc., high attrition rate
- High power cost & lack of modernisation by the SME units without auto doffling system

8.3.2 Weaving

Present Scenario

- Largest number of looms with 64% global installed capacity. About 5.0 lakhs units are operating in the country, employing about 22.56 lakh power-looms in 50 clusters.
- Only 1.05 lakhs are modern looms and hence 95% looms are old & outdated.
- Slow pace of technology up-gradation i.e., 67% of looms are shuttle looms & 33% shuttle-less looms.
- Highly unorganised dominated by SME based units and is the weakest link in entire value chain due to low productivity, defects in fabrics manufacturing, lack of scale economy (Average looms per unit is 5 to 20 only), etc.
- MMF fabrics products accounts 23% due to domination of cotton-based product. Blended fabrics manufacturing has grown in the last 10 years.

Key Challenges

- Technology and lack of scale economy are major factors influencing the segment
- Lack of quality of the product leading to high wastage & defective fabrics
- Less emphasis on quality & compliance to international standards
- Less focus of product and process development
- Low production efficiency and lack of investment in weaving segment

8.3.3 Knitting

Present Scenario

- India has a good cluster-based knitting industry with approx.50,000 units. Among others, Tirupur and Ludhiana have emerged as major clusters.
- Production of knitted fabrics was 7670Mn Sqrmtr in 2018 & has grown at a CAGR of 3.9%.
- Ludhiana with 12000 knitting machines is the largest MMF and blended fabrics manufacturing cluster. Tirupur has about 27000 knitting machines and Kolkata has nearly 2000 units. Also, there are several units in Maharashtra and Gujarat.
- There is increased focus on manufacturing of circular knitted fabrics

Key Challenges

- Approximately 30 percent of fabric manufacturers are in knitting sector
- Knitting sector is more oriented towards cotton fibre. Having enormous opportunity of MMF, reorientation of the manufacturing base for MMF and blend is important for realizing full potential.
- Highly decentralised and SMEs lacks scale economy
- Import of weft knitted fabrics has been growing at CAGR of 11.70%

8.3.4 Processing

Present Scenario

- Covers sizing, de-sizing, bleaching, dyeing & finishing and makes highest value addition to the fabrics.
- 90% processing units are in SMEs. Out of 5000 units, only 200 units are integrated with forward & backward value chains
- Processing units are cluster centric and doing job work, & are fragmented in nature
- Technology level is low in the industry. Also, quality & conformity to international standards is relatively low.
- Zero liquid discharge system as mandated in India creates constraints for SMEs.

- Almost all units are limited to basic processing activities. Processing for specialty manmade fabrics is almost missing/not developed as per the requirement of the industry, which adversely affects manufacturing of value-added products. It is the weakest link in the entire MMF textile value chain.
- Lack of skilled manpower is an important concern as emerged in the survey of these units.

Challenges

- Inadequate availability infrastructure, power and water
- Effluent treatment and of skilled manpower are key challenges
- Out dated technology leading to low quality & efficiency.
- Slow in adopting international quality norms, compliance system & changed fashion needs
- Lacks in developing single step process to make fabrics suitable for subsequent process

8.3.5 Apparel & Made-ups

Present Scenario

- Highest valued adding segment in the entire MMF textile value chain
- Highly unorganized and about 85% of units belongs to MSMEs
- Most of the units are working on job work basis and quality is a major issue
- Fragmented nature of industry is adversely affecting the value chain

Challenges

- Orientation towards manufacturing cotton garments is high leading to less than expected focus on MM Textiles
- Defect in manufacturing is quite high as compared to competing countries. Quality and compliance are important areas of concerns of this sector.
- Technology bottlenecks leading to constraints for efficiency
- Availability of skilled manpower is an important issue for manufacturers

8.3.6 Technical Textiles

Present Scenario

- Technical textile industry highly depends on MMF textiles for raw material & most of the raw materials required for technical textile like polyester, polypropylene, nylon, polyethylene, are available in India.
- India lack raw materials like carbon, aramids and depends on import for value addition.
- India has developed high tech weaving, coating and knitting technology for technical textile industry.
- Non-woven has been emerging a major segment in technical textile
- Highest value adding segment in entire MMF textile value chain
- India's domestic market is about \$16 billion and has exported \$2.0 billion and imported \$3.0 billion in 2018.

Challenges

- Lack of awareness about technical textile products & availability of indigenous technology
- Contribution & performance of the segments like medi-tech, geotextiles, agro-tech, non-woven, build-tech need to be accelerated.
- High competition from China & EU
- Bulk supply of China at aggressive price makes Indian suppliers less competitive.
- Import substitution potential of the industry is yet to be explored

8.4 Indian Fibre Production Scenario

- India is the second largest manufacturer of MMF in the world with China being the largest manufacturer in the world with 45.70 mn MT production followed by India with 5.48mn MT, USA with 1.99 mn MT, Taiwan with 1.90 mn MT and South Korea with 1.37mn MT.
- India has the peculiar advantage of having both forward and backward linkages to the MMF industry. India is a leading manufacturer of PTA (Purified Terapthalic Acid), MEG (Mono Ethylene Glycol), the basic raw-material used by MMF industry for production of fibre and filament

in the value chain with production of 6.53 mn MT & 1.71 mn MT in 2018 respectively.

- The production of these raw materials being derived from petroleum industry refining is mostly concentrated in the hands of few players like Reliance Industries Limited (RIL), Indian Oil Corporation, MCC PTA India Corporation Pvt. Ltd., SVC Super Chem Ltd., SM Dyechem Ltd., JBP industry, etc. The production and availability and costing of the basic raw material influences the entire MMF textile value chain.
- China with a production of 36.21mn MT of PTA and 6.79 mn MT of MEG is the leading player in the world whereas Saudi Arabia is a leading manufacturer of MEG with 6.90 mn MT production in 2018.
- In the forward linkage of MMF TVC, India's production of yarn, fabrics have grown from 2013-14 to 2017-18 as given below:

Sector	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR
Fibre	Mn Kg	1345	1348	1364	1319	1443	1.77
Yarn including blends	Mn Kg	2681	2691	2759	2803	2875	1.76
Fabric 100% Non-Cotton (incl blend, Khadi, Wool & Silk)	Mn. Sq. Mtr	28317	27065	25584	27561	29007	0.60

8.5 Global Trade Scenario

- The global trade in Textiles & Apparels (T&A) was \$814.56 billion in 2019 of which textiles contributed to \$341.36 billion and apparels \$473.20 billion. While the global trade in textiles has been increasing at a CAGR of 1.73%, the trade in apparels has experienced a growth of 3.51% during 2010 to 2019.
- The global export of textiles in 2019 was \$341.36 billion and have grown with a CAGR of 1.73 percent during the period 2010-2019. The trend indicates that the contribution of manmade textiles was 51.03 percent of the global trade in textiles. Hence, the significance of the manmade fibre textiles is increasing over the years as compared to natural fibre textiles.

- The contribution of MMF textiles in the world trade was \$174.21 billion and that of apparels \$174.57 billion and has been growing at a CAGR of 2.65% and 6.87%, respectively during 2010 to 2019.

Fibre	2010	2012	2014	2017	2018	2019	% share (2019)	% CAGR (2010-19)
Manmade	137.72	161.37	178.53	168.78	179.93	174.21	51.03	2.65
Cotton	82.47	93.30	90.55	82.33	86.67	80.83	23.68	-0.22
Others*	72.35	80.00	88.09	84.28	89.24	86.32	25.29	1.98
Total Textiles	292.55	334.67	357.17	335.38	355.84	341.36	100.00	1.73

Source: ITC Trademap, Textiles Committee Research
 Note: (i) *others include Silk, Wool, Jute, and some cotton, MM and other fibre products which have not been categorized at 6 digit HS
 (ii) The data does not include apparel exports.

- From Table 7.3, one can see that the contribution of manmade textiles is in the range of 47% to 51% of the global trade in textiles. Hence, the significance of the manmade fibre textiles is increasing over the years as compared to natural fibre textiles.

Fibre	2010	2012	2014	2017	2018	2019	Share % (2018)	CAGR % (2009-18)
Textiles	113.20	164.87	171.02	161.00	168.78	174.21	49.95	2.65
Apparels	85.23	118.72	136.56	145.23	152.60	174.57	50.05	6.87
Total	198.43	283.58	307.58	306.23	321.38	348.78	100.00	4.55

Source: ITC Trademap, Textiles Committee Research
 Note: *others include all types of blend, Silk, Wool, Jute, etc.

- China dominates with 39.31 percent share of total exports of MMF T&A. India's share is about 2.57 percent in total exports. Top 10 exporters contribute about 69 percent of total exports and the remaining 31 percent is contributed by rest of the world.
- In terms of 10 years growth rate from 2010 to 2019, Vietnam tops with 18.44 percent CAGR. In fact, Vietnam is the second largest exporter in the world. Indian exports have grown at a rate of 5.41 percent during the same time period which is higher than world growth rate (4.55 percent).

- India's exports of other fibre-based T&A have grown by 2.33 percent, the manmade based products export has grown by 5.41 percent during the last ten years.

Country	2010	2012	2014	2017	2018	2019	% share	CAGR
China	85.76	113.17	140.80	127.85	137.00	137.11	39.31	5.35
Vietnam	4.51	7.40	11.34	14.93	17.78	20.70	5.93	18.44
Germany	12.30	12.95	14.46	14.53	16.25	15.75	4.52	2.79
Italy	9.92	10.82	12.10	11.55	12.34	12.06	3.46	2.20
Turkey	7.28	9.36	10.89	10.26	11.14	11.41	3.27	5.12
USA	8.80	10.43	11.22	10.44	10.62	10.25	2.94	1.70
India	5.75	7.48	9.94	10.63	9.59	9.48	2.72	5.71
Spain	3.74	4.96	6.78	8.09	8.71	8.59	2.46	9.69
Korea	8.53	9.63	9.63	8.43	8.75	8.00	2.29	-0.71
Belgium	6.71	6.78	7.51	7.28	8.08	7.53	2.16	1.30
Top 10	153.12	192.73	234.30	223.36	239.74	240.36	68.91	5.14
R o World	80.59	90.57	100.62	98.02	107.29	108.42	31.09	3.35
Total	233.71	283.30	334.92	321.38	347.02	348.78	100.00	4.55

Source: ITC Trademap
Note: (i) % share is calculated for year 2019; (ii) Data includes apparels which are made of manmade fibre.

- It is evident from the CAGR that the manmade fibre-based T&A products will continue to gain popularity all over the world especially in view of growing demand, superior performance, wide applications, lower product cost, easier and cheaper maintenance and endless design possibilities for lifestyle and applications as compared to T&A products made of cotton and other natural fibres.

8.6 India's Trade Scenario

- India's share in exports of T&A is about 4.36 percent in the global trade of T&A. The MMF Textiles contributes about 30.50% to the export basket as compared to 45.35% of cotton-based products. However, the contribution of MMF sector has been growing steadily during last 10 years.

Fibre	2010	2012	2014	2017	2018	2019	% share (2019)	% CAGR (2010-19)
Cotton	8.51	10.76	11.16	9.50	10.81	8.73	45.35	0.28
Manmade	4.53	5.26	6.43	5.83	5.98	5.87	30.50	2.91
Others	3.48	3.76	4.47	4.56	4.65	4.65	24.15	3.26
Total	16.52	19.79	22.06	19.88	21.45	19.24	100.00	1.71

Source: ITC Trademap database, Textiles Committee Research
 Note: (i)*others include Silk, Wool, Jute & some cotton, MM & other fibre products which have not been categorized at 6 digit HS

- Although China is the major trading country in the global trade of MMF T&A, there is a high potential for India to grow in this important segment in future. Analysis at the 6-digit HS level indicates that India's export basket in the MMF textiles is yet to be fully diversified. India has also been losing its competitiveness at product levels. The countries like Bangladesh, Vietnam have increased their competitiveness in various products.
- Also, our analysis at 6-digit HS level shows that India is enjoying comparative advantage in 74 products (Annexure - 6) in the global market but has lost its comparative advantage in the following 16 products during last five years:

Code	Product description
540741	Woven fabrics of filaments of nylon or other polyamides
540751	Woven fabrics of textured polyester filaments
540761	Woven fabrics of non-textured polyester filaments
551229	Woven fabrics of acrylic or modacrylic staple fibres
540752	Woven fabrics of textured polyester filaments
550510	Waste of synthetic staple fibres, incl. noils, yarn waste and garnetted stock
550130	Filament tow, acrylic or modacrylic
550520	Waste of artificial staple fibres, incl. noils, yarn waste and garnetted stock
551411	Plain woven fabrics of polyester staple fibres
580134	Uncut warp pile fabrics épingle", of man-made fibres
590310	Textile fabrics impregnated/coated/covered/laminated with poly"vinyl chloride"
610413	Women's or girls' suits of synthetic fibres, knitted or crocheted
540600	Man-made filament yarn, put up for retail sale

Code	Product description
550991	Yarn of synthetic staple fibres
550912	Multiple "folded" or cabled yarn of nylon or other polyamide staple fibres
551090	Yarn of artificial staple fibres

- At the same time, India has always been on comparative disadvantageous position in 180 products at 6-digit HS levels in the global market. The factors contributing to this comparative disadvantage are lack in cost and quality competitiveness vis-à-vis international players.
- The preferential tariff regime offered to competing countries by the major export destinations and growing non-tariff barriers may be the key reasons for loss in the competitiveness for India's export interest. Bangladesh enjoys zero tariff in EU due to its LDCs status, Pakistan for GSP Plus scheme and Vietnam due to its free trade agreement with EU. On the other hand, China has always enjoyed comparative advantage as the manufacturers have enjoyed scale economies. The emergence of countries like Germany in MMF textiles has been putting pressure on India's export to destinations like EU.

8.7 India's Domestic Demand Scenario

- On domestic market, the contribution of manmade & blended textiles in overall demand is 56.17 percent and have grown at a CAGR of 4.78% from 2014 to 2018. The contribution of blended textiles has played a major role in the overall share of domestic demand of textiles.
- The major concern for the domestic market is the increasing import of MMF textiles in the post -GST period. The growing import of apparels, fabrics, home textiles and technical textiles is a matter of concern for the domestic industry. The growth in import of MMF textiles is shown in Table 7.8.

	July 16 – June 17	July 17 – June 18	July 18 – June 19	% Change (July 16/June 17 to July 17/June18)	% Change (July 16/June 17 to July 18/June 19)
Fibre	364	349	444	-4%	22%
Filament	531	610	714	15%	34%
Yarn	141	242	258	72%	83%
Fabric	1351	1576	1540	17%	14%
Apparel	195	263	360	35%	84%
Made-ups	142	164	178	15%	25%
Others	351	388	417	11%	19%
Total	3076	3592	3909	17%	27%

Data Source: DGCI&S

8.8 Way Forward

- If India wants to enhance its position in the global market and achieve desirable export growth of \$300 billion by 2025 as envisioned in the vision document, it is necessary to increase the contribution of MMF textile industry in the overall production and export basket of T&A.
- It is estimated that India needs around 25 Mn MT of fibres by 2025 to achieve the target. The cotton production would be around 7 Mn MT. Hence, MMF would have to fill the gap of about 18 Mn MT to achieve the target. Hence, the focus on MMF textile industry along with retaining India's position on other fibre-based T&A is much needed to fill the gap.
- Based on the feedback received from the stakeholders and preliminary findings of the study, the recommendations of the Textiles Committee are as follows:

8.8.1 Suggestions

- (i) Fibre Neutral Policy: In the post GST scenario, the man-made textile industry has higher levies and taxes as compared to the other fibre-based textile manufacturing. While the cotton textiles value chain attracts 5% GST in the different segments of the production cycle, the GST rate for the manmade textile value chain is given in Table 8.9:

S. No.	Product	GST (%)
1	Polyester fibre	18
2	Polyester Yarn	12
3	Polyester Fabric	5
4	Polyester Garment/Made-Ups Without brand name	5 (sale value < Rs.1000 /pc) 12 (sale value > Rs.1000 /pc)
5	Polyester Garment/Made-Ups With brand name	5 (sale value < Rs.1000 /pc) 12 (sale value > Rs.1000 /pc)
6	Blended textile products (Yarn/fabric/garments/madeups)	Cotton predominant -5 Polyester predominant - 12
7	Textile Machinery	18
8	Job Work	5

It may be further noted that the GST rate for Purified Terephthalic Acid (PTA), Paraxylene (PX) and Monoethylene Glycol (MEG) is at 18%. The higher rate of tax for raw material as against the lower rate of tax for final products has led to inverted duty structure and affects the entire manmade fibre textile industry value chain of the country. The differential GST for branded and without brand products for MMF textiles, garment and made-ups artificially prevents brand creation and thereby impacting quality.

Hence, there is a need to review and correct the differentiated GST rates applied on the various segments of MMF industry in line with same rates (or slightly higher rates) applicable to other natural fibre value chain like cotton. Uniform duty structures would also facilitate the growth of blended textiles, which is going to be the major growth driver in future.

- (ii) With regards to fabric production, during last five years cotton fabric has recorded a CAGR of 2.9% and blended fabrics a CAGR of 3.13%, while 100% non-cotton fabrics recorded a negative growth of (-) 2.2%. Such deceleration has further complicated the matter due to abnormally high growth in imported synthetic fabrics at a CAGR of 22%. The imports have further increased in 2018-19. The weaving industry being one of the key segments in the manmade fabric textile industries, such growth in import has potential to adversely affect the weaving and knitting industries.

Year	Domestic Production			Import	
	Cotton	Blended	MMF	MMF	% on Domestic Production
2014-15	36959	10449	16924	537.31	3.2
2015-16	38440	10809	15335	666.97	4.3
2016-17	38837	11080	13563	710.95	5.2
2017-18	40057	11408	15380	737.83	4.8
2018-19	41973	11859	16214	882.78	5.4
CAGR %	3.23	3.22	-1.07	13.22	

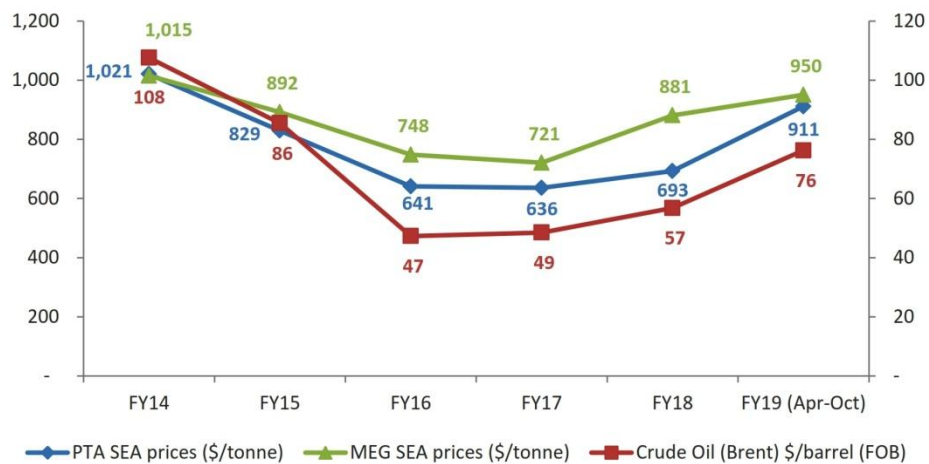
Source: ASFI

Effort should be made to increase the customs duty on imported products to safeguard the domestic industry. At the same time, any import of fabrics should be linked to export of value-added products through policy mechanism to ensure optimal growth of export.

- (iii) The MMF textile industry depends on the petrochemical industry for the raw material. The price fluctuations in these derivatives of the petrochemical industry are subject to volatility in crude oil prices. Any increase in price adversely affects the entire value chain. Analysis of price trends indicate that the prices remains largely stable in 2017 and declined marginally by about 1% on a year to year basis. However, with the rise in crude oil prices in 2018, the PTA and MEG registered an increase of over 9 and 22% respectively. Prices further increased in 2019 by about 40% for PTA and 15% for MEG leading to increased cost of the raw material for the entire value chain.

Prices

Fig 8.1: Price Trends – PTA, MEG & Crude Oil



Source: CMIE

Therefore, the domestic prices of raw material should be closely and competitively linked to the international prices and changes in the international crude prices (example, falling prices) should be immediately reflected in the domestic market process for such raw material without much time lag.

- (iv) Low Technology Level: Though Technology Upgradation Fund Scheme (TUFS) has helped the industry upgrade the technology and increase the manufacturing capacity with modern technology, there is a huge gap in the technology level when compared to most of the competing nations especially China, Vietnam, Korea, Taiwan, etc. Textile processing and weaving are the weakest link in the Indian MMF value chain that needs a special and focused scheme.

The cluster approach for upgrading technology particularly in weaving and processing segments should be followed for clusters like Surat, Bhiwandi, Ichalkaranji, Ludhiana, Bhilwara, etc. To leverage on the needs for scales, there is scope for some states to promote weaving and processing by earmarking huge zones closer to the production and availability of raw materials.

- (v) Lack of Scale in Operation: The manmade fibre textile industry is unorganised particularly in the weaving, processing, apparels and

made-up segments. Most of the industries in this segment focus only on job work. The technology levels and system prevailing in these segments are low as compared to those in competing countries. It also adversely affects the cost competitiveness of the industry and puts them at a disadvantageous position as compared to competing countries like China and South Korea, etc.

Facilitating scaling up of the manufacturing base in the manmade segment which is more capital intensive than the other fibre-based industries through policy initiatives like availability of easy credit, establishing raw material banks in the major clusters, etc. is the need of the hour for realising the economies of scale.

- (vi) Attracting Foreign Direct Investment (FDI): MM textile value chain needs investment of about \$138.31 billion in the next 11 years. FDI is limited due to SMEs nature of TVC. Country's like Vietnam have been successful in attracting FDI from South Korea, China and Japan to establish sourcing hub in the country. Such mechanism has helped Vietnam export finished goods to these countries as well as to the world markets. Domestic government induced investment should be increased.

India should aggressively try to attract large investments and state of art technology from countries like Taiwan, Korea, and China by establishing sourcing hubs, special economic zones for the T&A companies of these countries in clusters like Surat, Bhiwandi, Bhilwara, Ludhiana or altogether Greenfield areas provided by State Govt's for production of conventional products. India should leverage the plan of many important players to diversify their investments from China to third countries through focussed interventions at bilateral levels. India should also try to leverage FDI from countries like Japan for manufacturing of high end MMF textile-based products including technical textiles.

- (vii) Integrating with Global Supply Chain: Integration of manmade fibre textile industry with global supply chain especially through apparel exporting countries like Bangladesh, Vietnam, Sri Lanka would be helpful for further accelerating the growth. Most of these countries are

in the neighbourhood of India and are enjoying preferential market access in major export destinations like USA and EU. The integration of apparel supply chain with these countries can help in enhancing export in fabrics and other high valued products to these countries. Products like apparel and made-ups to the export destinations through preferential tariffs. This could act like China's B&R initiatives encourage investment by Chinese companies in selective markets. Hence, India should work on:

- **Allowing investment from India to countries like Bangladesh, Sri-Lanka, Vietnam to export to major export destinations, who are enjoying preferential tariff. It will also help in the better integration of the Regional Value Chain.**
- **Developing a mechanism on Non-Tariff Measures (NTMs) for restricting the cheap export of end use products to Indian market.**

(viii) Technical Textiles: The global Technical Textiles market is expected to reach \$335 billion by 2025 and it has been growing at the rate of 4.5% CAGR. The major destinations for Technical Textiles are USA (23%), EU (22%), China (13%) and Japan (7%). India's Technical Textiles are growing at a rate of about 8% during 2008 to 2015 and it remains as one of the fastest growing sectors. India is also emerging as one of the major consumers of Technical Textiles. It is important to note that India's export of Technical Textiles was about \$1.93 billion in 2018 and has grown at a CAGR of 2.98% in the last five years (2014 – 2018). At the same time, the India's import of Technical Textiles was \$2.24 billion and has grown with a CAGR of 6.85% during 2014-18.

The major sub-segments like pack-tech, home-tech, mobile-tech, agro-tech, sports-tech of technical textiles have high potential of growth for India. Specific policy mechanism for supporting the industry and enhancing the demand in the domestic market will help the growth of manmade textile industry as most of the segments of the Technical Textiles depend on manmade fibre.

(ix) Promoting Sustainable MMF Textile Industry: Most of the big brands having specialisation in manmade fibre textiles/technical textiles focus on sustainable manmade fibre industries. PUMA, the German

Sportswear brand has set a new target to use 90 percent polyester in its product to come from sustainable source. The Paradise Textiles, Textile Arm of Alpine Creations, a leader in Textile and Apparel Biodegradable manufacturing has announced biofused a new range of manmade fibre that exhibit enhanced degradability at their end of life. Similarly, the Marubeni Corporation has decided for sourcing the products manufactured through sustainable recycled polyester rayon etc. to export to countries like US and EU.

The sustainable manmade fibre textile products have a high potential in future and hence should be promoted with appropriate branding.

- (x) Increasing Product Basket for Exports: Global share of MMF to cotton is in ratio of 55:45, whereas trend in India is 35:65. There is need to match contribution of MMF to the global level. Out of 344 MMF products (HS-6 digit) exported across globe, only 89 products (more than \$15 Mn exports) contribute more than 92% to India's export basket. Export basket needs to be diversified. Out of 89 top exported MM textile products (more than \$1 billion exports) in globe, India's share is only 2.47% in 2019. India's share in MM Textile exports is 2.72% with small product basket. India's product basket needs to be diversified. India has a potential to increase export of MMF textiles to the tune of \$6.53 billion.

The MMF product wise potential destinations need to be explored through specific policy initiatives to boost export.

- (xi) Strengthening the Comparative Advantage for India's exports: India enjoys comparative advantage on 53 products & gained advantage in 21 products in 2010-19. India also lost comparative advantage on 16 products and is in disadvantageous position in 180 products. Loss of advantage has been reflected in export performance in form of declined export.

Cost benchmarking with China, Vietnam, Indonesia and Bangladesh indicates that cost of raw material and interest to capital is adversely affecting the competitiveness of MMF textile exports.

- (xii) Increasing Intensity of Trade with existing & potential Markets: India has high trade intensity with USA and UK in fabric, apparels, Made ups (including carpets) and Technical Textiles (including non-woven). The trade intensity is high in Technical textiles and other products with France; Technical textiles, made-ups and other products with Italy; Technical textiles, apparel and other products with Spain; and Technical textiles and made-ups with Germany. India's TII with top 10 export partners viz, Vietnam, China and Japan is relatively less. Hence bilateral trade flow is smaller than expected. India should try to tap markets like Japan, Vietnam, Bangladesh & China through Regional Value Chain (RVC) integration.

Product and destination specific strategies needs to be evolved for enhancing the trade intensity in these nations.

- (xiii) Increased Involvement with China to Enhance Export Growth: India has highest competition with Spain in UK & France market. Turkey has also emerged as major competitor to India in EU. China is a major competitor in USA and Vietnam. Having minimal competition with China in MM Textiles, India should try to tap China as (i) Market for MM Textile products, (ii) Collaboration on technology up-gradation & product diversification and (iii) Attracting investment.

Regional value chain integration with BIMSTEC + Vietnam would be helpful for MM TVC to tap these emerging markets.

- (xiv) Strengthening Cost Competitiveness: Cost benchmarking with countries like China, Indonesia, Vietnam indicates that India has been losing cost competitiveness due to (i) Higher cost of raw material affects MMF TVC, (ii) Higher cost to capital as compared to China, (iii) Higher power and fuel cost and (iv) Low average working hours leading to less productivity.

Efforts should be made to bring cost of above factors at par with peer countries. Availability of more working capital for MSMEs. Policy intervention to diversify India's product basket is required.

- (xv) Reducing Lead Time for Export: India enjoys proximity to major garment exporting market i.e. Bangladesh and Sri Lanka. Vietnam is also not far off. Vietnam is importing about \$27 billion of T&A which are mostly fabrics. Similarly, more than 85% of the import of fabrics by Bangladesh is originating from China. Hence, a dedicated special freight corridor with these countries with focus on export of fabrics for their apparel industries will be helpful to India to increase its exports.

The dedicated freight corridor among the major sourcing countries like Bangladesh, Vietnam and Sri Lanka would help to reduce lead time in exporting the fabrics and other intermediary products to these countries. The manmade fibre textile industry particularly the weaving and knitting industry would be largest beneficiary of such measures.

- (xvi) Promoting Collaboration/Joint Venture with International Players in Manufacturing Textile Machinery: The MMF textile industry being capital intensive attracts import of most of the textile manufacturing machinery from other countries. It increases the cost of production and also undermines the growth of Indian textile manufacturing machinery industry.

India should invite major players like Japanese Consortium of TMT (Teijin, Murata and Toray), the largest manmade textile machine manufacturer for collaboration/ joint venture with Indian industry through policy initiatives. Similar collaboration/ joint venture for weaving, processing sector should be looked into from countries like Germany & Italy as well.

- (xvii) Rationalising the Pricing Mechanism at Fibre Stage: The government has imposed anti-dumping duty on basic raw materials used by manmade fibre/filament industry as follow:
- PTA: Rs.2 to Rs.9 per Kg.
 - VSF: Rs.7 to Rs.36 per Kg.

Although India has huge and efficient capacity in the manufacturing of polyester staple and viscose staple fibre, the anti-dumping duties accompanied with custom duty increases the price of these basic raw materials. The presence of

very few manufacturers also allows them to apply a price sometimes higher than the import parity price as given below:

Landed Cost of Imports		Domestic Price	
Polyester Staple Fibre			
CIF (\$)	0.95	Domestic Price (Rs.)	89.50
R.O.E. (Rs.)	69.35	Discounts (Rs.)	10.50
CIF (Rs.)	65.38		
BCD 5% (Rs.)	3.30		
Cess (Rs.)	0.33		
Custom Clearing & Others (Rs.)	4.00		
Landed Cost (Rs.)	73.51		
Landed Cost – Rounded off (Rs.)	73.50	Net Domestic Price (Rs.)	79.00
Viscose Staple Fibre			
CIF (\$)	1.55	Export Yarn	124.77
R.O.E. (Rs.)	69.35		
CIF (Rs.)	107.50		
BCD 5% (Rs.)	5.37		
Cess (Rs.)	0.54		
Anti-Dumping Duty @ US\$0.19/Kg	13.17		
Custom Clearing & Others (Rs.)	4.00		
Landed Cost (Rs.)	85.81		
Landed Cost – Rounded off (Rs.)	131.00	For Domestic Yarn	149.54
Source: CITI			

There should be a mechanism to rationalise the domestic prices of raw material for manmade fibre. The price should be competitive and should have less mark-up compared to international prices would be helpful to the entire manmade fibre textile industry value chain. This would increase cost competitiveness of the entire MMF value chain.

- (xviii) Since the plant and machinery plays a crucial role for manufacturing of the MMF textile industry. India has limited presence in the manufacturing of the textile machinery and hence depends on imported one.

There is a need to reduce the import duty on the machineries used in the production of MMF textiles, which are not manufactured in India.

- (xix) Technological Bottleneck across TVC: Industry attracted investment of \$68.5 billion under TUFs during 1999 to 2019 & additional \$6.85 billion as private investment. FDI inflow in the sector was to the tune of \$3.19 billion during 2001 to 2019. MMF value chain is experiencing obsolete technology level i.e., (i) Spinning –Relatively modern as compared to other; (ii) Weaving – 95% looms are old and outdated leading to low productivity & high defects and mostly SMEs based. (iii) Knitting- Mostly SMEs based and lack of modern technology; more focus on cotton-based products; productivity is relatively less. (iv) Processing –weakest link and more than 90% units are using old and outdated technology. (v) Apparels and Made-ups – SME based and need urgent technological upgradation and (vi) Technical Textiles – Lack of indigenous technology leading to high cost of procurement.

Technology upgradation should be given highest priority for MMF textile industry with specific focus on weaving, processing, garmenting and made ups. Clusters like Surat, Bhiwandi, Ichalkaranji, Ludhiana & Bhilwara should be given highest priority as they are uniquely placed & have presence in more than 1 segment of MMF TVC.

8.8.2 Key Recommendations:

Short Term:

- Harmonisation of GST rates across the fibres. It will also address the issue of Inverted Duty Structure being created due to higher tax at raw material level.
- India should try to explore possibilities to link to potential market & products to increase export by \$6.53 billion as identified in this study.
- Raw material pricing is affecting the entire value chain of MMF Textiles. Adequate pricing mechanism with higher capacity utilisation through policy intervention should be explored.
- Domestic price of raw-material should be integrated with international price. Benefits of decrease in price could be transferred to different actors in TVC.
- To bring cost competitiveness Refund of state & Central Taxes and Levies (RoSCTL) may be extended to MMF value chain.
- Ensuring quality of product & complying to international standards to be addressed through dedicated policy intervention.

- Lowering high interest on capital with higher working capital will help in restoring competitiveness.

Medium Term:

- Technology upgradation with focus on processing, weaving, knitting & garmenting
- Regional value chain integration with BIMSTEC + Vietnam would be helpful for MMF textile TVC to tap these emerging market
- Focussed product and market initiatives may help the exporters
- Emphasis on trade promotion activities in potential market
- Emphasis on technical textile with technology development & acquiring new technologies
- Skill development initiatives for MMF textile sector with focus on technical textiles, apparel & made-ups, processing, weaving (new technology) will help the industry to enhance productivity.
- FDI in MMF textile sector/ promotion of Joint Venture through policy support
- Technical Textile Export Promotion Cell/ council would be helpful to boost export in future
- Strengthening Market Intelligence in Textiles (MIT) of TC & Revival of ERMIU for quick access of real time data for policy initiatives will help Ministry of Textiles and Industry to help in drawing appropriate strategy.

Long Term:

- Strengthening textile machinery manufacturing in India
- Promotion of sustainable fibre-based textiles
- Augmenting scale economy by promoting mega MMF textile park at Surat, Ludhiana, Bhiwandi/ Ichalkaranji and Paradip
- Policy intervention to diversify India's product basket
- Institutional mechanism to address the issue of Non-Tariff Barriers (NTBs) in MMF textile export
- Promotion of Industry 4.0 and IoT as suggested by industry.
- Collective branding of Indian cotton textiles to provide unique distinction from MMF and blends.

Annexures

Annexure A

List of Units covered under the study

S. No	Name of the Unit	Address	Cluster/ City	State
1.	Bala Balajee Textiles Limited	Old Town Tanuku	Tanuku	Andhra Pradesh
2.	Polyfab	2-A, Govt Industrial Estate, Masat Silvassa	Silvassa	Dadra Nagar Haveli
3.	Balkrishna Textiles Pvt. Ltd.	Narol Cross Road And Narol-Sarkhej Road Ahmedabad	Ahmedabad	Gujarat
4.	Bonus Plastics Pvt. Ltd.	42, Ashwamegh Estate, B/H Gati Courier, Sarkhej-Bavla Highway, Changodhar-382213	Ahmedabad	Gujarat
5.	Dfr Technical Textiles	Plot 3079, Phase - 3 Gidc Chhatral 382729 Gujarat	Ahmedabad	Gujarat
6.	M/S. Admire Fibertex (India) Pvc. Ltd.	Block No. 185 & 186, At Darmali, Ider- Himmatnagar Highway, Tal Idar, Dist: Sabarkantha - 383110	Ahmedabad	Gujarat
7.	M/S. Anjani Synthetics Limited	140. Saijpur Gopalpur Pirana Road Piplej Ahmedabad	Ahmedabad	Gujarat
8.	M/S. Arvind Og Nonwovens Pvt. Ltd.	Block No. 315/P Plot No. 92 Po Simej , Dist: Ahmedabad	Ahmedabad	Gujarat
9.	M/S. Ashutosh Fibre Pvt. Ltd.	Station Road, Petlad - 388 450 Anand	Ahmedabad	Gujarat
10.	M/S. B.M.P. Textiles Mills Pvt. Ltd.	National Highway No. 8 Narol Char Rasta, Narol, Ahmedabad 382 405	Ahmedabad	Gujarat
11.	M/S. Fairdeal Multifilament Pvt. Ltd.	Plot No. 49, Paiki, Near Gopinath Industrial Park, Village. Chacharwadi, Sharkhej -Bavalva Road Dist: Ahmedababd - 382213	Ahmedabad	Gujarat
12.	M/S. Geo Source	306, 307,314 & 315 Gidc Dholka - Nadrakl Road. Dist: Ahmedabad	Ahmedabad	Gujarat
13.	M/S. Giridhar Techfab Pvt. Ltd.	Plot No. 166 Opp. Balotra Carrying Co. Piplej - Pirana Road, Piplej, Ahmedabad - 382 405.	Ahmedabad	Gujarat
14.	M/S. Hemlon Synthetics Pvt. Ltd.	6, Panchratna Industrial Estate Sarkhej Bavla Highway, Changodar, Ahmedabad	Ahmedabad	Gujarat
15.	M/S. Karnavati Polyester Pvt. Ltd.	B/H. Cozy Hotel, Ranipur Patia, Narol- Sarkhej Road, Narol Ahmedabad 382 405	Ahmedabad	Gujarat
16.	M/S. Patel Poly Packers	Plot No. 2 Sunpro Industrial Estate Block Survey No. 612, Ajaji Ni Muvadi Ahmedabad-Indore Highway Nr, Amba Hotel 4 Way At. Post Vadad, Chandiyal Choukdi Tal Daskrol Dist: Ahmedabad 382433	Ahmedabad	Gujarat
17.	M/S. Shri Jagdamba Polymers Ltd.	Plot No. 101, Gidc Estate Dholka 382225 Ahmedabad	Ahmedabad	Gujarat
18.	M/S. Sintex Industries Limited (Yarn Division)	Surey No. 196-209 Village Lunsapur Taluka Jfrabad Dist: Amreli. Pin- 365 540	Ahmedabad	Gujarat

S. No	Name of the Unit	Address	Cluster/ City	State
19.	M/S. Sunpro Barrier Pack	Plot No.1 Sunpro Industrial Estate Block Survey No. 612, Ajaji Ni Muvadi Ahmedabad-Indore Highway Nr, Amba Hotel 4 Way At. Post Vadad, Chandiyal Choukdi Tal Daskrol Dist: Ahmedabad 382433	Ahmedabad	Gujarat
20.	Sidwin Fabrics Pvt Ltd	Sr No. 898, Dhundhar, Near Gambhoi, Himatnagar	Ahmedabad	Gujarat
21.	Arvind Pd Composites Pvt. Ltd.	Village : Moti Bhoyan Taluka Kalol District : Gandhinagar - 382721	Gandhinagar	Gujarat
22.	M/S. Arvind Pd Composites Pvt. Ltd.	Village Moti Bhoyan Taluka Kalol Dist: Gandhinagar - 382721	Gandhinagar	Gujarat
23.	M/S. Shri Ambika Polymer Pvt. Ltd.	Block No. 503 Opp. Bharat Gas Plant Kheda, Dist: Gandhinagar	Gandhinagar	Gujarat
24.	M/S. Texel Industries Limited.	Block No. 2106, Santej- Khatraj Road, Nr. Shah Alloys, Gandhinagar Gujarat	Gandhinagar	Gujarat
25.	M/S. Sidwin Fabric Pvt. Ltd.	Sr. No. 898, Dhundhar, Near Gambhoi Himatnagar	Himmatnagar	Gujarat
26.	Alaka Textiles	Plot No-15, Vebeunt, Ved Road,	Surat	Gujarat
27.	Ameen Silk Mills Pvt Ltd	Plot No-83 -84-85, Gidc Estate, Pandesara, Surat-394271	Surat	Gujarat
28.	Anchal Fashion	20/B, Fatak Da Wadi, Ved Road, Surat	Surat	Gujarat
29.	Astha Reyon	Plot No. 78, Srisatya Krupa Society, Fulpada, G.I.D.C, Surat	Surat	Gujarat
30.	B.P Textiles	Plot No. 59, Anjani Industrial Estate, Gothan, Surat	Surat	Gujarat
31.	Bhayani Textiles	Plot No. 57, Anjani Industrial Estate, 4/B, Gothargam, Sayan Road, Surat	Surat	Gujarat
32.	Brahamani Textiles	P-313, Anjani 1, Sayan Road	Surat	Gujarat
33.	C N Textiles	32, Nilakantha Societies , Ved Road,	Surat	Gujarat
34.	Cheni Creation	Plot No. 10, Giridhar Estate-2, Udhana Mugdulla Pata Road, Udhana, Near Navjeevan Circle, Surat	Surat	Gujarat
35.	Chinco Silk Mills	G.I.D.Csachin, Surat	Surat	Gujarat
36.	Choksi Texlen P Ltd	Block No 107-108, Survey No 88-89 & 50, Plot No 13-26, Vill Tatathaiya, Palsana	Surat	Gujarat
37.	Darshan Processors	216/P, Darshan Baug, Opposite Adarsh Chemicals Udhna, Surat-394210	Surat	Gujarat
38.	Dear Tex	Plot No 41-42, Anjani Industrial Estate, Sangam Road	Surat	Gujarat
39.	Deepak Textiles	40, Prabhu Darshan Industrial Estate, Ved Road,	Surat	Gujarat
40.	Desai Textiles	Plot No. 437/1, Road No. 4, G.I.D.C, Sachin, Surat	Surat	Gujarat

S. No	Name of the Unit	Address	Cluster/ City	State
41.	Dev Tex Feb	14,Nilkanth Industrial Society-1, Behind Sanghvi Exports, Ved Road, Surat-395004, Gujarat	Surat	Gujarat
42.	Devi Darsan Processors Pvt. Ltd.	Block No:A/11, Plot No. 15 To 18, M.G Road No. 5, Udhna Udyognagar, Surat-394210	Surat	Gujarat
43.	Devi Processors Pvt Ltd	Plot No-804/1,Road No-2,Gidc Sachin,	Surat	Gujarat
44.	Dimpal Textiles	A-32,Gurukripa Industrial Area,	Surat	Gujarat
45.	Dky Stich	502 , Utc Building , Road No-4,	Surat	Gujarat
46.	Eastern Enerprise	Plot No-4803 , Baleshwar ,Palsane, Surat-395002	Surat	Gujarat
47.	Ess Pee Indutries(Gujarat) Ltd	Plot No-251,Road No-2,Opp Khateshwar Hotel,Gidc,Sachin,	Surat	Gujarat
48.	G Textiles	8-9, Prabhu Darshan Industrial Estate, Ved Road,	Surat	Gujarat
49.	Garden Silk Mills Ltd.	Tulsi Krupa Arcade, 1st Floor, Puna-Kumbharia Road, Dumbhal, Surat	Surat	Gujarat
50.	General Group	A-Wing,6th Floor,601-602,International Commerce Centre,Icc ,Near Kadiwala School,Mjura Gate,	Surat	Gujarat
51.	Geotex Weaves India Pvt Ltd	Plot No-201,Road No -2,G.I.D.C. , Sachin, Surat-394230	Surat	Gujarat
52.	Gopinath Textiles	21-26, Anjavi Indutrial Estate,	Surat	Gujarat
53.	Gujrat Polyfilms Limited	Block No 491-492, Palsana	Surat	Gujarat
54.	Gupta Tex Prints Pvt Ltd	413,G.I.D.C.,Pandesara	Surat	Gujarat
55.	Gurukrupa Setting	Plot No. 8, Saroli, Surat	Surat	Gujarat
56.	Hari Om Textile Processing Mills	Plot No. 18, Tunki, Nani Bahucharaji, Ved Road, Surat-4	Surat	Gujarat
57.	Hatex Prints	7/426, Vadtal Devdi Road, Opp. Natraj Cinema, Surat-395003	Surat	Gujarat
58.	Hemant Textiles	92, Vasundhara Industrial Co-Operative Society,Patel Nagar,A K Road,	Surat	Gujarat
59.	Het Silk	329,New G.I.D.C , Kalengan,1st Floor,	Surat	Gujarat
60.	Hitulal Textiles	39,Ved Road,	Surat	Gujarat
61.	Imperial Dyeing Ltd	Block No 176 P, Gabbar Mata Temple Gali, Kadodra Char Rasta, Kadodra	Surat	Gujarat
62.	Jai Mata Di Dyeing & Printing Mills Pvt Ltd	Plot No-3, Block No-301-2, Opp. Dayabhai Sarpanch No Wadi,	Surat	Gujarat
63.	Jai Mata Di Fashion Pvt. Ltd.	Plot No. 36,37,38, Tantihaiya, Nr. J.B Weight Bridge, Surat-Bardoli Road, Kadodara, Surat-394305	Surat	Gujarat
64.	Kabutex Processors	102-106, Vashudhara Industrial Co-Operative Service Society Limited,Behind Patel Nagar, A.K Road, Surat-395008	Surat	Gujarat

S. No	Name of the Unit	Address	Cluster/ City	State
65.	Kalapuma Creation	806, 1st Floor,,New Gidc,Katangu	Surat	Gujarat
66.	Kanishka Prints Pvt. Ltd	177/1-179, Gidc, Pandesara, Surat	Surat	Gujarat
67.	Kavya Textile	Plot No. 805-806, New G.I.D.C, Katar Gaon, Surat	Surat	Gujarat
68.	Klassofab Processor	Pandesara, Surat	Surat	Gujarat
69.	Kodal Creation	Plot No. 8, 1st Floor, Ambika Industrial Saroli, Surat-395010	Surat	Gujarat
70.	Krishna Textile	Plot No. 120, Astha Industrial Estate, Anjani, Scryan Road, Surat	Surat	Gujarat
71.	Krishna Textiles	61/64, Gobind Society, Ved Road ,Gidc,	Surat	Gujarat
72.	Laxmi Textiles	Shade No-3, Hariom Compound, Ved Road,	Surat	Gujarat
73.	M K Textiles	25, Hanuman Industrial Estate, Mahabhidasu Area, Ved Road,	Surat	Gujarat
74.	M/S Hanumn Printex Pvt Ltd	711-712, B-Wing, Icc Building, Ring Road, Surat-395002	Surat	Gujarat
75.	M/S Kartik Dyeing And Printing Mills	Plot No 57 & 71, Vareli Kadodra, Palsana	Surat	Gujarat
76.	M/S Radharani Processors Pvt Ltd	264, Road No 6-C, B-Ind Estate, Nr Dindoli Bridge, Udhna, Surat-394210	Surat	Gujarat
77.	M/S Rita Dyg & Ptg Mills Pvt Ltd	Plot No-7100 - 7110, Gidc , Sachin,	Surat	Gujarat
78.	M/S Sankalp	412/2, Bardolia Compund, Vasta Devdi Road, Surat-395008	Surat	Gujarat
79.	Mahesh Silk Mills Pvt Ltd.	Plot No. 566/567/570/571, G.I.D.C, Pandesara, Surat-394221	Surat	Gujarat
80.	Mansi Prints(P.) Ltd	Block No-210, 185, Paiky Plot No-4, Village-Kdodoratahasil-Palasana,	Surat	Gujarat
81.	Maruti Textiles	268-270 Gidc Pandesara, Surat-394221	Surat	Gujarat
82.	Meena Textiles	16, Prabhu Darshan Industrial Society ,	Surat	Gujarat
83.	Meher Fashion	8003, Wtc, Ring Road,	Surat	Gujarat
84.	Mittal Textiles	Hariomm Indutrial Estate, Ved Road,	Surat	Gujarat
85.	Naramda Tex	Plot No 84-85, Anjani Industrial Estate, Sayan	Surat	Gujarat
86.	Narayan Processors	151-152 Gids Pandesara Surat-394221	Surat	Gujarat
87.	Narendra Processing Industries	S No-33/1-A, Plot No-1, Behind Sub-Jail, Khatodara, Surat-395002	Surat	Gujarat
88.	Natraj Textiles	21, Prabhu Darshan Industrial Estate , Ved Road,	Surat	Gujarat
89.	Niharika Dyeing & Printing Mills Pvt Ltd	Block No 107, Shivanand Nagar,, III, Tantithaiya, Surat Bardoli Road, Dist Surat	Surat	Gujarat
90.	Nishkanth Textiles	149, Asth Industrial Estate, Anjani Road	Surat	Gujarat
91.	Oriental Dyeing & Printing Mills Pvt. Ltd.	Plot No. 573-578, Gidc Pandesara, Surat-394221	Surat	Gujarat

S. No	Name of the Unit	Address	Cluster/ City	State
92.	P.M Fashion	6, Iind Floor, Bhawani Circle, Near Umiya Mandir, Varasar, Surat	Surat	Gujarat
93.	Paladia Textile	71-72, Astha Industrial Area, Anjani Road Sayan, Surat	Surat	Gujarat
94.	Panchwati Textile Ind Pvt. Ltd.	174-198, Swami Narayan Industrial Estate, Tatithaiya, Surat-394327	Surat	Gujarat
95.	Panduvji Textiles	Hari Om Compound, Industrial Estate, Ved Road,	Surat	Gujarat
96.	Pioneer Syntex Pvt. Ltd.	391, GIDC Pandesara Surat-394221	Surat	Gujarat
97.	Ponal Textiles	Plot No-59,Prabhu Darshan Industrial Estate ,Ved Road,	Surat	Gujarat
98.	Pratibha Fabrics Ltd	399, GIDC,Pandesara	Surat	Gujarat
99.	Priya Dyeing & Printing Mills Pvt Ltd	Block No-206/P,Village Kadodara, Surat-394327	Surat	Gujarat
100	Priyanshi Creation Pvt Ltd	93, GIDC, Pandesra	Surat	Gujarat
101	Purum Textiles	Anjani Indutrial Estate, Sayan Road	Surat	Gujarat
102	Ragadwala Co	Near Hariom Mill Compound,Ved Road,	Surat	Gujarat
103	Rajni Processors	49,Umarwada,Outside Sahara Gate, Anil Dying Compoud, Surat-395010	Surat	Gujarat
104	Rajni Textile	Govind Patel,Plot No-10-11, Near Prafulla Indutry, Ved Road,	Surat	Gujarat
105	Ram Kabir Textiles	New G.I.D.C,Kalengaon,A K Road,	Surat	Gujarat
106	Ramde Tex	Shop No-9,Anjani Industrial Estate, Sion Road,	Surat	Gujarat
107	Ravi Exports Ltd	Block No-58, Plot No-60 -P,Village Verell ,	Surat	Gujarat
108	Rivaa Exports Ltd.	Plot No. 803/1, G.I.D.C, Road No. 2, Sachin, Surat-394230	Surat	Gujarat
109	Sai Jyoti Dyeing And Printing Mills Pvt. Ltd.	Plot No. 72-B, Vareli-395327, Surat	Surat	Gujarat
110	Sankeswar Rayon	Near Astha Mill,Gidc	Surat	Gujarat
111	Shiv Textiles	Plot No. 28/30, Shivshakti, Surat	Surat	Gujarat
112	Shivam Terine Pvt Ltd	428,G.I.D.C,Pandesara,Surat	Surat	Gujarat
113	Shivam Textiles	58 Astha Industrial Estate, Anjani Industrial Area	Surat	Gujarat
114	Shobha International	O-3262-63,Surat Textile Market, Ring Road, Surat-395002	Surat	Gujarat
115	Shobit Silk	329, New G.I.D.C, Katar Gaon, Surat	Surat	Gujarat
116	Shree Fabric	1 / 49 , Shiv Nagar, Sachin,G.I.D.C.	Surat	Gujarat
117	Shree Hajarimal Dyeing & Printing	Plot No. 438, Road No. 4, G.I.D.C, Sachin, Surat	Surat	Gujarat
118	Shree Krupa Textile	P/935, Old Gidc, Katargam, Surat	Surat	Gujarat
119	Shree Ram Creation	Plot No. 246, Jai Bhavani Industrial Estate, Iiird Floor, Kadodara Highway, Surat	Surat	Gujarat
120	Shree Sai Baba Silk Mills	Om Baug, Ashwani Kumar Road	Surat	Gujarat

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S. No	Name of the Unit	Address	Cluster/ City	State
121	Shree Sai Fabrics	Plot No. 15, Fatakdawadi, Ved Road, Surat-395004	Surat	Gujarat
122	Shreya Textile	Plot No. 19, Babric Industrial Estate, G.I.D.C, Katar Gaon	Surat	Gujarat
123	Shri Gita Texturisers	Plot No. 1-8, Block No. 26, Post Kharach, Hansot	Surat	Gujarat
124	Shyambaba Industries	Plot No. 8202/1, Road No. 8, Sachin Industrial Estate, Surat	Surat	Gujarat
125	Sreeji Fashion	Plot No-109, Payal Town	Surat	Gujarat
126	Sri Sai Embroidary	A-Block-3261, Suat Tex Mkt	Surat	Gujarat
127	Srinivas Processor	Karodra , Tatathala,	Surat	Gujarat
128	Sumeet Industries Ltd	504, Trivich Chamber , Opp Fire Brigade Station, Ring Road, Surat-395002	Surat	Gujarat
129	Sumilon Industries Ltd.	6/121, Vairagini Wadi, Delhi Gate, Surat-395003	Surat	Gujarat
130	Suraj Tex	3/13, Khatodara Industrial Society, Behind Sub Jail, Khatodera, Surat-395002	Surat	Gujarat
131	Tamanna International Pvt Ltd	711,712, International Canninu Centre, Ring Road, Surat-395002	Surat	Gujarat
132	Tanmaya Fabrics	Plot No-112-113, New G.I.D.C, Kalengan,	Surat	Gujarat
133	Tanu Textile	57-58, Babrik Industrial Estate, Near Prime Dyeing, Surat	Surat	Gujarat
134	Tapi Tex	Plot No 82-83, Anjani Industrial Estate, Sayan Road	Surat	Gujarat
135	U P Shiv Textiles	A-33, Gurukripa Industrial Estate,	Surat	Gujarat
136	Ultra Fashion	No. 28, Babric Industrial Society, Phool Pada Road, Surat	Surat	Gujarat
137	Urjaa Rayon	4, Bhojalaram Soc., Nr. Umiya, A.K Road, Surat-8	Surat	Gujarat
138	Vaishali Silk Mills Pvt. Ltd.	290/1, GIDC, Road No. 2, Sachin, Surat-394230	Surat	Gujarat
139	Vasudev Textiles	23, Hariomm Industrial Estate, Ved Road,	Surat	Gujarat
140	Veer Prabhu Prints Pvt Ltd	Plot No-22 To 25, Road No -3, Udhna Udhayog Nagar, Udhana, Surat-394210	Surat	Gujarat
141	Vineet Polyfab Pvt. Ltd	Block No. 1049, Village Tadkeshuartaluka Menai, Surat	Surat	Gujarat
142	Vineet Synthec Pvt Ltd	Plot No. 9b, Block No. 283, Village Karanj, Surat-394170	Surat	Gujarat
143	Vivek Line Industries Ltd	Blockno-426, Pulsara, Surat	Surat	Gujarat
144	Mangalam Industries Pvt Ltd	Block No-127, Nr. Venus Mill, Bardoli Road,	Tantitheya	Gujarat
145	Mangalam Prints Pvt Ltd	Block No-127, Nr. Venus Mill, Bardoli Road,	Tantitheya	Gujarat
146	Kusumagar Corporates Pvt.Ltd	Plot 1808/1809, Phase 111, G.I.D.C Area , Vapi , Dist Valsad	Vapi	Gujarat

S. No	Name of the Unit	Address	Cluster/ City	State
147	Anish India Exports	19-20, Udhyog Vihar, Phase Iv	Gurugram	Haryana
148	Arihant Creative Textiles	755, Udyog Vihar, Phase-V, Gurugram	Gurugram	Haryana
149	Cashmere Pvt Ltd	564, Phase V, Udhyog Vihar, Gurugram	Gurugram	Haryana
150	Connecting Threads Llp	545 B, Sector 37, Pace City li	Gurugram	Haryana
151	Dhs Fashion	Plot-65, Udyog Vihar, Phase-1, Gurugram	Gurugram	Haryana
152	Donna Aparels	188, Phase 1, Udhyog Vihar	Gurugram	Haryana
153	Ess & Bee International	699-670, Udyog Vihar, Phase-V, Gurugram	Gurugram	Haryana
154	Flock Fabs India	Behrampur Road,38 Km Stone, Khandsa	Gurugram	Haryana
155	Friends Garments	605, Phase V,Udhyog Vihar	Gurugram	Haryana
156	I.I Inspection And Exports Pvt Ltd	95, Udhyog Vihar, Phase I, Gurugram	Gurugram	Haryana
157	Jhanvi Apparels India Pvt. Ltd.	643, Udyog Vihar, Phase-V, Gurugram	Gurugram	Haryana
158	Krishna Labels P. Ltd.	Plot No.-162, Phase-1, Udyog Vihar	Gurugram	Haryana
159	Krm Exports Pvt. Ltd.	265, Phase Iv, Udyog Vihar, Gurugram	Gurugram	Haryana
160	Lilly Fashion Pvt. Ltd.	113, Udyog Vihar, Phase Iv, Gurugram	Gurugram	Haryana
161	Lyra Industrials	155, Udhyog Vihar, Phase I	Gurugram	Haryana
162	Maurya Exports Pvt. Ltd.	617, Udyog Vihar, Phase V, Gurugram	Gurugram	Haryana
163	Mfpl Impex	Plot-746, Udyog Vihar, Phase-V, Gurugram	Gurugram	Haryana
164	Mhk Exports Pvt. Ltd.	882, Udyog Vihar, Phase-V, Gurugram	Gurugram	Haryana
165	Modelama Exports Pvt. Ltd.	Plot No.-110-111, Phase- I, Udyog Vihar, Gurugram	Gurugram	Haryana
166	Myra Designs Pvt Ltd	602,Pace City li, Sector 37	Gurugram	Haryana
167	Neetee Apparels	218, Udhyog Vihar, Phase 1	Gurugram	Haryana
168	Orchid Overseas Pvt. Ltd.	133, Udyog Vihar, Phase-1, Gurugram	Gurugram	Haryana
169	Png Textiles(P) Ltd.	Plot No. 615, Phase V, Udyog Vihar, Gurugram	Gurugram	Haryana
170	Pyoginam	Plot No.-666, Udyog Vihar, Phase-V, Gurugram	Gurugram	Haryana
171	R.R Fashion Clothing Pvt. Ltd.	Plot No.-124, Udyog Vihar, Phase-I, Gurugram	Gurugram	Haryana
172	Raj Knitters	Plot No 11, Phase Iv, Udhyog Vihar	Gurugram	Haryana
173	Rajdhani Syntex Pvt Ltd	Plot No 758, Pace City li, Sector 37	Gurugram	Haryana
174	Rakheja Enterprises	74, Udhyog Vihar, Phase Iv	Gurugram	Haryana
175	Ramms International	296, Infocity, Pace li, Sector 37	Gurugram	Haryana
176	Ravels Apparels Pvt Ltd	688, Phase V, Udhyog Vihar, Gurugram	Gurugram	Haryana

S. No	Name of the Unit	Address	Cluster/ City	State
177	Renuka Exports Pvt. Ltd.	723, Udyog Vihar, Phase V, Gurugram	Gurugram	Haryana
178	Richa & Co	Plot No 239, Phase 1	Gurugram	Haryana
179	Rita Clothing Pvt. Ltd.	Plot No.- 389, Udyog Vihar, Phase V, Gurugram	Gurugram	Haryana
180	Rubicon	43-B, Udyog Vihar, Phase-V, Gurugram-122016	Gurugram	Haryana
181	S S International	115, Phase Iv, Udhyog Vihar	Gurugram	Haryana
182	Sava International Pvt Ltd	545 D, Pace City li, Sector 37	Gurugram	Haryana
183	Shivank Udyog Ltd.	Plot No.-671-673, Udyog Vihar, Phase-V, Gurugram	Gurugram	Haryana
184	Shree Balaji Exports Inc	Plot No 700, Pace City 2, Sector 37	Gurugram	Haryana
185	Shyam & Co. Ofnorth Pvt. Ltd.	607, Phase V, Udyog Vihar, Gurugram	Gurugram	Haryana
186	Singh International	Plot No. 868, Phase V, Udyog Vihar	Gurugram	Haryana
187	T-10 Jade Knits	50 & 57, Udyog Vihar, Phase-I	Gurugram	Haryana
188	Tci Exim Pvt. Ltd.	106, Udyog Vihar, Phase Iv, Gurugram	Gurugram	Haryana
189	Vkmp Design Pvt. Ltd.	5/6, Udyog Vihar, Phase V, Gurugram	Gurugram	Haryana
190	Wrap Studio	Plot No.-497, Phase V, Gurugram	Gurugram	Haryana
191	Grover Overseas	E 42,Industrial Area, Panipat	Panipat	Haryana
192	High Performance Textiles Pvt Ltd	Plot No 33, Sector 29, Part li,Huda	Panipat	Haryana
193	Jindal Spinning Mills Ltd	G 3, Industrial Area, Panipat	Panipat	Haryana
194	Nan Woollen Mills	Near Sugar Mills, Gohana Road	Panipat	Haryana
195	Om Shakti Enterprises	Pasina Khurd Road, Near Saggu Dharamkanta	Panipat	Haryana
196	Rama Krishna Woollen Inds	Nizampur Road	Panipat	Haryana
197	Shiva Woollen & Textiles Mills	Pasina Kalan, G.T Road, Nr Essr Pump	Panipat	Haryana
198	Ashok Finespun Pvt. Ltd	Khasra No. 516/1, Village: Bheelgaon, The: Kasarwad, Dist: Khargon	Indore	Madhya Pradesh
199	Pratibha Syntex Ltd.	Plot No. 4, Industrial Centre,Kheda Pithampur, Dist: Dhar-454774	Indore	Madhya Pradesh
200	Prem Textiles (International) Pvt. Ltd	21-C, Sec-C, Industrial Area, Sanwer Road, Indore-452015	Indore	Madhya Pradesh
201	Ramesh Textiles India Pvt. Ltd	B-27/A, Sec-C, Sanwer Road, Indore	Indore	Madhya Pradesh
202	Grasim Industries Limited, Staple Fibre Division	Birlagram, Nagda	Nagda	Madhya Pradesh
203	Mahima Fibres Pvt. Ltd	Plot No 73-74, Sector2, Pithampur, Dist. Dhar	Nagpur	Madhya Pradesh
204	Aarya Silk Mills	104, Arihant Dham A-Wing Arhant Nagar Dhamankar Road Opp:Jain Mandir Padma Nagar	Bhiwandi	Maharashtra
205	Adya Silk Mills	104, Arihant Dham, Arihant Nagar Dhamankar Naka Road	Bhiwandi	Maharashtra

S. No	Name of the Unit	Address	Cluster/ City	State
206	Aravali Silk Mills Pvt.Ltd.	196/7,/Raja Rajeshwari Compound, Sonali Village	Bhiwandi	Maharashtra
207	Chacha Creations	774,Raja Rajeshwari Compound, Plot No.8, Sonali Village	Bhiwandi	Maharashtra
208	Deep Tex Poly Yarn Pvt.Ltd.	Choutani Compound Narpoli	Bhiwandi	Maharashtra
209	Doddi Fashion Textiles Pvt.Ltd.,	1743,Gala No.6&7,Bldg No.A-1, J.V.Complex, Village Karivali, Tal.Bhiwandi, Thane District - 421302	Bhiwandi	Maharashtra
210	Fair Fab	Chothani Compound, Gate No.6, Near Sanjari Hotel, Opp: Narpoli Police Station, Bhiwandi	Bhiwandi	Maharashtra
211	Lavkush Silk Mills Pvt.Ltd.Unit No.2	196/6/2 Sonale Village Raj Rajeshwari Compound	Bhiwandi	Maharashtra
212	M.K.Textiles	1848,Patel Compound, Village Khoni,	Bhiwandi	Maharashtra
213	Mahalaxmi Textiles	Patel Compound, Khomi Village	Bhiwandi	Maharashtra
214	Manit Creation	3 & 4 Mhafre Compound Narpoli	Bhiwandi	Maharashtra
215	Mukesh Synthetic Pvt.Ltd.	Chouthani Compound	Bhiwandi	Maharashtra
216	Navanath Textiles	1555/Sainath Industrial Estate Meet Pada Kani Village	Bhiwandi	Maharashtra
217	Nirav Silk Mills Pvt. Ltd.	H.No.1480, New Kaneri Agra Road	Bhiwandi	Maharashtra
218	Optimum Silk Mills Pvt. Ltd.,	196/5/2, Raj Rajeshwari Compound, Bhiwandi	Bhiwandi	Maharashtra
219	Ratul Tex.P Ltd.	L-1 & L-2 Rajalaxmi Hitab Palle	Bhiwandi	Maharashtra
220	Rithesh Textiles	164,Mohtree Compound Narpoli	Bhiwandi	Maharashtra
221	Shiv Priya Syntex	N-36/37, Gurudev Compound, Om Guruder Bldg. Opp.Deep Hold, Sonale Village	Bhiwandi	Maharashtra
222	Shree Ajay International Pvt.Ltd.	M.H.No.1329/10 Karniya Apartment, 3rd Floor Opp.Silver Palace Narpoli	Bhiwandi	Maharashtra
223	Soad Textiles	Darga Road, H.No.406,	Bhiwandi	Maharashtra
224	Sonali Fabrics Pvt.Ltd.	722, Raj Rajeswari Compound, Sonali Village	Bhiwandi	Maharashtra
225	Subhalaxmi Silk Mills	196, Raja Rajeswari Complex Somla Village	Bhiwandi	Maharashtra
226	Sybalic Fabric Pvt. Ltd.	Surver No.196 Plot No.1, Raja Rajeswari Compound, Sonal Villlage	Bhiwandi	Maharashtra
227	Tanvir Textiles	Dargha Road	Bhiwandi	Maharashtra
228	Tn Textiles	Darga Road H.No.407	Bhiwandi	Maharashtra
229	Vakkil Textiles	Soudhagar Molla	Bhiwandi	Maharashtra
230	Venus Textiles	Kap-Kaneri, Kalyan Road	Bhiwandi	Maharashtra
231	Vishal Textiles	1393/1, Naai Usan Phase I Kalyan Road	Bhiwandi	Maharashtra
232	Tirupathi Non Woven Pvt Ltd	Survey No. 51/1, Mouza Nandgaon, Hinganghat	Dist: Eardha	Maharashtra
233	M/S Innovative Textiles Ltd	T-71, Midc, Butibori	Nagpur	Maharashtra

S. No	Name of the Unit	Address	Cluster/ City	State
234	Morarjee Textiles Ltd	Plot No. G-2, Midc Industrial Area, Butibori	Nagpur	Maharashtra
235	Ashwin Synthetic Pvt.Ltd	C-8/2, Midc Tarapur ,Maharashtra, India	Tarapur	Maharashtra
236	Baleshwar Synthetics Textiles Pvt.Ltd	C- 92 , Midc, Tarapur , Boiser Dist. Plaghar , Maharashtra	Tarapur	Maharashtra
237	Ginni Silk Mills Ltd	Plot No -E -15 ,Midc,Tarapur ,Palghar	Tarapur	Maharashtra
238	Ajay Hosiery	M-91/6, Shastri Nagar, Delhi-52	New Delhi	New Delhi
239	Anil Knitting Industries	M-118, Shastri Nagar, Delhi-52	New Delhi	New Delhi
240	Indigo Apparel	D-65, Okhla Area, Phase-I, New Delhi	New Delhi	New Delhi
241	Jkj Hosiery	Shiv Mandir, F-49, Shastri Nagar, Delhi-52	New Delhi	New Delhi
242	Mahavir Hosiery Factory	E-217, Vir Banda Baicagi Marg, Shastri Nagar, New Delhi-52	New Delhi	New Delhi
243	Misfire Apparels	E-29, Sector-1, Bawana, New Delhi-39	New Delhi	New Delhi
244	R. S Gupta Industries	Budh Vihar, Phase-Ii, Shyam Colony, Delhi	New Delhi	New Delhi
245	Jadika Woollen And Hosiery Mills Pvt Ltd	133-134,Ind Area A	Ludhiana	Punjab
246	Amritsar Swadeshi Textile Corporation Pvt Ltd	Majitha Road,Balkalan	Amritsar	Punjab
247	Essma Textiles Pvt. Ltd	Gt Road, Putlighar	Amritsar	Punjab
248	J K Woollen & Silk Mills	J K Building,Tandon Nagar	Amritsar	Punjab
249	Kamal Textile	Near Billa Shamu Plastic,Dhabai Road	Amritsar	Punjab
250	Amar Clothing International Pvt. Ltd.	Kotli Road, Village Mand	Jalandhar	Punjab
251	Goodwin Exports	Unit No.15-16,Dilbagh Nagar Extension	Jalandhar	Punjab
252	Savi International	104,Uday Nagar,Wadala Road	Jalandhar	Punjab
253	A K Dyeing	Jaswal Complex,Opp.Central Jail.Tajpur Road,Bhamian Kalan	Ludhiana	Punjab
254	A V Dung	Sunder Nagar Main Market	Ludhiana	Punjab
255	Arora Group Of Industries	Ha-51,Phase-Vi,Focal Point	Ludhiana	Punjab
256	Atam Dyeing And Finishing Mills	Bhadurke Road Dyeing Complex,	Ludhiana	Punjab
257	Bhagat Exports	Gt Road,Mata Rani Chowk	Ludhiana	Punjab
258	Braham Hosiery Pvt Ltd	G T Road W ,Jalandhar Bye Pass,Opp Green Land Public School	Ludhiana	Punjab
259	Calcutta Hosoery Emporium	Sharman Enclave Village Bhoura,G T Road	Ludhiana	Punjab
260	Camel Knitting & Textile Mills	Joshi Nagar, Haibowal Kalan	Ludhiana	Punjab
261	Centex International(P) Ltd	Sir Road, Village Gobindgarh,Focal Point, Phase 7 Ludhiana	Ludhiana	Punjab
262	Ddk Spinning Mills	Hbb-68-A,Focal Point,Phasevi	Ludhiana	Punjab

S. No	Name of the Unit	Address	Cluster/ City	State
263	Dhanju International	Street No.2,Guru Arjun Dev Nagar,Tajpur Road,	Ludhiana	Punjab
264	Dhanpat Rai Walaiti Ram	Village Husainpura,G T Road	Ludhiana	Punjab
265	Dove Apparel Pvt Ltd	B-32,E-14/1674,Bahadur Ke Road	Ludhiana	Punjab
266	Duke Fashion India Ltd	G T Road West, Ludhiana	Ludhiana	Punjab
267	Dvr Clothing	Baba Gaja Colony,Moti Nagar	Ludhiana	Punjab
268	Elson Hosiery Mills	Hd46,Phase Vi,Focal Point	Ludhiana	Punjab
269	Eveline International	G T Road, Dhandari Kalan, Ind.Area C ,Ludhiana	Ludhiana	Punjab
270	Ganga Acrowools	249, Ind Area A	Ludhiana	Punjab
271	Garg Acrylics Ltd.	Kanganwal Road,Jugiana,G.T Road,Ludhiana	Ludhiana	Punjab
272	Goldstar Knits Pvt Ltd	Village-Bhora,G T Road, Ludhiana	Ludhiana	Punjab
273	Gopimal Koursain Industries Pvt Ltd	Village Rohalla, Tehsil Samrala	Ludhiana	Punjab
274	Goyal Knitwears	B-Xxix-101/8-A,Sherpur Chowk,G T Road	Ludhiana	Punjab
275	Goyam Knitwear Pvt Ltd	Sharman Enclave,Bahadur Ke Road,	Ludhiana	Punjab
276	Gulmarg Beauty	B-Xxiv 2995, Sunder Nagar	Ludhiana	Punjab
277	H M Cotsyn	Village Bhattian, G T Road	Ludhiana	Punjab
278	Heena Knitwears	New Vir Nagar,Bahadur Ke Road, Opp. Ludhiana Cold Store	Ludhiana	Punjab
279	Himachal Woollen Mills	Chowk Bye Pass Samarala Road	Ludhiana	Punjab
280	Indra Hosiery Mills	4576/2.70 Feet Road,Opp. Shiv Mandir, Sunder Nagar	Ludhiana	Punjab
281	Jai Karan Hosiery	Street No.1,Harbanspur,Ludhiana	Ludhiana	Punjab
282	Jain Liwaas	4505, St No. 9, New Madhopuri	Ludhiana	Punjab
283	Jain Shawls	Bahadur Ke Road,Dana Mandi	Ludhiana	Punjab
284	Jawandson	Vpo Bholapur	Ludhiana	Punjab
285	Jindal Finishing Works	Tajpur Road,Opp. Central Jail,Jaswal Complex	Ludhiana	Punjab
286	Kamdheni Cotton And Spinning Mills Pvt Ltd	Village Lakhawal,Kohara	Ludhiana	Punjab
287	Kesaria Hosiry Mills	Village Bhattian,	Ludhiana	Punjab
288	Kohinoor Woollen Mills	238, Ind Area A, Ludhiana	Ludhiana	Punjab
289	Kuku Exports	Village Meharban,Rahon Road	Ludhiana	Punjab
290	Kuvam Fashions Pvt Ltd	353, Ind Area A	Ludhiana	Punjab
291	Lamba International	Lakhawal-Kohara Road	Ludhiana	Punjab
292	Laveena Hosiery (P) Ltd	132, Ind Area,Ludhiana	Ludhiana	Punjab
293	Leesa Collection	213,Wait Ganj	Ludhiana	Punjab
294	Madan Dyeing & Finishing Factory	J-1, Ind Area A	Ludhiana	Punjab
295	Mahavir Knit Fab	Kuldip Nagar,Basti Jodhewal	Ludhiana	Punjab
296	Malukund Madan Lal	Sunder Nagar	Ludhiana	Punjab

S. No	Name of the Unit	Address	Cluster/ City	State
297	Modern Spinners	423,Ind Area A ,Ludhiana	Ludhiana	Punjab
298	Monte Carlo Fashions Ltd	B-Xxix-106,G T Road, Sherpur	Ludhiana	Punjab
299	Nagesh Classic	Village Bhaura, Gtroad,	Ludhiana	Punjab
300	Nagesh Exports	Bxxxii-933,G T Road West	Ludhiana	Punjab
301	Nagesh Knit & Wear	G T Raod West	Ludhiana	Punjab
302	Nahar Spinning Mills Ltd	373 Industrial Area A	Ludhiana	Punjab
303	Namo Udyog	Purana Bazzar,Saida Chowk	Ludhiana	Punjab
304	Neva Garments Ltd	Village Hussainpurag T Road,	Ludhiana	Punjab
305	New Bombay Dyeing	G T Road, Near Jalandhar Bye Pass. Ludhiana	Ludhiana	Punjab
306	Nishu Enterprises	Bhora Village G T Roadludhiana	Ludhiana	Punjab
307	Nmo Industries	B-32, Village Bhora	Ludhiana	Punjab
308	Nylon Hosiery Mills	B-32,F-14/2004,Gurbax Nagar,Near Metro,G T Road Bye Pass,Ludhiana	Ludhiana	Punjab
309	Octave Apparels	G T Road, Near Jalandhar Bypass	Ludhiana	Punjab
310	Opk Woollen Mills	185/1 G T Road, P O Dhandari Kalan	Ludhiana	Punjab
311	Oswal Woollen Mills Ltd	Gt Road, Sherpur ,	Ludhiana	Punjab
312	Parveen Knitwear(Regd.)	B-Xxiv2727,Sundr Nagar	Ludhiana	Punjab
313	Ponahari Dying	Opp Sewage Treatment Plant,Tajpur Road	Ludhiana	Punjab
314	R B Knit Exports	415, Ind Area A ,Ludhiana	Ludhiana	Punjab
315	R N Oswal Hosiery Factory	Circular Road,Shivpuri	Ludhiana	Punjab
316	Rage	Ha54,Phase-Vi,Focal Point	Ludhiana	Punjab
317	Rajneesh Dyeing	16-B Ind. Area A Extn.	Ludhiana	Punjab
318	S K Juneja Hosiery	Plot No. 611,St.No.4,New Shakti Nagar	Ludhiana	Punjab
319	S P Jain Hosiery	Near Jain Sathanak,Sunder Nagar	Ludhiana	Punjab
320	S R Knit Fashion	423/6,Ind Area A	Ludhiana	Punjab
321	S V Exports	281,Ind Area A	Ludhiana	Punjab
322	Sammit Hosiery Mills	B-Xxii-E-10/7590,Veer Nagar Extension,Bahadur Ke Road, Ludhiana	Ludhiana	Punjab
323	Saras Fashion Clothing	B-Xxii-E14,Sharman Enclave,G T Road, Ludhiana	Ludhiana	Punjab
324	Sears Knit	B32/E-14-6152,Sharman Enclave	Ludhiana	Punjab
325	Shakti Knitwears	B-Xxiv-2994,Main Road,Sunder Nagar	Ludhiana	Punjab
326	Shanti Knitwears	Daresi Road	Ludhiana	Punjab
327	Shewata Enterprises	Sunder Nagar,Mahavir Jain Colony	Ludhiana	Punjab
328	Shingora Textiles Limited	Hc-28,Phase-Vi,Focal Point	Ludhiana	Punjab
329	Soloni Hosiery	Street No.2,Harbanspura	Ludhiana	Punjab
330	Sriyansh Knitters Pvt Ltd	H7,Textile Colony	Ludhiana	Punjab

S. No	Name of the Unit	Address	Cluster/ City	State
331	Star Hosiery	Wait Gunj	Ludhiana	Punjab
332	Superfine Knitters Limited	269,Ind Area A	Ludhiana	Punjab
333	Supreme Knitwear	Street No.7,New Madhopuri	Ludhiana	Punjab
334	Swami Textiles Pvt Ltd	D336,Focal Point, Phase Viii	Ludhiana	Punjab
335	Swan Collection	49, Sharman Enclave,G T Road	Ludhiana	Punjab
336	Topgear Fashion	Ind.Zone,Bahadur Ke Road,	Ludhiana	Punjab
337	Unified Clothing Co.	K2,Textile Colony	Ludhiana	Punjab
338	Vanguard Clothing Co.	37-A New Akash Nagar,Near Jalandhar Bye Pass	Ludhiana	Punjab
339	Vanshika Textile	966/50/3,Harbans Pura,Goushall Road	Ludhiana	Punjab
340	Vardhman Knitfab	Sawantantar Nagar,Near Dmk Public School	Ludhiana	Punjab
341	Vardhman Polytex Ltd.	D295/1,Phase-Viii,Focal Point,Ludhiana	Ludhiana	Punjab
342	Vardhman Textiles Limited	Vardhman Premises,Chandigarh Road	Ludhiana	Punjab
343	Veetrag Hosiery	131, Sunder Nagar, Ludhiana	Ludhiana	Punjab
344	Venus Garments India Limited	G T Road(W)Village Hussainpura	Ludhiana	Punjab
345	Venus Texspin	424,Ind Area A	Ludhiana	Punjab
346	Warmline	B-Xxxii,Village Bhoura,G T Road	Ludhiana	Punjab
347	York Exports Limited	Civil Lines	Ludhiana	Punjab
348	Adarsh Synthetics Pvt. Ltd	52-53,Ddu Industrial Area,Pur Road,	Bhilwara	Rajasthan
349	Airtex (India) Pvt. Ltd	F-65,Riico Extn. Area,	Bhilwara	Rajasthan
350	Ajay India Pvt Ltd	148, New Cloth Market,Pur Road	Bhilwara	Rajasthan
351	Amit Spinners Pvt Ltd	G-2&3,Riico Extn. Area	Bhilwara	Rajasthan
352	Anirudh Texchem Pvt Limited	C-69,Bhilwara Textile Market	Bhilwara	Rajasthan
353	Bsl Limited	Chittorgarh Road,Bilia Kalan	Bhilwara	Rajasthan
354	Dayanand Textile Industries Pvt Limited	8a,Bhilwar Textile Market,Pur Road	Bhilwara	Rajasthan
355	Jain Suiting Pvt. Ltd	6a, Bhilwara Textile Market,Ist Floor,Pur Road	Bhilwara	Rajasthan
356	Jyoti Suiting Mills	Near Ajuba Hotel,Pur Road,Riico Area,	Bhilwara	Rajasthan
357	Kanchan India Ltd	8km Stone,Ajmer Road,Nanakpura	Bhilwara	Rajasthan
358	Mahaveer Polytext Pvt Ltd	5,Riico,Ind Area,Pur Road	Bhilwara	Rajasthan
359	Monalisa Synthetics Pvt Ltd	Monalisa House,F-31-32	Bhilwara	Rajasthan
360	Murarka Suiting Pvt Ltd	Spl-2a,Riico Ind Area	Bhilwara	Rajasthan
361	Nitin Spinnesr Limited	16-17km Stone,Chittor Road,Hamirgarh	Bhilwara	Rajasthan
362	P K Weaving Mills Pvt Ltd	E-56,Riico Extn.	Bhilwara	Rajasthan
363	Poly Pick Threads Pvt Ltd	Growth Center,Riico,G-1-141-142,Swaroop Ganj	Bhilwara	Rajasthan

S. No	Name of the Unit	Address	Cluster/ City	State
364	Raghav Sulzon Pvt Ltd	Plot No. 2riico Ind Area	Bhilwara	Rajasthan
365	Rswm Limited	Pb No. 13,Mandpam,Chittor Road,	Bhilwara	Rajasthan
366	S.B Silk Mills Pvt Ltd	Plot No. 32-33,Dic Ind Area No.3	Bhilwara	Rajasthan
367	Saileela Synthetics Pvt Ltd	147,Pur Road,Ncm	Bhilwara	Rajasthan
368	Samarpan Synthetic (P) Ltd	H1-185 To 188,G1-172 To 174,Pur Road,Phase-Iv,In. Area	Bhilwara	Rajasthan
369	Sangam India Limited	Village Atun,Chittorgarh Road,Bhilwara	Bhilwara	Rajasthan
370	Satkar Synthetics	15-16,New Cloth Market,Pur Road	Bhilwara	Rajasthan
371	Shree Bharka India Limited	Spicial3, Riico Ind Area,Pur Road,	Bhilwara	Rajasthan
372	Shree Jain Textile	84, New Cloth Market, Pur Road	Bhilwara	Rajasthan
373	Silverfab Suiting Pvt Ltd.	4th Phase,Riico Ind Area	Bhilwara	Rajasthan
374	Solar Synthetics Pvt Ltd	E-63 Extn. Area Riico	Bhilwara	Rajasthan
375	Srm Spinner Limited	Sukh Shanti,Opp. Hdfc Bank, Sabun Marg	Bhilwara	Rajasthan
376	Sukh Sagar Synthetics Pvt Ltd	F-67,68,69,RIICO Ind. Extn. Area	Bhilwara	Rajasthan
377	Sumanglam Fabrics	G-8,134-137,RIICO Extn. Area	Bhilwara	Rajasthan
378	Swastika Suiting Limited	7 To 14.Pt. Deendayal Upadhayay Ind Area,6 Km Stone	Bhilwara	Rajasthan
379	Vikas Syntex Pvt Ltd	E-58,Riico Industrial Area,Pur Road, Bhilwara	Bhilwara	Rajasthan
380	Vrindavan Synthetic Pvt Ltd	70 RIICO, Ind Area	Bhilwara	Rajasthan
381	S. K Sulz Fab (P) Ltd	G52/85,RIICO Ind Area,4th Phase	Biliya Pur Road, Bhilwara	Rajasthan
382	A K International	3,Jain Vihar,Khadigram Udyog Road,Opp. Salim Paper	Jaipur	Rajasthan
383	Bhavya International	F-207,Epip,Sitapura Ind Area	Jaipur	Rajasthan
384	Dynamic Wooltex	G-104,Sita Pura,Industrial Area	Jaipur	Rajasthan
385	Mayur Uniquoters Limited	28,4th Floor,Lakshmi Complex,Mi Road,	Jaipur	Rajasthan
386	Miyanbazazexports	F-122,EPIP,Sitapura Ind Area	Jaipur	Rajasthan
387	Parisudh Fibres Pvt Ltd.	E1-365,RIICO Ind.Area,Sita Pura	Jaipur	Rajasthan
388	Saraansh Suitings Pvt Ltd	H1-H4,Biliya Khurd,Pansal Road,Near Riico 4th Phase	Jaipur	Rajasthan
389	Ahuja Fashions	15/16, 1st Floor, Balaji Nagar, Padi, Chennai 600 050	Chennai	Tamil Nadu
390	Amaravathi Garments	103/2navalar St., Pkb Nagar, Senneer Kuppam, Karayanchavadi, Chennai- 600056.	Chennai	Tamil Nadu
391	Ambattur Fashion India Pvt Ltd.	D-15, Industrial Estate, Ambattur, Chennai 600 058.	Chennai	Tamil Nadu
392	Ammayappar Textiles Pvt. Ltd	Perambakkam Road, Gandhipet, Ulundai Post, Thiruvallur Taluk- 602 105	Chennai	Tamil Nadu
393	Attire Creation Co.	304, Mth Road, Villivakkam, Chennai - 600 049	Chennai	Tamil Nadu

S. No	Name of the Unit	Address	Cluster/ City	State
394	Beeku Exports	31, Balaji Nagar, Padi, Chennai 600 050.	Chennai	Tamil Nadu
395	Concorde Textiles	S.F. 146, Indrapuram Village, Nelvoy Post, Salavakkam (Via) 603 107. Maduranthakam Taluk, Kanchipuram District	Chennai	Tamil Nadu
396	Gupta & Company	26-27, Morrision 1st Street, Alandur, Chennai 600 016.	Chennai	Tamil Nadu
397	Jain Exports	68/3, Bazullah Road, T.Nagar, Chennai- 17	Chennai	Tamil Nadu
398	Jda Textiles	No.21&22, Sri Kumaran Nagarm 2nd Street, Kovoor, Chennai 600 128.	Chennai	Tamil Nadu
399	Kavitha Exports	A/3, SIDCO Industrial Estate, Villivakkam, Chennai - 600 049.	Chennai	Tamil Nadu
400	Linkup Textiles Private Limited	No.6ab & 7ab, Sri Devi Garden Main Road, Kumaran Colony, Valasaravakkam, Chennai 600 087.	Chennai	Tamil Nadu
401	Magunam Clothing Pvt Ltd	No. 119, Thiruneermalai Road, Chrompet	Chennai	Tamil Nadu
402	Naser Bali Gloves	31, Can Road, Valiyampet, Vaniyampadi, - 635 751	Chennai	Tamil Nadu
403	R K Industries	A 7&8, Thiru. Vi. Ka. Industrial Estate, Guindy	Chennai	Tamil Nadu
404	Sp Garments	11, Perambur High Road, Chennai-12	Chennai	Tamil Nadu
405	Srf Limited	Srf Manali, Industrial Area, Manali	Chennai	Tamil Nadu
406	Srinivasa Fashions Private Limited (DTA)	57G, SIDCO Industrial Estate, Ambattur, Chennai 600 098.	Chennai	Tamil Nadu
407	Stafab Apparels Private Limited	No.14, East Mogappair Industrial Estate, Anna Nagar West Extn, Mogappair, Chennai 600 037.	Chennai	Tamil Nadu
408	Superfil Products (P) Ltd.,	198/123, Jagannathapuram Road, Irulipattu Village, Azhinjivakkam, Chennai 600067	Chennai	Tamil Nadu
409	Trident Home Furnishings Pvt Ltd	Trident House No 24, Indira Nagar Valasaravakkam.	Chennai	Tamil Nadu
410	Vijay Enterprises	19 Race Course Road, 3rd Floor, Guindy, Chennai 600 032.	Chennai	Tamil Nadu
411	White House	6, GT Road, Nandivaram, Guduvancherry - 603202.	Chennai	Tamil Nadu
412	Win India Exports	18, Race Course Road, Guindy, Chennai - 600 032.	Chennai	Tamil Nadu
413	Aeshaane	4/16- 6 Sunrise Avenue Neelandarai,	Chennai	Tamil Nadu
414	Dignity Innovatons	G-15, First Main Roa, Ambattur Industrial Estate, Chennai 600 058.	Chennai	Tamil Nadu
415	Annur Satya Textile Limited	4/97-B, Avanashi Road, Uthupalayam, Kanjapalli Post, Annur - 641653.	Coimbatore	Tamil Nadu
416	BMC Textiles	28, Tiruppur Road, Udumalpet	Coimbatore	Tamil Nadu

S. No	Name of the Unit	Address	Cluster/ City	State
417	Cambodia Mills	Ondipudur, Coimbatore 641 016.	Coimbatore	Tamil Nadu
418	Cardwell Spinning Mills Ltd.,	Puduppalayam, NGGO Colony Post, Coimbatore 641 022.	Coimbatore	Tamil Nadu
419	Coimbatore Murugan Mills , Ntc Ltd.	Mettupalayam Road, P.B. No. 7004, Coimbatore - 641 043.	Coimbatore	Tamil Nadu
420	Coimbatore Spinning & Weaving Mills	Post Box No.24, Krishnasamy Mudaliar Road, Coimbatore 641 001.	Coimbatore	Tamil Nadu
421	Ellen Textiles Pvt.Ltd.,	Pollachi Road, Malumachampatty, Coimbatore -641050	Coimbatore	Tamil Nadu
422	Espee Kumaran Textiles	Sf No.910, Periya Godown,Thanneerpanthal, Karumathampatti (Po), Somanur, Coimbatore 641 659.	Coimbatore	Tamil Nadu
423	Jayashree Textiles (P) Ltd	76/3 B, Panikkam Patty, Kittasurampalayam, Kurumbapalayam, Pollachi - 642 002.	Coimbatore	Tamil Nadu
424	KKS Textiles	10/36, SFCI, Valkamedu Road, Somanur 641 668.	Coimbatore	Tamil Nadu
425	Lambodhara Textiles Ltd	826, Thazhaiyuthu, Palani 624 618.	Coimbatore	Tamil Nadu
426	Muthur Murugan Mills Limited	Sf 618, Karegoundenpalayam, Near Annur Power House, Annur, Coimbatore - 641 697.	Coimbatore	Tamil Nadu
427	Pankaja Mills (A Unit Of National Textile Corporation Ltd)	30, Pankaja Mills Road, Ramanathapuram, Coimbatore 641 045.	Coimbatore	Tamil Nadu
428	Prakash Textiles	18, Karugampalayam, Somanur - 641 668.	Coimbatore	Tamil Nadu
429	Precot Meridian Ltd - M Unit	Nanjegoundenpudhur, Achipatti Post, Pollachi 642 002.	Coimbatore	Tamil Nadu
430	PSM Textiles	8131C, NGR Puram, Ondipudur Road, Irugur, Coimbatore 641103	Coimbatore	Tamil Nadu
431	Sarmangak Synthetics Pvt. Ltd.,	S.F.No.136/2, Coimbatore-Pollachi Main Road,S. Mettupalayam (Post), Pollachi	Coimbatore	Tamil Nadu
432	Sidhaarth Exports Private Limited	Kembanaikenpalayam, Karegoundenpalayam Post, Annur, Annur Taluk 641 697	Coimbatore	Tamil Nadu
433	Sri Akkamma Textiles	Ranga Samuthiram, Valparai Road, Pollachi 642 006	Coimbatore	Tamil Nadu
434	Sri Arumuga Cotton Spin Private Limited	2, Thathur, Anaimalai, Pollachi, Coimbatore 642104	Coimbatore	Tamil Nadu
435	Sri Kannapiran Mills Limited	Post Bag No.1, Sowripalayam Post, Coimbatore	Coimbatore	Tamil Nadu
436	Sri Karpaga Vinayagar Textiles	4/38, Pollachi-Udumalpet Road, Kolarpatti (Po) Pollachi - 642 107.	Coimbatore	Tamil Nadu
437	Sri Karthikeya Spinning & Weaving Mills (P) Ltd.,	P.B.No. 3301, Uppilipalayam, Coimbatore 641 015	Coimbatore	Tamil Nadu
438	Sri Murugan Spinning Mill	38-4, Kvr Nagar, Kannampalayam, Coimbatore 641 402.	Coimbatore	Tamil Nadu

S. No	Name of the Unit	Address	Cluster/ City	State
439	Sri Sakthivel Impex	S.F.No.848/1, Vara Thottam, Karugampalayam, Ichipatti Post, Somanur 641 668.	Coimbatore	Tamil Nadu
440	Sri Selvanaayaki Textile	14/70 A-5, Power House Road, Somanur - 641 668.	Coimbatore	Tamil Nadu
441	Sri Vishnu Perumal Spin Yarn Pvt. Ltd	Nagamanaikanpalayam, Pattanam (Po) Coimbatore	Coimbatore	Tamil Nadu
442	Sunlaand Auto Weave	S.F.No.233/2-A, Kaniyur Village, Kumar Nagar, Karumathampatty - 641 659.	Coimbatore	Tamil Nadu
443	Super Textiles (I) Pvt. Ltd.,	Onapalayam, Coimbatore 641109.	Coimbatore	Tamil Nadu
444	The Southern Textile Limited	18/19, Abdul Rahim Road, Race Course, Coimbatore 641018.	Coimbatore	Tamil Nadu
445	Tulasi Industries	Old No. 10, New No. 5, Sitra Colony, Peel:Amdu, Coimbatore-641 004	Coimbatore	Tamil Nadu
446	Varun Exports	Sf No.485/2, Ellai Thottam Sangothipalayam, Kaniyur 641 659.	Coimbatore	Tamil Nadu
447	Chinnu Textiles	76/1, Bharathidassan Stree, Veerappan Chatram, Erode - 638004	Erode	Tamil Nadu
448	Danabaagyam Spinners Pvt. Ltd.	1/119,Tiruchengode Paramathi Main Road, N. Kandarpalayam , Namakkal- 637203.	Erode	Tamil Nadu
449	Hariharan Spinners Pvt. Ltd.	Thiruchengode Road, Velathal Koil, T.G. Palayam, , Village, Kadachanallur - Erode- 638 008	Erode	Tamil Nadu
450	Kumaragiri Spinners (P) Ltd	Sf No. 391, 392, Kuttakadu, Valrajapalayam, Sanyasapatti Agraharam (Po), Sankari (West), Tiruchengode	Erode	Tamil Nadu
451	Muthu Textiles	46/31, A, Valliammai I Street. Periyavalasu , Erode - 638 004	Erode	Tamil Nadu
452	Pkpn Spinning Mills (P) Ltd, Pk Laxmi Mill India (P) Ltds	Sowthapuram, Sankari Main Road, Pallipalayam, Erode - 638 006	Erode	Tamil Nadu
453	Rainbow Spinners (P) Ltd	27/B, Valrajapalayam, Modamangalam, Thiruchengode - 637 304	Erode	Tamil Nadu
454	Shree Hari Vallabi Spinners	Sf No, 421, Vellikuttai Road, Vepadai , Elanthakuttai Po, Kumarapalayam, Namakkal 638 008	Erode	Tamil Nadu
455	Shri Keerthana Textiles	12/117, MGR St. Veerappan Chatram, Erode - 638 004.	Erode	Tamil Nadu
456	Smp Textile Mills (P) Ltd	Chengattampatti Post, Nilakottai Tk. Dindigul - 624 708	Erode	Tamil Nadu
457	Sree Nahraj Textiles	7, Periyavalasu Road, Veerappan Chatram, Erode - 638 004	Erode	Tamil Nadu
458	Thiruvel Tex	5/19, Radhakrishna 2nd St., Periyavalasu, Erode 638004.	Erode	Tamil Nadu
459	Lucky Yarn Tex India Ltd.	Sf No.35/2, Anangur Road, Nettevelanpalyam , Pallipalayam, Erode - 638 008	Erode	Tamil Nadu

S. No	Name of the Unit	Address	Cluster/ City	State
460	Aabaz Knitting	Shed No. 1, SIDCO Industrial Estate, S. Vellalapatty Sanapatty, Karur - 639 004	Karur	Tamil Nadu
461	Aarthi A1 Home Trends (P) Ltd.	9d/14, Ramakrishnapuram, 50 Ft. Road, Karur - 639001	Karur	Tamil Nadu
462	Airwill Home Collection Pvt. Ltd.,	SF NO. 170 AIAIA, Opposite To Naval Nagar, Vennamalai Po, Karur 639 006.	Karur	Tamil Nadu
463	Amsavalli Filaments	49, SIDCO Industrial Estate, Authur, Vennamalai Po, Karur 639 006.	Karur	Tamil Nadu
464	Anil Plastics	20, Sudci Ubdystruak Estate M S. Vellalapaty, Karur - 639 004.	Karur	Tamil Nadu
465	Aristo Filaments	252, SF NO.1376 / 28, P.K.S. Complex, Trichy Main Road, S. Vellalapatty Po, Karur 639 004.	Karur	Tamil Nadu
466	Dharani Industries	Plot No.64, Industrial SIDCO Estate, Vennaiamalai Po, Karur - 639 006.	Karur	Tamil Nadu
467	Image Styles	69-A, Sri Solliamman Nagar,, Near KVB Nagar, Karur- 639 002	Karur	Tamil Nadu
468	KRT Polymers	NO. 31, & 38 , Authoor Sidco Industrial Estate, Vennamalai, Erode- 639 006	Karur	Tamil Nadu
469	Malar Filament	267, VRK BUILDING, Salem Main Road, Manmangalam - Karur - 639006 Karur Tn	Karur	Tamil Nadu
470	Matex	6, 4th Cross Sengunthapuram, Karur -639 002	Karur	Tamil Nadu
471	Meridian Fabrica	290-A, Amutham Nagar, M.G. Road, Karur 639 002.	Karur	Tamil Nadu
472	Metro Fabrics	Unit -2, Plot No. C-18, 19, 20. Karur Textile Park Ltd, Kuthampur Village, Karur- 639 003	Karur	Tamil Nadu
473	Ms. Amman Industries	Plot, No.79, New Industrial Estate, Vennamalai, Po, Karur - 639 006	Karur	Tamil Nadu
474	Pee Aaa Impex	184 B, Kovai Road, Tansi Back Side , Karur- 639002	Karur	Tamil Nadu
475	Preetha Impex	Plot No.65, SIDCO Industrial, Vennamalai Post, Karur 639 006.	Karur	Tamil Nadu
476	Shobikaa Impex Private Limited	S.F.NO.558 and FF9, Anthur SIDCO Industrial Estate, Vennamalai P.O. Karur - 639 006.	Karur	Tamil Nadu
477	Sree Baba Fabrics	633, Allwin Nagar, Kovai Road, Karur 639 002.	Karur	Tamil Nadu
478	Texnora	NO.4/46-A, Sadaiyampalayam, Andankovil Melbagam, Karur - 639 002.	Karur	Tamil Nadu
479	Arthanari Loom Centre (Textile)(P) Ltd	5/127 Erumapalayam Main Road, Erumapalayam Po, Salem - 636 015.	Salem	Tamil Nadu
480	Chiranjilal Spinners Pvt. Ltd	Attayanpatty Road, Kakkapalayam, Salem - 637 504.	Salem	Tamil Nadu
481	K.T. Spinning Mills (P) Ltd	Valasaiyur , Salem - 636 122	Salem	Tamil Nadu

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482	Kavi Textile Mills Salem (P) Ltd.	23 A, Kanagasabapthy St., Ammapet, Salem - 636 003	Salem	Tamil Nadu
483	MR Spinning Mills	B.O. Kalaimanai Spinning Mills,5/92,,Harur Main Road,Kullampatty Post, Salem - 636103	Salem	Tamil Nadu
484	Palani Murugan Spinning Mill	80/2 Mettupatty Thathanoor, Ayothipalayam, Salem - 636103	Salem	Tamil Nadu
485	Sree Mangalambikai Cotton Mills (P) Ltd.	Seelanaickenpatti Po Salem - 636201.	Salem	Tamil Nadu
486	Thangavelu Textile Mills (P) Ltd.	Old 111/1, New AK 68-16, Thatahmpatti Near Ammapet Colony Bus Stop, Salem - 636 014.	Salem	Tamil Nadu
487	Venkateswara Textiles	144, New Road, Elampillai, Salem - 637 502	Salem	Tamil Nadu
488	Yesvee Spinning Mills Pvt. Ltd	Gajjalanaicken Patty (PO), Salem - 636 201	Salem	Tamil Nadu
489	CR Textile Mill	11- B, Kuppusamy Street, Shevpet, Salem - 636002	Salem	Tamil Nadu
490	KGR Spinning Mills (P) Ltd.	2/176, Harur Main Road, Paruthikadu, Salem - 636 122	Salem	Tamil Nadu
491	Accrue Sourcing	NO. 6(1), First Street, Bridge Way Colony Extension, Lakshmi Nagar, Tirupur - 641 602.	Tirupur	Tamil Nadu
492	Aeon Garments	198/2, Poothottam, Opp. Amman Kalyana Mandapam, Sirupuluvapatti, Tirupur - 641 603.	Tirupur	Tamil Nadu
493	Agersia Apparls	SF NO. 132,Krs Layout, College Road, Tirupur - 641 602.	Tirupur	Tamil Nadu
494	Ajantha Processors	Thamban Chetty Thottam, Murugan Palayam, Tirupur - 641 687	Tirupur	Tamil Nadu
495	Aksharaa Knit Creations	No.9, Lakshmi Nagar East , Extn. Main Road, Tirupur 641 602	Tirupur	Tamil Nadu
496	Atul Process	SF No. 414/1d, Pudhu Thottam, Palavanchipalayam Road, Veerapandi, Tirupur - 641 605.	Tirupur	Tamil Nadu
497	B- Tex International	SF. NO. 266/2C, NSK Nagar, Veerapandi Po, Palladam Road, Tirupur- 641 605.	Tirupur	Tamil Nadu
498	Cheran Processors	88F/390, Kallankattu Thottam,Thennampalayam, Tirupur = 641 604	Tirupur	Tamil Nadu
499	Clifton Export	81328, Uppilipalayam , Arulpuram Post, Palladam, Road, Tirupur -641 605..	Tirupur	Tamil Nadu
500	Confident Process	452/2, Avarapalayam, Karaipudhur Village, Veerapandi (Po), Tirupur 641 605	Tirupur	Tamil Nadu
501	Cotex	15, Indira Nagar, Near EPC, Tirupur 641 603.	Tirupur	Tamil Nadu

S. No	Name of the Unit	Address	Cluster/ City	State
502	Cotton Knit Fab	S.F.NO.286/2B, Kunnangal Palayam, Veerapandi (Po), Tirupur - 641 605.	Tirupur	Tamil Nadu
503	Do Win Processing Mills	S.F.No. 207/3, Palaniappanmudhaliar Thottam, Murugampalayam, Iduvampalayam (Po) Tirupur 641 687.	Tirupur	Tamil Nadu
504	Eagle Fabrics	4/806, AB Nagar, Nochipalayam Road, Veerapandi Post, Tirupur 641 605	Tirupur	Tamil Nadu
505	Fab Fit Apparels(India) Pvt. Ltd	56/2, Karaipudur , Park College Road, Chinnakarai, Tirupur - 641 605.	Tirupur	Tamil Nadu
506	Fabtech International Hosieries (P) Ltd.,	S.F.NO.369/1, Nochipalayam Road, Veerapandi (Po), Tirupur - 641605.	Tirupur	Tamil Nadu
507	GKM Colours	258, Vayakattu Thottam, Murugampalayam, Iduvampalayam (Po), Tirupur - 641 607.	Tirupur	Tamil Nadu
508	Globus Apparels	NO. 9, College Road, Near Sowdambika Thirumana Mandapam, Tirupur - 641 602	Tirupur	Tamil Nadu
509	Good Knit Exports	11/471-A, N.S.K. Nagar Veerapandi Po, Palladam Road, Tirupur- 641 605	Tirupur	Tamil Nadu
510	Indigo Corporation	No. 1, Poonthottam , Murungapalayam, Kumar Nagar, Avinashi Road, Tirupur - 641 603.	Tirupur	Tamil Nadu
511	Jai Knit Process	1/1A-2, SIDCO Main Road, Anaikkuli Bus Stop, Kasipalayam, Vijayapuram (Po), Tirupur 641 606	Tirupur	Tamil Nadu
512	Jayaraj Knits	4/440, Bharathi Nagar, Kumaran Ginning Factory Compound, Veerapandi (Po), Tirupur 641 605.	Tirupur	Tamil Nadu
513	Lucky Process	Lucky Garden, S.F.No. 284/6, Kunnangalpalayam, Veerapandi Post, Tirupur 641 605	Tirupur	Tamil Nadu
514	M.R.G. Garments	NO.52, 60 Feet Road, Asher Nagar, Tirupur 641 603.	Tirupur	Tamil Nadu
515	Madhu Fashions	SF NO. 334, TKT Mill Road, Kuppandapalayam, Veerapandi Post, Tirupur - 641 605.	Tirupur	Tamil Nadu
516	Majestic Exports	9& 10, Malligai Nagar, College Road, Tirupur 641 602	Tirupur	Tamil Nadu
517	Maruthi Knitters	471-D, Pooja Garden Kuppandampalayam, Kuppandampalayam Main Road, Veerapandi Pirivu, Tirupur 641 605.	Tirupur	Tamil Nadu
518	Metro Knit Fab	550-A, NMS Garden, Palladam Road, TKT Mill Stop, Tirupur	Tirupur	Tamil Nadu

S. No	Name of the Unit	Address	Cluster/ City	State
519	Micro Knit Process	208/1, K.M.S.K. Compound, Murugampalayam, Iduvampalayam (Po), Tiurpur 641 687.	Tirupur	Tamil Nadu
520	Midas Creation	36/33, TSR Layout, 3rd Street, Kongu Main Road, Tiurpur 641 602.	Tirupur	Tamil Nadu
521	N.R.K. Collars	371, Lakshmi Nagar, Karaipudur Road, Chinnakarai, Veerapandi (Po). Tirupur- 641 605.	Tirupur	Tamil Nadu
522	Omsakthi Dyeing	Tank Thottam, Uthukuli Road, S. Periyapalyam, Tirupur - 641 607	Tirupur	Tamil Nadu
523	Parkavi Process	SF. NO. 161/3, Kallikadu Thottam, KVR Nagar, Karuvanpalayam, Tirupur- 641 604	Tirupur	Tamil Nadu
524	Premina Exports	20, Ashar Nagar, 3rd Street, 60 Feet Road, Gandhi Nagar (Po), Tirupur 641 603.	Tirupur	Tamil Nadu
525	Q Rich Creations	SF NO. 201/2, Sirupooluvapatti Main Road, Opp. Amman Kalyana Mandapam, 15, Velampalayam, Tirupur - 641 603	Tirupur	Tamil Nadu
526	RGR Knitwear	8/3527, Thiyagi Kumaran Colony, Annanagar, West, P.N. Road, Tirupur 641652	Tirupur	Tamil Nadu
527	S.K.N. Colours	17, Kallikadu Thottam, K.V.R. Nagar, Karuvampalayam, Tirupur 641 601.	Tirupur	Tamil Nadu
528	Sakthi Knit Process	398, Kallankadu Thottam, Kamaraj Road, Tirupur- 641 604.	Tirupur	Tamil Nadu
529	Saloraa Fabs	Shed No.14,15,TEKIC, TEA Nagar, Muthalipalayam, SIDCO, Tirupur - 641 606	Tirupur	Tamil Nadu
530	Shri Velavan Knitting Mills	S.F.NO.56/1, Behind Corporation School, Karuppagoundan Palayam, Palladam Road, Tirupur 641 605.	Tirupur	Tamil Nadu
531	Sivaram Tex,	8/1657, A3 Thiru Nagar, 1st Street, Reliance Bunk Backside, Pooluvapatti, P.N. Road,	Tirupur	Tamil Nadu
532	Spark Apparels	41, TEKIC TEA Nagar, SIDCO, Mudalipalayam, Tirupur- 641 606.	Tirupur	Tamil Nadu
533	Sree Thangamman Creations	S.F.NO.29/2B1, Therkkala Thottam Chellam Nagar Pirivu, Parapalayam, Mangalam Road, Tirupur 641 604	Tirupur	Tamil Nadu
534	Sri Balaji Textile Processors	1/269, West Kallangadu Thottam, Karuppagoundanpalayam, Tirupur	Tirupur	Tamil Nadu
535	Sri Gowtham Dyeing	S.F. NO. 188/5, Sanankadu, Murugampalayam, Iduvampalayam (Po), Tirupur 641 687.	Tirupur	Tamil Nadu
536	Sri Mangai Knits	Shed NO. 46/45 TEKIC, SIDCO, Mudalipalayam, Tirupur - 641 606	Tirupur	Tamil Nadu
537	Sudhama Hosieries	5, Sixty Feet Road, Asher Nagar, Tirupur 641 603.	Tirupur	Tamil Nadu

S. No	Name of the Unit	Address	Cluster/ City	State
538	The Spectro Process	88-F, Kallankadu Thottam, Palladam Road, Tirupur 641 604.	Tirupur	Tamil Nadu
539	Thirumal Collars	10/316-C Kunnangalpalayam, Ganapathipalayam Road, Veerapandi (Po), Tirupur 641605.	Tirupur	Tamil Nadu
540	Times DYEING	SF NO. 597 Near VIP Garden, Veerapandi Village, Veerapandi Po, Tirupur = 641 604	Tirupur	Tamil Nadu
541	Udhayam Fabrics	SF NO.628/5, Neelakadu, Veerapandi Pirivu, Veerapandi PO, Tirupur - 641 605.	Tirupur	Tamil Nadu
542	Unique Knitting Mills	56/1, Behind Govt. High School. Karupagoundanpalayam, Tirupur-641 604	Tirupur	Tamil Nadu
543	Vashanth Fashion	2/1083 A4, Therkkala Thottam, Nvb Garden, Chellam Nagar Pirivu,, Anipalayam (Po), Mangalam Road, Tirupur - 641 687	Tirupur	Tamil Nadu
544	Viswak Creations	D.No.8/4147k, Ayyappa Nagar, 3rd St. Boyampalayam, Pooluvapatti Post, Tirupur - 641 602.	Tirupur	Tamil Nadu
545	Viwin Fabs	9/380-A, Karaipudur, Near Victus Dyeing, Arulpuram (Po), Tirupur 642 605.	Tirupur	Tamil Nadu
546	D.V.R.Exports Pvt Ltd	8-2-293/F/29,30, Road No. 5, Jublee Hills, Hyderabad - 34	Hyderabad	Telangana
547	Da Vinci Jacquard Fabrics,	95, 96 Apparel Export Park, Gudlapochampaly, Hyderabad	Hyderabad	Telangana
548	Dazzle Sportswearpvt Ltd	107, 107a, Survey No. 509/1/2, Apparel Export Park, Gudnlapochampally, Medhal Dist, Telangana.	Hyderabad	Telangana
549	GTN Engineering(India)Ltd.	Survey No. 428, RR Chitkul Village	Hyderabad	Telangana
550	Helsa_Icon	46 A Gudla Pochampally Apparel Park, District Medchal	Hyderabad	Telangana
551	Hindustan Apparel Industries	105, 106 Apparel Export Park, Gundla Pochampally, Hyderabad	Hyderabad	Telangana
552	Imperial Garments	Plot No. 5 & 6, Ida Patencheru, Sangareddy	Hyderabad	Telangana
553	M/S Kolor Spintek Ltd	75, 76 Apparel Export Park, Gundlapochampally	Hyderabad	Telangana
554	Navadurga Textiles Processors Pvt Ltd.	Survey No. 1707, Nandigaon Village, Kothur Mandal, M.Nagar, District:- 509223	Hyderabad	Telangana
555	Parekh Fabrics	198/P, APIIC Industrial Park, Mambutu Village, Tada Mandal, Sps Nellore	Hyderabad	Telangana
556	Pokarna Ltd	Apparel Export Park, Gundlapochmpally	Hyderabad	Telangana
557	Racherla Garments Pvt Ltd	Plot 102, 103, Gundla Pochampally	Hyderabad	Telangana

S. No	Name of the Unit	Address	Cluster/ City	State
558	Ramgiri Spinning Mills Ltd	Survey No. 156, Mohammadabad Village, Narayanpur Mandal, Choutuppal, Yadadri Bhuvanagiri District.	Hyderabad	Telangana
559	Sircilla Sizing & Dyeing Development Society	1-1/A, Jyothinagar, Village Chandrampet, Sircilla	Hyderabad	Telangana
560	Surya Uday Spinning Mills	Survey Nbo. 311/A, Lingoji Guda Village, Choutuppal Mandal, Yadadri Bhuvanagiri District:- 508252	Hyderabad	Telangana
561	Suryalatha Spinning Mills Ltf	Marcharla Village, Kalwakurthi Mandal	Hyderabad	Telangana
562	Suryavamshi Spining Mills	Vill: Aliabad, Near Shamirpet, District: Medchal, Telangana	Hyderabad	Telangana
563	Tortoise International	Plot No. 90/A, Gundla Pochampally Apparel Park	Hyderabad	Telangana
564	Vijay Textiles	Survey No. 139, 140, 141, 143, Rajapur Village, Balanagar Mandal, M.Nagar Dist 509202	Hyderabad	Telangana
565	Vision Garments	8-15-5/9, Shastripuram, Katedan Post	Hyderabad	Telangana
566	White House Apparel Pvt Ltd	Anandbag-Moulali Road, Upparguda	Hyderabad	Telangana
567	Singh Casuals Pvt Ltd	6-106/4, Survey No. 23, Auckland Club Road, Jeedimetla, Qutubullapur	Hyderabad	Telangana
568	Botla Processing & Sizing Industry	Tangalapalle	Sircilla	Telangana
569	Chandrakala Textiles	10-10-36 Ganesh Nagar	Sircilla	Telangana
570	Laxminarayana Textiles	Plot No. 12, Road No. 3, Textiles Park, Post:- Sircilla Pin 505301	Sircilla	Telangana
571	Margam Textiles	Plot No. 5, Sircilla Textiles Park , Sircilla	Sircilla	Telangana
572	Rama Devi Textiles	Plot No. 61, Road No. 6, Sircilla Textiles Park, Sircilla	Sircilla	Telangana
573	Subash Textiles	Door No. 9-1-138, Venkat Rao Nagar, Near New Bus Stand, Sircilla	Sircilla	Telangana
574	Surya Textiles	Plot No. 14, Road No.3, Textiles Park, Badnepally, Sircilla	Sircilla	Telangana
575	Vaijyanthi Textiles	Plot No. 127, 128 Road No. 9, Sircilla Textiles Park, Sircilla	Sircilla	Telangana
576	A Waheed Royal Carpet Co.	Bhadohi	Bhadohi	Uttar Pradesh
577	A.R.International	Quazipur, Bhadohi - 221401	Bhadohi	Uttar Pradesh
578	Alam Rugs	Haneef Villa, Stn Rd, Bhadohi	Bhadohi	Uttar Pradesh
579	Ansari Rug Bazar	Quazipur, Bhadohi	Bhadohi	Uttar Pradesh
580	Archana Export House	Bhadohi	Bhadohi	Uttar Pradesh
581	Ashok Carpet Industries	G.T Road, Aurai, Bhadohi - 221401	Bhadohi	Uttar Pradesh
582	B.W.M. International	Power House Rd. Civil Lines Behind Maruti Showroom	Bhadohi	Uttar Pradesh

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583	Balaji Carpet Industries	Station Rd, Bhadohi - 221401	Bhadohi	Uttar Pradesh
584	Bhadhoi International	Shardapuri, Opp. Carpet City , Bhadohi-221401	Bhadohi	Uttar Pradesh
585	Bhadohi Cotton Company	Mondh Road, New Primary Pathshala, Ayodhyapuri, Bhadohi-221401	Bhadohi	Uttar Pradesh
586	Bhadoi Carpets	Opp. Ram Talkies , Maryadpatti, Bhadohi-22401	Bhadohi	Uttar Pradesh
587	Carpet Land India	Bhadohi	Bhadohi	Uttar Pradesh
588	Chandra Carpet Industries	Maryad Patti, Main Road, Bhadohi-221401	Bhadohi	Uttar Pradesh
589	Classic Rugs	Quazipur, Bhadohi	Bhadohi	Uttar Pradesh
590	Designers Desire	Naya Bazar Chandini Chowk , Bhadohi -221401	Bhadohi	Uttar Pradesh
591	Designs View	House No. 188, Stn. Rd, Behind Police Station, Bhadohi- 221401	Bhadohi	Uttar Pradesh
592	Eastern Rug Manufacturing	Station Rd, Green House, Bhadohi	Bhadohi	Uttar Pradesh
593	Excellent Carpets	Hulaspur, Maryadpatti	Bhadohi	Uttar Pradesh
594	Floorings	Staion Road, Bhadohi- 221401	Bhadohi	Uttar Pradesh
595	Gaurav Carpets	Main Road, Maryadpatti	Bhadohi	Uttar Pradesh
596	Glamour Carpet India	Main Road, Opp. Hotel Deluxe, Ghulam Ishpur, Bhadohi - 221401	Bhadohi	Uttar Pradesh
597	Goel Exporters	Bhadohi	Bhadohi	Uttar Pradesh
598	H.M Abbas International	Naya Bazar Chandini Chowk , Bhadohi -221401	Bhadohi	Uttar Pradesh
599	Hamidullah & Sons	P.O. Box No. 73, Peerkhanpur Rd, Near Railway Stn, Bhadohi - 221401	Bhadohi	Uttar Pradesh
600	Harish International	Civil Line Road , Power House Bhadohi-221401	Bhadohi	Uttar Pradesh
601	Home Trends India	Near Sarroi, Gas Godown, Aurai Road, Sarroi, Bhadohi- 221401	Bhadohi	Uttar Pradesh
602	Indian Art Gallery	Carpet City Chauri Road Bhadohi	Bhadohi	Uttar Pradesh
603	Indian Exports House	Mahathura, Aurai, Bhadohi- 221401	Bhadohi	Uttar Pradesh
604	Ivory Carpet	Maryad Patti, Near Bhadohi Gas Agency	Bhadohi	Uttar Pradesh
605	Ivory Fine Rugs	Naya Bazar Chandini Chowk , Bhadohi -221401	Bhadohi	Uttar Pradesh
606	Kay International	Station Road, Bhadohi - 221401	Bhadohi	Uttar Pradesh
607	Kerman International	Chauri Road, Bhadohi -221401	Bhadohi	Uttar Pradesh
608	Keshari Exports	Civil Lines Road, Pakari-221401	Bhadohi	Uttar Pradesh
609	Krishna Carpets	Jairampur, P.O: Aurai, Bhadohi - 221401	Bhadohi	Uttar Pradesh
610	Kum Kum Rugs	Civil Lines Road, Pakari-221401	Bhadohi	Uttar Pradesh
611	Kushal Exports Pvt. Ltd.	Station Road, Bhadohi - 221401	Bhadohi	Uttar Pradesh
612	Lucky Exports	Mondh Road, New Primary Pathshala, Ayodhyapuri, Bhadohi-221401	Bhadohi	Uttar Pradesh

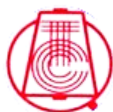
S. No	Name of the Unit	Address	Cluster/ City	State
613	M.H.Carpets	Bazar Sardar Khas,Bhadohi-221401	Bhadohi	Uttar Pradesh
614	M/ S, Royalton E.Co	Quaazipur , Bhadhoi -221401	Bhadohi	Uttar Pradesh
615	M/S Jamila Rugs India	Salimpur, Modh Road, Bhadohi-221401	Bhadohi	Uttar Pradesh
616	M/S Rajjas Ali & Sons	Peerkhanpur Road, Bhadohi.	Bhadohi	Uttar Pradesh
617	M/S Unique Exports	Nizampur, Bhadohi - 221401	Bhadohi	Uttar Pradesh
618	Mabood International	Quazipur Road, Bhadohi	Bhadohi	Uttar Pradesh
619	Mahavir Prasad & Sons	Main Road, Chakinayat, Next To Icici Bank, Bhadohi - 221401	Bhadohi	Uttar Pradesh
620	Maria Rug International	Dulamdspur, Sarrsi	Bhadohi	Uttar Pradesh
621	Mohd. Haneef & Sons	Haneef Villa, Stn Rd, Bhadohi - 221401	Bhadohi	Uttar Pradesh
622	Mughal Carpets Industries	Azimulla Chawraha, Main Rd, Bhadohi.	Bhadohi	Uttar Pradesh
623	Mys Export Import	Naya Bazar Chandini Chowk , Bhadhoi -221401	Bhadohi	Uttar Pradesh
624	N.Y.Z Global	Stn Rd, Bhadohi - 221401	Bhadohi	Uttar Pradesh
625	Nasrullah & Company	P.O.Box No. 64, Main Rd, Bhadohi - 221401	Bhadohi	Uttar Pradesh
626	Noor Carpet Company	Main Road	Bhadohi	Uttar Pradesh
627	Noori Export	Alampur, Bhadohi Alampuri Road	Bhadohi	Uttar Pradesh
628	Numan Oriental Rugs	Ghosia, Aurai, Bhadohi- 221401	Bhadohi	Uttar Pradesh
629	O. Pee Carpets	Bhadohi	Bhadohi	Uttar Pradesh
630	Orient Carpets	Narottamdas Road, Chakinayat (Katra Bazar)	Bhadohi	Uttar Pradesh
631	Patodia Carpet	Maryadpatti, Gfd Complex	Bhadohi	Uttar Pradesh
632	Peoples Carpet Corpn	Quazipur, Bhadohi - 221401	Bhadohi	Uttar Pradesh
633	Puja Carpet Pvt. Ltd.	Maryadpatti,Main Road	Bhadohi	Uttar Pradesh
634	Quasimi Tefficl Export	Naya Bazar Chandini Chowk , Bhadhoi -221401	Bhadohi	Uttar Pradesh
635	Raheem And Son (Shah Mohammed)	Chouri Road, Bazar Sardar Khas, Bhadohi	Bhadohi	Uttar Pradesh
636	Raheem International	Chouri Road, Bazar Sardar Khas, Bhadohi	Bhadohi	Uttar Pradesh
637	Rahman Export	Ghosia, Aurai, Bhadohi- 221401	Bhadohi	Uttar Pradesh
638	Rainbow Exports	Gupta House, Main Road, Bhadohi - 221401	Bhadohi	Uttar Pradesh
639	Rajjab Ali & Co.	Bhadohi	Bhadohi	Uttar Pradesh
640	Ramesh Carpet Co.	Jalapur, Stn Rd, Mulla Talab Rd, Bhadohi - 221401	Bhadohi	Uttar Pradesh
641	Ravi Rugs Pvt. Ltd.	Katehra, Ugapur, Aurai, Bhadohi - 221401	Bhadohi	Uttar Pradesh
642	Rmc Collections	Quazipur, Bhadohi-221401	Bhadohi	Uttar Pradesh
643	Rugs De Indiska	Rewra Paraspur, Chauri Road	Bhadohi	Uttar Pradesh
644	Rugs Mart	Vill & Post. Parkharpur, Bhadohi - 221401	Bhadohi	Uttar Pradesh

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645	Rupesh Kumar & Sons	Bhadohi	Bhadohi	Uttar Pradesh
646	S. U. Works	Peerhchapur Road, Bhadohi - 22141	Bhadohi	Uttar Pradesh
647	S.B.Z. Rugs	Hamidullah Bldg, Peerlohanpur Rd, Bhadohi - 221401	Bhadohi	Uttar Pradesh
648	S.International	Bhadohi	Bhadohi	Uttar Pradesh
649	Salem Carpets	Naya Nagar	Bhadohi	Uttar Pradesh
650	Salwan Rug Industries	Ghosia, Aurai, Bhadohi- 221401	Bhadohi	Uttar Pradesh
651	Samad Hadi Exports	Samad Building, Main Road, Bhadohi	Bhadohi	Uttar Pradesh
652	Sameer Enterprises	Maryadpatti, Bhadohi- 221401	Bhadohi	Uttar Pradesh
653	Sania Rug International	Dulamdaspur, Sarroi, Bhadohi- 221401	Bhadohi	Uttar Pradesh
654	Shadab Carpets	Pure Raheen, Chauri Road, Bhadohi -221401	Bhadohi	Uttar Pradesh
655	Shalini Exports	Near Post Office, Stn Rd, Bhadohi - 221401,	Bhadohi	Uttar Pradesh
656	Shamshi Carpets	Alampur, Bhadohi-221401	Bhadohi	Uttar Pradesh
657	Shamsi Collection	Pure Raheem Khan, Alampur, Bhadohi - 2	Bhadohi	Uttar Pradesh
658	Shri Colours System	Dulamdaspur , Sarraoi, Bhadohi - 221401	Bhadohi	Uttar Pradesh
659	Siddharth International	Jairampur, P.O: Aurai, Bhadohi - 221401	Bhadohi	Uttar Pradesh
660	Singh Enterprises	Siur, Aurai, Bhadohi - 221401	Bhadohi	Uttar Pradesh
661	Sujata Carpets	Maryadpatti	Bhadohi	Uttar Pradesh
662	Sunder Carpet Company	Maryadpatti Road, Bhadohi - 221401	Bhadohi	Uttar Pradesh
663	Surya Carpet Pvt. Ltd.	Ugapur, Aurai, Bhadohi- 221401	Bhadohi	Uttar Pradesh
664	Tajmahal Product	Bhadohi	Bhadohi	Uttar Pradesh
665	Tara India	Mathurapur , Nayaran Bazar, Bhadhoi-22141	Bhadohi	Uttar Pradesh
666	Tauquir International	Mahathura, Aurai, Bhadohi- 221401	Bhadohi	Uttar Pradesh
667	Teppich World	Peerkhanpur Road, Bhadohi-	Bhadohi	Uttar Pradesh
668	Teppich-De-Orients	Naya Nagar	Bhadohi	Uttar Pradesh
669	Textico	Staion Road, Bhadohi- 221401	Bhadohi	Uttar Pradesh
670	Tiwari Export	Bhadohi	Bhadohi	Uttar Pradesh
671	Uni Fashion Rugs	Naya Nagar	Bhadohi	Uttar Pradesh
672	Vd Carpets	Naya Bazar Chandini Chowk , Bhadhoi -221401	Bhadohi	Uttar Pradesh
673	Vishal Carpets	Gyanpur Road,	Bhadohi	Uttar Pradesh
674	Vishal Carpet Company	Maryadpatti, Bhadohi - 221401	Bhadohi	Uttar Pradesh
675	Wagiri Rugia Carpet	Bhadohi	Bhadohi	Uttar Pradesh
676	Waziri India	Bhadohi	Bhadohi	Uttar Pradesh
677	Rspl Ltd.	Plot No.E, 4& 5, Site-5, Kasna Industrial Area	Gautam Budh Nagar	Uttar Pradesh

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678	Jagmini Micro Knit Pvt. Ltd.	C-19 A Panki Indl. Estate Site -1 Kanpur	Kanpur	Uttar Pradesh
679	Jet Knitwears Ltd.	57 A, Dada Nagar, Kanpur	Kanpur	Uttar Pradesh
680	A.K.Textile	Sardhara	Meerut	Uttar Pradesh
681	Adhunik Enterprises	126, Mohkampur I Delhi Road	Meerut	Uttar Pradesh
682	Faimuddin Ansari	Sardhana	Meerut	Uttar Pradesh
683	Jainarain Fab Tech Pvt. Ltd.	Ekta Village, Meerut, Khasra No.68	Meerut	Uttar Pradesh
684	Jay Bhagwati Textiles	Raswati Industrial Area, Partapur	Meerut	Uttar Pradesh
685	Kashif Hanloom Gomti Nagri	Town Hall Road, Sardhana Market	Meerut	Uttar Pradesh
686	National Handloom Industries	Mohakampur Industrial Area Ph.II, Delhi Road	Meerut	Uttar Pradesh
687	Padam Shree Textiles	Mohkampur Phase-1 Delh Road	Meerut	Uttar Pradesh
688	Sardhara Spinning Mills (P) Ltd.	Meerut Road , Sardhara Meerut	Meerut	Uttar Pradesh
689	AAR Sport	B-38, Sector 63, Noida	Noida	Uttar Pradesh
690	Another Export Company	B-56, Sector-2, Noida-201301(U.P)	Noida	Uttar Pradesh
691	B.L International	38 G Udhyog Vihar, Greater Noida, U.P	Noida	Uttar Pradesh
692	B.L International Pvt. Ltd	A-14, Hosiery Complex, Noida Phase II, Pin-201301	Noida	Uttar Pradesh
693	D.K Fashions	B-42, Ist Floor, Sector-2, Noida	Noida	Uttar Pradesh
694	Eastern Base	C-186, Hosiery Complex, Noida	Noida	Uttar Pradesh
695	Good Luck Fashion	A-70, Sector 63, Noida	Noida	Uttar Pradesh
696	Laj Exports Limited	J-1, Sector-63, Noida-201301	Noida	Uttar Pradesh
697	Moral Overseas Ltd	A-11, Hosiery Complex, Phase II, Noida-201305,U.P	Noida	Uttar Pradesh
698	Neha Garment	D-17, Sector-63, Noida(U.P)	Noida	Uttar Pradesh
699	Prakash Textiles	D-27, Sector Xi, Noida(U.P)	Noida	Uttar Pradesh
700	Radnik Exports	D-201, Sector 63, Noida(U.P)	Noida	Uttar Pradesh
701	Rapid Creation Pvt Ltd	B-80, Sector-63, Noida(U.P)	Noida	Uttar Pradesh
702	SND INC	C-91, Hoseiry Complex Phase II, Noida	Noida	Uttar Pradesh
703	SND INC	C-140/141, Hosiery Complex Phase II, Noida-201305	Noida	Uttar Pradesh
704	Geosys India Infrastructures Pvt.Ltd.	F-109, Gopalpura, Upsidc Industrial Area	Sikandrabad	Uttar Pradesh
705	A.R.Creatation	J29/15, Hussanpur, Nai Basti, Jaitppura	Varanasi	Uttar Pradesh
706	Allouddin Fabrics	A-39/225 Lat Sariya Pakka Mahal. Badi Marjeed	Varanasi	Uttar Pradesh
707	D'Bstram Textile Mill	Behind Union Bank Of India (Bhatti Brand) Lohta	Varanasi	Uttar Pradesh
708	Ghulam Qadir	Varanasi	Varanasi	Uttar Pradesh
709	Intgarul Haque	Alawal Lohta	Varanasi	Uttar Pradesh
710	Istiyas Ahmad	Pilikothi	Varanasi	Uttar Pradesh
711	Jai Ganesh Textiles	Chandapur Lohta	Varanasi	Uttar Pradesh

S. No	Name of the Unit	Address	Cluster/ City	State
712	Jamal Ahmad Ansari	Lohta	Varanasi	Uttar Pradesh
713	Mr.Bahhtiyar Alam	Lohta,	Varanasi	Uttar Pradesh
714	Pawar Kumar Mourya	Dlw(S) Manduadil	Varanasi	Uttar Pradesh
715	Rashmi Fabrics	N9-31, Choti Patiya Post Bajardiha	Varanasi	Uttar Pradesh
716	Riyaz Ahmed	Lohta	Varanasi	Uttar Pradesh
717	Saroj Enterprises	Saroj Enterprises, Shivdas Pure, Modhaila Road(Near Vijay Nursery) Marduadih	Varanasi	Uttar Pradesh
718	Shri Abdul Salam	Varanasi	Varanasi	Uttar Pradesh
719	Shri Ajijul Haque	Abdul Haqeen	Varanasi	Uttar Pradesh
720	Shri Santosh Kr.Mourya	Dlw(S) Mandudih	Varanasi	Uttar Pradesh
721	Shri Shahid Jamal	Sariya	Varanasi	Uttar Pradesh
722	Umrai Fashion Crafts	Umrai Bhawan, Jagannathpuri Market, Station Road, Lohta, Varanasi -221107	Varanasi	Uttar Pradesh
723	Umrai Fashion Mart	Varanasi	Varanasi	Uttar Pradesh
724	Vinod Kumar Rastogi	Jagannathpuri Lohta	Varanasi	Uttar Pradesh
725	Zamirdars Sons	Varanasi	Varanasi	Uttar Pradesh
726	Zamudar's Exporium	Jalalipura	Varanasi	Uttar Pradesh
727	MCPI Private Limited	Plant : Village & Po Bhuniaraichak, Via Sutahata, Haldia,	Purba Medinipur	West Bengal
728	Lux Industries Ltd.	F-190, Salpata Bagan, Agarpara	24pgs, North	West Bengal
729	Lux Industries Ltd.	Village & Po -Kanduah, Sankrail Ind. Park	Hawrah	West Bengal
730	Lux Industries Ltd.	J L 22, Mollaber Jani Dankuni Hooghly,	Hooghly	West Bengal
731	J G Hosiery Pvt Ltd	28 Bt Road	Kolkata	West Bengal
732	Lux Industries Ltd.	28, Bt Road, Po Cossipur,	Kolkata	West Bengal

Annexure 1



Textiles Committee
1 Ministry of Textiles, Government of India
P. Balu Road, Prabhadevi
Mumbai – 400 025

Promote Growth of Man Made Fibre Textile Industry in India – Roadmap to
Identify Gaps and Suggest Measures”

Unit No.:

SECTION I: GENERAL DETAILS

I. Organisation Profile	
1. Name and Location of the Unit	_____ Tel No: _____ _____ Fax No. _____ Website: _____ Email: _____
2. Administrative Office address	_____ Tel No. _____ Fax No. _____ Website: _____ Email: _____
3. Owner/CEO	Name: _____ Phone: _____ Mobile: _____ Email: _____
4. Name of the Informant	Name: _____ Phone: _____ Mobile: _____
5. Year of Establishment of the Unit	_____
6(A). Size of the Unit (Please tick)	
Micro	Small
Medium	Large
(Micro - Investment in plant and Machinery does not exceed Rs 25 lakh; Small - Investment in plant and Machinery is more than Rs 25 lakhs but does not exceed Rs 5 crores; Medium - Investment in plant and Machinery is more than Rs 5 crore but does not exceed Rs 10 crore; Large - Investment in plant and Machinery is more than Rs 10 Crores)	

6(B). Segment to which the unit belong (pl tick)						
Spinning		Weaving		Knitting		
Processing		RMG		Made-ups		
Composite		Technical Textiles/		Non Woven		
Handlooms		Others (Specify)				
6(C). Type of Ownership (pl tick) (Pl. see the instructions)						
Public Ltd		Private Ltd		Partnership		
Proprietary		Others (Specify)				
7 (A). Type of Products produced (pl tick)						
Fibre		Filaments		Yarn		
Woven fabric		Knitted fabric		RMG		
Made-ups		Carpets		Non-Wovens		
Specialty Fibres		Technical Textiles		Others (Specify)		
7 (B). Type of Activity (Please tick) In case of both activities write %		Own		Job work		
Production turnover of the Unit.		Unit	2013-14	2017-18		
Quantity						
Value						
8. Product wise turn over for the last five years (Value in lakh Rs)						
Name of Products	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
8 A Production Details (in quantity):						
Products	Unit	2013-14	2017-18	Content (If blends give % composition)		
Products are: Fibre, Filament, filament Yarn, Spun Yarn, Knitted Fabric, woven fabric, Made-ups, Technical Textiles						

9. Details of Raw Material used during 2018-19.						
Raw material	Content (If blends give % composition)	Source (Please tick, if more than one give % also)			Country of imports	
		Local	Domestic	Imported		
Raw materials are: Products are: Fibre, Filament, filament Yarn, Spun Yarn, Knitted Fabric, woven fabric, Made-ups, Technical Textiles (please provide Country name & % in country of imports)						
10 Investment details (in Rs lakhs)						
Particulars	Up to 2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1.1.1.1.1 Land & Building						
Plant & Machinery						
Skill Development/ Training						
Others (specify)						

11. Manpower of the unit.

Category	2013-14		2014-15		2015-16		2016-17		2017-18	
	M	F	M	F	M	F	M	F	M	F
Managerial										
Supervisory										
Shop floor employees (Including Contract)										
Any Other										

12 Plans of the unit

1.1.1.2 12 A. Do you have any Modernisation plans?					
1.1.1.3		<input type="checkbox"/>	<input type="checkbox"/>		
1.1.1.4 Yes		<input type="checkbox"/>	No <input type="checkbox"/>		
If yes, please give details					
Area of Modernisation	Planned month/year	Funds required (in Rs Lakhs)	Source of funding		
			Own	FIs	Others
If No, reasons for not modernising?					
1.1.1.5 12 B. Do you have any Capacity Expansion plans?					
1.1.1.6		<input type="checkbox"/>	<input type="checkbox"/>		
1.1.1.7 Yes		<input type="checkbox"/>	No <input type="checkbox"/>		
If yes, please give details					
Area of Capacity Expansion	Planned month/year	Funds required (in Rs Lakhs)	Source of funding		
			Own	FIs	Others
If No, reasons for not upgrading?					
1.1.1.8 12 C. Do you have any Product Diversification plans?					
1.1.1.9		<input type="checkbox"/>	<input type="checkbox"/>		
1.1.1.10 Yes		<input type="checkbox"/>	No <input type="checkbox"/>		
If yes, please give details					
Area of Product Diversification	Planned month/year	Funds required (in Rs Lakhs)	Source of funding		
			Own	FIs	Others
If No, reasons for not carrying product diversification?					
Support required from Govt. Policy/Scheme Others					

13 Kindly give your opinions on the critical problems faced by the industry, after indicating the gravity of the problems as below by tick marking				
Problems	Details			
	Very Critical	Serious	Not so serious	Details may be given in separate sheet
Infrastructure				
Power				
Land				
Logistics				
ETP Related				
Any other, please specify				
Technology				
Technology Know how				
Machinery imports				
Maintenance of Machinery				
Delivery of booked Machines				
Any other, please specify				
Raw material				
Availability				
Quality				
Price				
Man Power				
Skilled man-power				
Skilling / training programmes				
Attrition of workers				
Labour issues/ Trade Union issues				
Any other, please specify				
Fiscal Levies/Duty structures				
GST				
Tariffs (for Exports)				
Duty Drawback				
Foreign Trade Policy				
Import related				
Any other, please specify				

SECTION II: MMF TEXTILES**14 Procurement of Raw Materials**

1. Is the Raw Material is easily available? Yes No
2. Problems associated with the Procurement of Raw Material, if any

Problems	Rank
Locally available raw materials are costlier	
Desired Quality Raw Materials are not available locally	
Duties/ Taxes of Raw Materials are high	
Logistics related issues of Raw Material Procurement, give details	
Import related issues (please specify)	
Any other (Please specify)	

15 Level of Technology of the unit

S. No	Segment	Technology Used	International Technology
1	Spinning		
2	Weaving		
3	Knitting		
4	Made-ups		
5	RMG		
6	Technical Textiles		

1. The present technology level of your unit is Modern Traditional/Obsolete
2. If Traditional, Reasons for not upgrading
- i Non-availability of desired Technology level machines in India
 - ii Not covered in the Government schemes
 - iii High cost of the Machinery
 - iv Lack of funds
 - v Government funds
 - vi. Ease of procurement of technology
 - vii. Any others (please specify)

16 Production Capacity, Vintage & Capacity Utilisation							
S No	Segment	Name of the Machine	No. of machines	New/ Second Hand	Vintage (year)	Installed Capacity	Capacity utilisation
1	Fibre						(in Tons)
2	Filament Yarn						(in Tons)
3	Staple Spun Yarn						(in Tons)
4	Weaving						(in Metrs)
5	Processing						(in Tons) (in Mtrs) (in pieces)
6	Knitting						(in Tons) (in Mtrs)
7	Technical Textiles						
8	Non-wovens						Sq. Ft Sq. Mtr
9	Made-ups						Sq. Mtr
10	RMG						(in Tons)

Note: Please mention 'ind' for Indian machines, 'imp' for imported machines, 'SH ind' for Second hand Indian machines and 'SHimp' for second hand imported machines against their name.

16 A What are the issues associated with the Capacity Utilisation?

Issues	Rank
Insufficient quantity of raw material	
Non-availability of labour/skilled labour	
Quality of Power	
Lack of working capital	
Labour issues	
Lack of sufficient orders	
Competition	
Any other (Please specify)	

17 Domestic / Export Market

1. Channel of local supply of marketing

Direct Agents

2. Channel of export

Direct Agents

3. Destination for your products. (give %) Domestic Export

4. Is the Market for your products are growing? Yes No

1. Reasons affecting the growth of market (Domestic)

Reasons	Rank
Lot of competition	
Cheap imports of products	
Duties/Levies	
Lack of desired quality with other competitors	
Lack of desired quality with imports	
Any other (Please specify)	

2. Reasons affecting the growth of market (Export)

Reasons	Rank
Lot of competition	
Tariffs	
Non Tariff Barriers	
Any other, please specify	

18 Effect of Government Schemes/Policies

1. Whether you have availed any Government Schemes/policies?

Yes No

2. If yes please provide details

Scheme Name	Central/ State	Positively affecting (Please tick)	Adversely affecting (Please tick)

19 Customer and consumption trend**Domestic Market**

1. Do you know the preference pattern of the customers?

Yes No

2. Whether demand is increasing? What is % of growth/decline over the last year?

Yes No Percentage: _____

3. What are the factors?

Factors	Rank
Price	
Preference	
Fashion	
Any other, please specify	

4. What are the tools being deployed by you for promotional activities

Branding Advertising Buying Agent

Any other (pl specify)

5. Factors affecting the domestic consumption

Factors	Rank
Price/Affordability	
Preference	
Fashion	
Climate	
Durability	
Usage of the product	
Any other, please specify	

6. Any other issues

20 Export Market

Product	Major Destinations (Top 10) Please mention % also.

2. Factors affecting the export market

Market	Factors (write codes)

Note factors may include (1) Competition from other countries; (2) Exchange rates; (3) Government Policy; (4) Policy of importing nation; (5) Tariffs; (6) Non Tariff Barriers; (7) Any Other, (Please specify)

3. Are you interested in exploring new markets for exports?

Yes No

If yes, what kind of support required for exports? Please provide rank to the particulars

Particulars	Rank
EPCs support in identifying new markets	
Tariffs	
Price of the goods	
Language	
Norms in the buying country	
Non Tariff Barriers	
Any other, please specify	

4. Suggestions for enhanced competitiveness in the international market

5. Any other issues

21 Value Addition

What is the value addition taking place in your unit (Give %)

Stage of production	Value Addition	Component of expenditure				
		Raw Material	Manpower	Marketing	Machinery	Others
Fibre to Filament/Spun Yarn						
Filament/Spun						

Yarn to Woven Fabric						
Filament Yarn/Spun to Knitted Fabric						
Woven Fabric to Made-ups						
Woven Fabric to RMG						
Knitted Fabric to RMG						

2. How this pricing is affecting your business?

22 Technological Innovations

1. What are the innovations available in the market both domestic & international to meet customer requirements?

Innovations	Domestic	International
Product related		
Process related		
Any Other (Please Specify)		

2. Are the technological innovations are readily available in the country? If no, the reasons there of?

3. Do you have desired capital to adopt new technological innovations to meet the customer requirements?

4. Any other

23 Investments of the units

1. What are the factors influencing in attracting investment in the sector?

2. Is there any impediments in attracting FDI in the sector?

Yes No

3. What are the impediments?

4. Any other issues influencing/ affecting investments in the sector?

24 Improving competitiveness of the sector

1. Steps to be taken for economies of scale in the sector

2. What are the factors affecting in achieving global standards

3. Factors affecting in the adoption of new technology

4. Govt. policies affecting the sector

5. Steps to be taken by the Government for enhancing competitiveness in the sector

Suggestions, if any, for the Development of the sector

For Office records only

Interviewers/Investigators Details		Verifying Officers Details	
Name		Name	
Designation & RO		Designation & RO	
Signature of the Interviewer along with Date		Signature of the Verifying Officer along with Date	

Annexure 2

India's top 139 T&A exported products to world (Mn USD)

	Indicates Cotton		Indicates Manmade		Indicates Other		
Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
61091000	T-shirts etc of cotton	1542.11	1740.27	1726.21	1864.51	5.45	2.13
63026090	Toilet linen and kitchen linen, of terry towelling or similar terry fabrics, of cotton, other than handloom	377.66	848.6	1058.82	1046.97	3.06	12.00
52010015	Indian cotton of staple length 28.5mm (1.4/32) and above but below 34.5mm	2620.98	3386.83	1438.51	940.35	2.75	-10.76
62052000	*Mens or boys shirts of cotton	765.29	883.36	882.2	776.24	2.27	0.16
52052310	Grey	843.41	989.26	686.96	775.42	2.27	-0.93
63041910	Bedsheets and bed covers of cotton	318.95	685.36	597.38	737.6	2.16	9.76
54023300	Textured yarn of polyesters	437.84	842.21	767.61	715.35	2.09	5.61
61112000	Babies garments etc of cotton	368.49	520.39	644.82	702.7	2.05	7.44
63053200	Flexible intermediate bulk containers of man made textile materials	156.97	450.83	460.39	672.62	1.97	17.55
62044390	Othr dresses of synth fibres	148.48	388.55	514.45	648.23	1.89	17.79
52052410	Grey2401	446.1	844.71	753.82	548.15	1.60	2.32
62114300	Other garments of man-made fibres	42.26	342.99	608.66	545.04	1.59	32.86
61099090	T-shirt etc of othr fibres	158.34	573.39	672.42	491.82	1.44	13.42
62064000	Blouses,shirts etc of man-made fibres	241.13	564.6	646.63	490.75	1.43	8.22
62034200	*Trousers bib and brace overalls breeches and shorts of cotton for mens and boys	394.71	505.81	403.81	466.46	1.36	1.87
62063000	*Blouses,shirts and shirts-blouses of cotton	1238.81	806.75	591.64	462.99	1.35	-10.36
62044220	Dresses of cotton	687.51	494.29	458.98	386.04	1.13	-6.21

294230/2021/Economic Division

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
52085290	Others	142.66	202.67	178.84	350.24	1.02	10.49
52052210	Grey	232.83	333.24	263.51	341.15	1.00	4.34
61051020	Knit shirts (except t-shirts) and sweat shirts, other than hand crocheted of ctn	173.87	175.45	217.83	321.07	0.94	7.05
62114290	Cotn grmnts othr thn kurta and salwar wth without duppatta	69.41	259.45	340.42	315.29	0.92	18.31
52051210	Grey	160.28	620.76	427.25	306.59	0.90	7.47
55032000	Staple fibres of polyester nt crd/cmbd	229.4	309.11	222.8	288.61	0.84	2.58
61142000	Other garments of Cotton	129.55	269.98	310.49	265.09	0.77	8.28
62034990	Trousers, breeches and like of other fibres	68.49	140.27	371.47	262.57	0.77	16.10
61083100	Nightdresses and pyjamas of cotton	180.4	236.01	231.46	259.99	0.76	4.14
62044400	Dresses of artificial fibres	15.5	95.35	250.63	259.55	0.76	36.77
63023100	Other bed linen of cotton	235.79	170.9	270.44	238.46	0.70	0.13
52094200	Denim	166.19	267.27	224.59	234.13	0.68	3.88
62046200	*Trousers, bib and brace overalls, breeches and shorts of cotton	295.01	276.2	176.94	212.35	0.62	-3.59
55151130	Fbrc of polstr, mxd wth viscos ryon, dyed	186.9	262.71	162.08	209.7	0.61	1.29
61071100	Underpants and briefs of cotton	148.54	184.34	194.97	198.14	0.58	3.25
61102000	Jerseys etc of cotton	137.42	118	119.01	196.34	0.57	4.04
52114200	Denim of yarns of different colour of mxd cotn fabrics weighing >200 gsm	16.66	48.65	89.55	196.19	0.57	31.52
53050040	C0ir pith	28.16	62.3	137.63	194.02	0.57	23.92
61082100	Briefs and panties of cotton	107.32	146.37	128.18	185.67	0.54	6.28
54072090	Othr wven fbrcs from strip/the like	16.46	34.91	72.35	176.32	0.52	30.15
57011000	*Carpets and other Textile floor coverings of wool or fine animal hair, knotted	362.82	237.24	212.81	175.28	0.51	-7.77
62059090	Shirts of other fibres	47.07	103.3	280.73	174.14	0.51	15.65
62044290	Othr dresses of cotton	90.9	91.95	67.04	173.94	0.51	7.48
63041990	Othr bedsheets and bed covers n.e.s.	41.81	186.52	149.28	168.48	0.49	16.75
61119090	Babies grmnts etc of wool/fine animl hair	28.27	78.27	123.75	165.98	0.49	21.73

294230/2021/Economic Division

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
62092000	*Babies grmnts and clothng accssrs of cotton	136.84	177.11	162.14	162.73	0.48	1.94
55095300	Other yarn of polyster staple fibrs mixed mainly/solely with cotton	171.48	196.38	164.54	161.41	0.47	-0.67
57031010	Carpets	185.93	203.95	212.24	150.53	0.44	-2.32
55041000	*Viscose rayon staple fibres nt crd/combnd	149.21	206	309.12	148.18	0.43	-0.08
63079090	Othr made up artcls othr thn cotton	83.52	51.31	188.36	145.7	0.43	6.38
61072100	Nightshirts and pyjamas of cotton	102.21	133.58	136.8	145.11	0.42	3.97
54026200	Othr yarn of polystrs,multpl or cabld	30.15	77.39	90.32	141.69	0.41	18.76
61034200	Trousers,shorts etc of cotton	74.83	70.76	111.43	138.72	0.41	7.10
54072030	Dyed wven fibrs from strip/the like	37.41	17.27	22.16	138.26	0.40	15.63
54077200	Woven fabrics,cntng 85% or more by wt of othr synthetic filaments, dyed	35.98	173.43	29.88	137.1	0.40	16.03
63079020	Made up artcls of cotton	91.94	251.55	331.82	134.82	0.39	4.35
57039010	Carpets etc of cotton (nt durries)	14.8	57.48	93.42	130.2	0.38	27.33
63049250	Terry towel of cotn, ntkntd/crcht	199.99	157.05	115.6	127.66	0.37	-4.87
61149090	Other garments of other fibres	17.99	142.38	179.2	124.81	0.36	24.01
54024600	Yarn of polyester,prtly orntd,untwstd or wth a twist <= 50 turns per mtr, single	183.02	237.68	116.85	122.99	0.36	-4.32
61044200	Dresses of cotton	95.69	112.5	114.1	122.87	0.36	2.82
62069000	Blouses,shirts etc of othr txtl materials	47.17	81.03	92.1	122.61	0.36	11.20
61052010	Mens/boys shirts syn fibres	191.09	229.08	269	122.27	0.36	-4.84
57019090	Crpts and flr cvrngs knottd othr than cotton	87.53	150.57	226.35	119.33	0.35	3.50
62046300	Trousers,bib and brace overalls, breeches and shorts of synthetic fibres	28.31	72.49	125.6	119.13	0.35	17.31
62114990	Other garments of other textile materials excl. wool		19.67	108.91	117.94	0.34	#DIV/0!

294230/2021/Economic Division

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
	or fine animal hair						
63049239	Other pillow cases and pillow slips	19.96	51.39	93.72	116.27	0.34	21.63
63049260	Towel orht thn terry of cotn, ntkntd/crcht	57.55	71.04	90.18	115.76	0.34	8.07
62046990	Trousers,bib etc of other fibres	30.69	75.55	121.81	114.82	0.34	15.79
61059090	Shirts of other fibres	65.46	59.45	166.65	112.61	0.33	6.21
62044990	Othr dresses of othr txtl materials othr than silk	41.16	28.6	78.34	111.14	0.32	11.67
52081190	Others	148.76	136.07	113.17	110.94	0.32	-3.21
60041000	Knitd or crocheted fbrcs of width>30cm contng elastomeric yarn>=5% by wt but not ruber thread	5.16	18.05	45.5	110.14	0.32	40.51
61099010	T-Shirt etc of syn fibres	78.25	109.59	365.72	108.14	0.32	3.66
61083990	Nightdresses and pyjamas of othr fibres	9.2	38.8	83.76	108.05	0.32	31.48
57023110	Carpets	39.15	74.44	102.23	107.66	0.31	11.90
55095100	Othr yarn of polystr stpl fibrs mixed mainly/solely with artificial staple fibrs	197.1	145.34	117.81	105.35	0.31	-6.72
62121000	Brassieres	48.91	91.24	104.82	104.28	0.30	8.78
60062200	Othr knited or crocheted fbrcs of cotton , dyed	34.04	48.81	73.73	103.94	0.30	13.21
60062100	Othr knited or crocheted fbrcs of cotton , unblchd or blchd	77.62	79.96	64.99	100.2	0.29	2.88
62045300	Skirts and divided skirts of synthetic fibrs	44.76	85.86	75.43	99.54	0.29	9.29
52081290	Others	30.2	44.99	67.29	97.1	0.28	13.86
61034990	Trousers,bib,shorts etc of other fibres	11.69	31.97	118.01	95.04	0.28	26.22
62149090	Shawls,scarves,etc of othr txtl fibrs	111.86	233.63	238.52	94.72	0.28	-1.83
61046200	Trsrs,bibs,brc ovrrls,brchs,shrts of cotn	122.54	102.3	132.84	94.04	0.27	-2.90
52083290	Others	22.94	55.33	66.76	93.59	0.27	16.91
52051310	Grey	99.07	152.9	115.19	93.17	0.27	-0.68
62034300	Trousers,bib and brace,overalls,breeches and shorts of synthetic fibrs,mens or boys	61.65	87.9	129.01	89.38	0.26	4.21
57023210	Carpets,carpeting and	18.69	26.9	61.33	89.12	0.26	18.95

294230/2021/Economic Division

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
	rugs						
52083190	Others	53.11	55.76	73.03	88.93	0.26	5.89
58101000	Embroidery without visible ground	1.58	50.71	63.84	87.14	0.25	56.14
63090000	Worn clothing and other worn articles	62.2	81.17	63.42	84.39	0.25	3.45
61051010	Cotton shirts, hand crocheted	169.3	125.5	71.41	83.09	0.24	-7.60
61071990	Underpants and briefs of other fibres	12.71	44.35	67.65	82.96	0.24	23.18
62149060	Shawls muffelers etc of manmade fibre	117.62	206.49	202.16	82.77	0.24	-3.83
61044300	Dresses of synthetic fibres	37.19	86.31	118.8	82.71	0.24	9.29
61061000	Blouse etc of cotton	268.79	152.28	76.85	78.33	0.23	-12.80
56074900	Othr cordge etc of polyethln/polypropyln	92.99	117.43	46.73	77.31	0.23	-2.03
59031090	Othr fabrc imprgntd, lamntd pltd and coated with pvc	51.74	147.97	90.09	76.31	0.22	4.41
62045200	Skirts and divided skirts of cotton	200.06	140.55	70.46	76.03	0.22	-10.19
61046990	Trousers, bib and brace etc of other fibres	14.9	51.77	102.37	75.66	0.22	19.79
63049289	Other cushion covers	44.07	56.79	88.72	75.57	0.22	6.18
59039090	other fabrc pltd lamntd coatd impregnated with othr plastics	3.6	9.61	11.33	72.34	0.21	39.57
52093290	Others	13.81	103.44	50.05	71.98	0.21	20.13
53050010	Coir bristle fibre, coir mattress fibre, coir short fibre, coir bit fibre, decorticated coir fibre	20.31	51.2	64.91	71.47	0.21	15.00
62033990	Jackets and blazers of other fibres	15.69	41.5	69.37	71.18	0.21	18.30
57050042	Mats and mattings including bath mats, where cotton predominates by weight, of handloom, cotton rugs of handloom	20.53	89.87	91.74	71.08	0.21	14.80
51071030	Worsted weaving yarn	30.54	33.76	52.62	69.79	0.20	9.62
61072990	Nightshirts and pyjamas of othr fbrs	3.08	19.08	74.17	69.08	0.20	41.28
63051040	Jute sacking bags	44.7	85.82	60.39	68.69	0.20	4.89

294230/2021/Economic Division

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
57033090	Othr txtl flr cvrnrgs of othr man-made txtl matrl	3.83	57.04	76.36	68.44	0.20	37.76
62053000	Mens or boys shirts of man-made fibres	49.55	70.96	200.21	68.24	0.20	3.62
53101013	Hessian cloth cntng 100% by wt of jute.	118.88	88.65	94.3	66.96	0.20	-6.18
57039090	Othr flr cvrnrgs of othr txtl matrl	21.71	51.66	90.38	66.31	0.19	13.21
61159990	Other hosiery of other textile fibres	19.21	35.95	49.52	66.19	0.19	14.74
57050039	Othr carpets of jute	25.03	30.86	33.44	65.53	0.19	11.29
58109100	Other embroidery of cotton	16.31	49.3	38.1	65.08	0.19	16.62
52053210	Grey	35.39	71.55	58.41	64.72	0.19	6.94
63039100	Other curtain etc of cotton	97.37	88.09	88.13	64.67	0.19	-4.45
61109000	Jersey etc of other txtl matrls	17.26	39.23	48.89	63.78	0.19	15.63
57033010	Carpts,carpeting and rugs	53.87	18.27	52.18	63.47	0.19	1.84
63013000	Blankets(other than electric blankets) and travelling rugs,of cotton	26.16	52.73	60.54	62.7	0.18	10.20
56031200	Man-made filmnt wghng>25g /sqm	27.22	45.74	55.06	62.14	0.18	9.61
55151230	Fbrc of polstr,mxd wth man-made filmnt , dyed	61.61	59.31	126.09	60.95	0.18	-0.12
63019090	Other blankets and travelling rugs,	33.34	56.97	62.23	60.35	0.18	6.82
54071039	Othr dyed polyester fabrcs	430.08	307.83	50.09	59.92	0.18	-19.67
54075490	Others	82.46	21.49	29.75	59.5	0.17	-3.56
61044990	Dresses of other fibres	21.59	56.8	54.23	57.32	0.17	11.46
61051090	Other shirts of cotton	33.57	29.34	28.95	56.96	0.17	6.05
63079019	Dress materials,n.e.s.	10.99	12.69	34.83	56.54	0.17	19.96
52085990	Shirting fabrics	14.56	26.98	26.57	56.17	0.16	16.18
54077400	Woven fabrics cntng 85% or more by wt of othr synthetic filaments, printed	14	44.84	54.34	56.17	0.16	16.69
63049249	Other table cloth and table covers	45.84	69.09	68.9	55.7	0.16	2.19
61143010	Other garments of synthetic fibres	10.72	51.02	87.86	55.69	0.16	20.09

294230/2021/Economic Division

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
63049270	Mosquito nets of cotn, ntkntd/crchtd	2.18	0.74	0.35	54.4	0.16	42.97
55151190	Fbrc of polstr,mxd wth viscos ryon,othrs	42.89	47.56	127.8	53.9	0.16	2.57
62142010	Shawls of wool	39.17	32.81	30.07	52.85	0.15	3.38
61103010	Jerseys etc of syn fibres	13.59	29.13	71.76	52.64	0.15	16.24
62113200	Othr grmnts of ctn for mens or boys	41.37	70.05	42.72	52.45	0.15	2.67
52052790	Othr	54.08	80.27	101.12	52.19	0.15	-0.39
55092200	Multiple(folded)/cabled yrn cntng 85% or more by wt of polyestr staple fibres	47.32	57.29	63.28	52.08	0.15	1.07
52051410	Grey	20.28	580.27	264.65	51.3	0.15	10.86
	Top 139 products	20252.2	28534.06	27845.33	26871.71	78.53	3.19
	Total T&A	28898.9	37475.46	36477.64	34219.8	100	1.90

Annexure – 3

The available data indicates out of the total production capacity of 77.33 lakh tonnes, polyester filament yarn contribute the highest with approx. 46.36 lakh tonnes, followed by Polyester Staple fibre with 18.89 lakh tonnes, followed by Viscose Staple fibre, Acrylic Staple Fibre, Polypropylene filament yarn, etc. The following table provides initial glimpse of production

Table1: Man-made Fibre and Yarn Industry in India

S. No	State/UT	Type of Manufacturing			Idle	Reliance Group
		Fibre/Filament	Raw material	Total		
1	Andhra Pradesh	3	1	4	2	
2	Assam	2		2		
3	Dadra Nagar Haveli	13		13		
4	Daman	1		1		
5	Gujarat	37	2	39	8	3
6	Haryana	2	1	3	1	
7	Himachal Pradesh	3		3		
8	Karnataka	2		2		
9	Kerala		1	1		
10	Madhya Pradesh	5		5		
11	Maharashtra	13	4	17	3	4
12	Odisha	1		1		1
13	Punjab	4		4		
14	Rajasthan	8		8	2	
15	Tamil Nadu	3		3	1	
16	Uttar Pradesh	11	1	12	2	2
17	Uttarakhand		1	1		
18	Uttaranchal	1	1	2		
19	West Bengal	2	1	3		
	Total	111	13	124	19	10

Table2: Production Capacities of Manmade Fibre/Yarn Industry in India

S. No	Product	Production Capacity Tonnes/Annum
1	Polyester Filament Yarn	4635632
2	Polyester Staple Fibre	1888900
3	Regular Viscose Staple Fibre	498000
4	Acrylic Staple Fibre	147400
5	Polypropylene Filament Yarn	133075
6	Polyester Staple Fibrefil	82000
7	Nylon Tyre Yarn	80600
8	Viscose Filament Yarn	77800
9	Nylon Filament Yarn	59760
10	Nylon Tyre Fabrics	47800
11	Rayon Tyre Yarn/Cord/Fabric	44570
12	Polyester Industrial Yarn	15868
13	Polypropylene Staple Fibre	14200
14	Spandex Filament Yarn	5000
15	Model Fibre	2250
	Total	7732855

The unit wise installed capacity:

Table3A: Nylon Filament Yarn

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Baroda Rayon Corporation Limited	1974	4000
2	Century Enka Ltd	1969	7000
3	Gujarat Poly Films pvt Ltd	1982	7200
4	Gujarat Nylon Ltd	1989	6000
5	JCT Limited Filament Unit	1982	14000
6	Proful Overseas Pvt Ltd	1993	9560
7	GSFCL, Surat	1974	6000
8	Welspun Syntex	2010	6000
	Total		59760

Table3B: Nylon Tyre Yarn

S. No	Name of the unit	Year of commencing Production	Production Capacity Tones/Annum
1	Baroda Rayon Corporation Limited	1981	6000
2	Century Enka Ltd	1987	22000
3	NRC Limited	1975	12000
4	SRF Limited	1975	40600
		Total	80600

Table 3C: Nylon Tyre Cord Fabrics

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	SRF Limited	1975	47800
		Total	47800

Table 3D: Polyester Filament Yarn

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Aafloat Textiles India Ltd	1994	18000
2	Alok Industries Ltd	1986	430000
3	Apco Yarn India pvt Ltd	NA	5500
4	Arfees Industries Ltd	NA	31688
5	Beekaylon Industries Ltd	NA	6000
6	Bhilosha Industries Ltd	1989	324000
7	Century Enka ltd	1977	117100
8	Chiripal Industries Ltd - Fibre Division	NA	37800
9	CIL Nova Petrochemicals Ltd	NA	38900
10	Emtex India	NA	12000
11	Filatex India Ltd	1990	48000
12	Ganesha Ecosphere Ltd	NA	3600
13	Garden Silk Mills Ltd	1994	360000
14	Gokulanand Textile Industries	1973	121000
15	Gupta Synthetics Ltd	NA	43200
16	GSL Nova Petrochemicals Ltd	NA	34815
17	Him Chem Ltd	1974	14400
18	Indo Rama Synthetics	1995	351750
19	JBF Industries Ltd	1996	260000
20	Modern Petrofils - Modern Syntex India	1996	85000

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
	Ltd		
21	Nakoda Ltd	1986	140000
22	PragBosmi Synthetics Ltd	1994	41000
23	Gandhi Capital Pvt Ltd	NA	40000
24	Paras Petrofils Ltd	1991	29100
25	R N Knt Fab	1994	8000
26	Raj Rayon Industries Ltd	NA	114654
27	Rajvi Petrochemicals	NA	5000
28	Krishna	NA	20000
29	J P Fibres	2009	4800
30	Reliance Industries	1982	1150000
31	Sanathan Textiles Pvt Ltd	NA	29000
32	Sanghi Polyesters Ltd	1992	63000
33	Sarla Performance Fibres	NA	15100
34	Shubhalakshmi Polyesters Ltd	1989	56125
35	Sumeet Industries Ltd	1988	53000
36	Superfine Syntex Ltd	2001	16700
37	Surat Textile Mills Ltd	1996	17500
38	Unity	NA	21600
39	Wellknown Polyesters Ltd	1987	435800
40	Welspun Syntex	1983	32500
		Total	4635632

Table 3E: Polypropylene Filament Yarn

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Alembic Chemical Works Ltd div - Neomar	1990	500
2	Chetak Spintex Ltd	1996	3030
3	Filaments India Limited	1995	1850
4	Filatex India Limited	1997	9000
5	Garware Wall Ropes Ltd	1986	2100
6	Gujarat Filaments Ltd	1985	2200
7	Haryana Petrochemicals Limited	1990	11700
8	Him Chem Ltd	2004	4320
9	Jindal Polyester Ltd	1985	28000
10	Parasrampuriah Synthetics	1992	2050
11	Parasrampuriah Industries	1991	20625

12	Rajasthan Petro Synthetics Ltd	1982	7200
13	Sanghi Filaments Ltd	1988	900
14	Shree Rajasthan Syntex Ltd	1992	16000
15	Sumeet Industries Ltd	1994	20000
16	Shree Shyam Filaments	NA	3600
		Total	133075

Table 3F: Polyester Staple Fibre

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Arora Fibres Ltd - Recycled PSF	1995	12000
2	Alok Industries Ltd	1986	94000
3	Bhilosa Industries Ltd	NA	60000
4	Bombay Dyeing Mfg Co Ltd	1879	165000
5	Ganesha Ecosphere Ltd	1987	57600
6	Harish Enterprises	1995	7200
7	Himalaya Fibres Pvt Ltd	NA	7200
8	Futura Polyesters Ltd	1973	38500
9	Indo Rama Synthetics India Ltd	1995	300000
10	Reliance Industries Ltd	1986	1000000
11	Mahalakshmi Spintex Pvt Ltd	2000	9600
12	Nirmal Fibres Pvt Ltd	NA	9000
13	Rishiraj Filaments Ltd	NA	18000
14	Shubhalakshmi Polyesters Ltd	2012	70000
15	Swadeshi Polytex Ltd	1970	36000
16	Unitech	NA	3000
17	VMS	NA	1800
		Total	1888900

Table 3G: Acrylic Staple Fibre

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Arafat Petroch J K Plant	NA	14400
2	Consolidated Fibres and Chemicals Ltd	1992	12000
3	Indian Acrylics Ltd	1993	42000
4	Indian Petrochemicals Corporation Ltd	1979	24000
5	PasupatiAcrylon Ltd	1991	35000
6	Vardhman Acrylics Ltd	1999	20000
		Total	147400

Table 3H: Polypropylene Staple Fibre

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Neomar Alembic	1977	4300
2	Arora Fibre Ltd	1995	1000
3	Gujarat Filaments	1985	500
4	Zenith Fibres Ltd	1992	8400
		Total	14200

Table 3J: Polyester Staple Fibre-fill

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Reliance Industries Ltd - Hazira	NA	40000
2	Arora Fibres Ltd	NA	5400
3	GPL Polyfils Ltd	NA	5400
4	Capital Eng.	NA	4200
5	Alliane	NA	5400
6	Dvine	NA	21600
		Total	82000

Table 3K: Spandex Filament Yarn

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Indorama Industries Ltd	2013	5000
		Total	5000

Table 3L: Viscose Filament Yarn

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Baroda Rayon Corporation Ltd	1962	4500
2	Century Rayon	1956	19300
3	Indian Rayon	1963	19800
4	Kesoram rayon	1959	6500
5	NRC Ltd	1951	16000
6	SIV Industries Ltd	1961	7500
7	TravencoreRayons Ltd	1950	4200
		Total	77800

Table 3M: Regular Viscose Staple Fibre

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Grasim Industries Ltd	1954	498000
		Total	498000

Table 3N: Rayon Tyre Yarn/Cord/Fabric

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Century Rayon	1963	6570
2	Shriram Rayons	1965	8500
3	Century Enka Ltd	1987	29500
		Total	44570

Table 3P: Modal Fibre

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	Century Rayon	1986	2250
		Total	2250

Table 3Q: Polyester Industrial Yarn

S. No	Name of the unit	Year of commencing Production	Production Capacity Tonnes/Annum
1	SRF Ltd	1975	14500
2	Raj Rayon Industries Ltd	NA	1368
		Total	15868

Annexure 4

India's Top traded MMF T&A products

(US \$ Mn)

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
54023300	Textured yarn of polyesters	437.84	842.21	767.61	715.35	7.99	5.61
63053200	Flexible intermediate bulk containers of man made textile materials	156.97	450.83	460.39	672.62	7.51	17.55
62044390	Othr dresses of synth fibres	148.48	388.55	514.45	648.23	7.24	17.79
62114300	Other garments of man-made fibres	42.26	342.99	608.66	545.04	6.09	32.86
62064000	Blouses, shirts etc of man-made fibres	241.13	564.6	646.63	490.75	5.48	8.22
55032000	Staple fibres of polyester nt crd/cmbd	229.4	309.11	222.8	288.61	3.22	2.58
62044400	Dresses of artificial fibres	15.5	95.35	250.63	259.55	2.90	36.77
55151130	Fbrc of polstr,mxd wth viscos ryon,dyed	186.9	262.71	162.08	209.7	2.34	1.29
54072090	Othr wven fbrcs from strip/the like	16.46	34.91	72.35	176.32	1.97	30.15
55095300	Other yarn of polyster staple fibres mixed mainly/solely with cotton	171.48	196.38	164.54	161.41	1.80	-0.67
55041000	*Viscose rayon staple fibres nt crd/combnd	149.21	206	309.12	148.18	1.65	-0.08
54026200	Othr yarn of polystrs,multpl or cabld	30.15	77.39	90.32	141.69	1.58	18.76
54072030	Dyed wven fbrcs from strip/the like	37.41	17.27	22.16	138.26	1.54	15.63
54077200	Woven fabrics,cntng 85% or more by wt of othr synthetic filaments, dyed	35.98	173.43	29.88	137.1	1.53	16.03
54024600	yArn of polyester,prtly orntd,untwstd or wth a twist <= 50 turns per mtr, single	183.02	237.68	116.85	122.99	1.37	-4.32
61052010	Mens/boys shirts syn fibres	191.09	229.08	269	122.27	1.37	-4.84
62046300	Trousers,bib and brace overalls, breeches and shorts of synthetic fibres	28.31	72.49	125.6	119.13	1.33	17.31
61099010	T-shirt etc of syn fibres	78.25	109.59	365.72	108.14	1.21	3.66
55095100	Othr yarn of polystr stpl fibres mixed mainly/solely with artificial staple fibres	197.1	145.34	117.81	105.35	1.18	-6.72
62045300	Skirts and divided skirts of	44.76	85.86	75.43	99.54	1.11	9.29

294230/2021/Economic Division

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
	synthetic fibres						
62034300	Trousers,bib and brace,overalls,breeches and shorts of synthetic fibres,mens or boys	61.65	87.9	129.01	89.38	1.00	4.21
62149060	Shawls muffelers etc of manmade fibre	117.62	206.49	202.16	82.77	0.92	-3.83
61044300	Dresses of synthetic fibres	37.19	86.31	118.8	82.71	0.92	9.29
56074900	Othr cordge etc of polyethln/polypropyln	92.99	117.43	46.73	77.31	0.86	-2.03
57033090	Othr txtl flr cvrnngs of othr man-made txtl matrl	3.83	57.04	76.36	68.44	0.76	37.76
62053000	Mens or boys shirts of man-made fibres	49.55	70.96	200.21	68.24	0.76	3.62
56031200	Man-made filmnt wghng>25g /sqm	27.22	45.74	55.06	62.14	0.69	9.61
55151230	Fbrc of polstr,mxd wth man-made filmnt , dyed	61.61	59.31	126.09	60.95	0.68	-0.12
54071039	Othr dyed polyester fabrcs	430.08	307.83	50.09	59.92	0.67	-19.67
54075490	Others	82.46	21.49	29.75	59.5	0.66	-3.56
54077400	Woven fabrics cntng 85% or more by wt of othr synthetic filaments, printed	14	44.84	54.34	56.17	0.63	16.69
61143010	Other garments of synthetic fibres	10.72	51.02	87.86	55.69	0.62	20.09
55151190	Fbrc of polstr,mxd wth viscos ryon,othrs	42.89	47.56	127.8	53.9	0.60	2.57
61103010	Jerseys etc of syn fibres	13.59	29.13	71.76	52.64	0.59	16.24
55092200	Multiple(folded)/cabled yrn cntng 85% or more by wt of polyestr staple fibres	47.32	57.29	63.28	52.08	0.58	1.07
62143000	Shwls,scrvs,mufflers etc of synthtc fbrs	78.23	105.03	87.04	48.13	0.54	-5.25
55101110	Viscose rayon spun yarn	145.29	33.28	59.55	47.88	0.53	-11.60
54075290	Others	96.47	64.15	64.34	44.67	0.50	-8.20
61033300	Jackets and blazers of synthetic fibres	3.74	6.31	30.45	43.69	0.49	31.41
61032300	Ensembles of synthetic fibres	29.22	64.54	148.62	42.71	0.48	4.31
61034300	Trousers,shorts etc of synthetic fibres	7.01	13.3	81.81	42.25	0.47	22.09
62082200	Nightdresses and pyjamas of man-made fibres	15.5	25.39	77.39	41.21	0.46	11.48
58109290	Other embroidery of	76.18	102.96	83.53	41.19	0.46	-6.60

294230/2021/Economic Division

Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
	manmade fibre						
55092100	Single yrn cntng 85% or more by wt of polyster staple fibres	48.04	50.98	41.81	40.85	0.46	-1.79
61113000	Babies garments etc of synthetic fbrs	8.05	27.32	95.39	40.18	0.45	19.56
54072040	Printed wven fbrcs from strip/the like	2.82	9.69	11.43	40.15	0.45	34.33
54024700	Yarn of other polyster , single untwstd/a twist<=50 turns per mtr	21.2	45.89	27.55	40.12	0.45	7.34
54079200	Other synthtic woven fabrics,dyed	19.45	31.24	48.84	39.35	0.44	8.14
54075240	Polyester sarees	31.41	62.15	60.04	38.42	0.43	2.26
55033000	Staple fibres of acrlc/modacrlc nt crd/cmbd	12.75	22.72	25.32	36.97	0.41	12.56
54075210	Polyester shirtings	18.32	24.41	34.97	34.88	0.39	7.42
62042300	ensembles of synthetic Fibres	17.72	13.06	62.22	33.96	0.38	7.50
55101210	Viscose rayon spun yarn	27.65	40.11	41.4	33.03	0.37	2.00
62113300	Othr grmnts of man-mde fbrs fr mens/boys	14.05	42.9	24.79	32.52	0.36	9.77
59029010	Tyre cord fbrc of viscose rayon impregntd wth rubr	6.95	26.74	33.44	32.18	0.36	18.56
55151330	Fbrc of polstr,mxd wth wool/fine animal hair, dyed	30.1	37.58	46.41	30.51	0.34	0.15
54071019	unblechd othr polyester fabrics	98.8	128.41	12.33	29.65	0.33	-12.52
62033300	Jackts and blazers of synthetic fibres	23.27	35.23	45.76	29.21	0.33	2.56
62043300	Jackets of synthetic fibres	13.52	24.78	36.38	28.73	0.32	8.74
61159600	Other hosiery goods of synthetic fibres	0.31	7.75	9.38	28.05	0.31	64.97
63014000	Blankets(other than electric blankets) and travelling rugs,of synthetic fibres	12.57	38.43	33.21	27.57	0.31	9.12
56081110	Made up fishing nets of nylon	5.81	20.93	22.8	27.47	0.31	18.84
61171040	Shwl, scrv, muflr etc of man-made fibres	23.42	40.55	42.63	26.88	0.30	1.54
54078290	Others	15.11	22.58	21.14	26.59	0.30	6.48
55132900	Wovn fbrcs of othr synthtc stpl fbrs,dyed	11.56	34.58	31.12	26.59	0.30	9.70
54071049	Printed othr polyester fbrcs	82.81	62.38	56.62	25.97	0.29	-12.09

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Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
62093000	Babies grmnts and clothng access of syn fibr	4.76	61.02	59.11	24.98	0.28	20.23
63053300	Sacks and bags of polyethylene or polypropylene strip or the like	8.65	16.09	11.18	24.77	0.28	12.40
62041300	Suits of synthetic fibres	60.16	92.35	102.05	24.14	0.27	-9.65
54074290	others	1.81	6.82	3.29	23.97	0.27	33.25
56031300	Man-made filmnt wghng betwn 70g/sqm and 150g/sqm	5.93	14.15	14.04	23.44	0.26	16.50
54078490	Others	10.13	5.52	2.65	23.36	0.26	9.73
61046300	Trousers,bib and brace overalls,breeches and shorts of synthetic fibres	4.29	11.36	39.59	23.2	0.26	20.63
61071210	Underpants and briefs of syn fibres	1.16	0.92	5.71	22.92	0.26	39.31
54033100	Othr yarn of viscose rayon,sngl,untwstd/ with a twist nt excdng 120 turns per metre	22.72	26.47	21.89	22.47	0.25	-0.12
54077300	Othr wovn fabrcs of yrns of difrnt colors cntng 85% or more by wt of synthtc filmnts	0.65	7.63	25.84	22	0.25	47.89
55095900	Other yarn of polyester staple fibres	17.35	17.1	43.46	21.76	0.24	2.55
54071099	Othr polyester fbrcs nes	9.88	3.7	76.78	21.71	0.24	9.14
55093200	Multiple(folded)/cabled yrn cntng>=85% of acrylic/modacrylic staple fibres	27.87	22.94	25.58	21.4	0.24	-2.89
63049300	Other furnishing articles of synthetic fibres,not knitted or crocheted	18.2	27.38	10.22	19.6	0.22	0.83
54079400	Other woven synthetic fabrics,printed	18.42	26.13	29.45	19.39	0.22	0.57
63041930	Bedsheets and bed covers of man-made fibres	30.41	31.69	15.15	18.69	0.21	-5.27
56031100	Man-made filmnt wghng<25g/sqm	15.34	2.42	13.23	18.61	0.21	2.17
63079013	Drss materials of man-made fibrs,hnd prntd	14.4	38.66	14.83	18.3	0.20	2.70
54078230	Polyester shirtings	4.25	3.89	5.71	17.71	0.20	17.18

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Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
61042300	Ensembles of synthetic fibres	5.25	6.61	63.75	17.68	0.20	14.44
55151930	Fbrc of polstr mxd wth othr fibrs, dyed	17.75	20.77	20.06	17.63	0.20	-0.08
55095200	Other yarn of polystr stple fibrs mixed mainly/solely with wool/fine animal hair	19.43	19.13	22.22	16.54	0.18	-1.77
61099020	T-shirt etc of artificial fibres	7.03	33.43	26.31	16.03	0.18	9.59
54022090	Other polyester (excl terylene dacron)	30.64	7.76	3.31	15.94	0.18	-7.00
61062010	Blouse etc of synthetic fibres	39.94	31.47	26.88	14.88	0.17	-10.39
55111000	Yrn of synthtc staple fibres cntng 85% or more by weight of such fibres	1.82	8.39	11.35	14.74	0.16	26.16
55169200	Othr mxd wvn fbrcs of artfcl stpl fibrs,dyd	0.8	4.06	5.02	14.5	0.16	37.98
55141210	Wvn fbrc,3/4 thrd twill of polstr stpl, unblchd	2.03	13.05	17.08	13.74	0.15	23.67
61083210	Nightdresses and pyjamas of syn fibres	2.06	6.96	21.65	13.34	0.15	23.07
54071029	Blechn othr polyester fabrcs	48.89	23.97	19.76	13.26	0.15	-13.50
56031400	Man-made filmnt wghng >150g/sqm	3.87	8.03	23.46	13.19	0.15	14.60
54077110	Unblechn wvn fbrc cntns othr syn filamnt >=85%	0.44	2.47	18.97	13.07	0.15	45.76
55096900	Othr yarn of acrylc/modacrylic staple fibres	8.79	14.8	17.63	12.99	0.15	4.44
54026100	Othr yarn of nylon or other polymds, multiple(folded)or cabled	1.06	3.46	3.43	12.85	0.14	31.95
55034000	Staple fibrs of polypropylene nt crd/ cmbd	1.42	26.71	13.04	12.82	0.14	27.70
54025200	Othr yarn of polyesters,single,with a twist exceeding 50 turns/per metre	14.34	6.77	9.02	12.39	0.14	-1.61
55013000	Synthtc filamnt tow,acrylic/modacrylic	40.88	15.02	19.63	12.22	0.14	-12.56
58063200	Other narrow woven fbrcs of man-made fibre	17.4	7.67	10.61	12.1	0.14	-3.96
54075430	Polyester sarees	6.43	25.85	30.25	12.09	0.13	7.27
55151140	Fbrc of polstr,mxd wth	7.4	13.25	19.03	11.86	0.13	5.38

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Code	Description	2010-11	2013-14	2016-17	2019-20	Share	CAGR
	viscos ryon,printd						
61082210	Briefs and panties of syn fibres	2.13	14.85	42.29	11.83	0.13	20.99
62079990	Other smlr garments of man-made fbres	0.9	2.82	11.91	11.69	0.13	32.96
57033020	100% POlyprOpylene carpet mats with jute, rubber, latex Or p.u. f0am baking	5.73	7.82	11.35	11.6	0.13	8.15
61103020	Jerseys etc of artificial fibres	1.29	2.54	2.01	11.43	0.13	27.43
57050022	Durries of man-made fibres	1.56	9.67	6.81	11.33	0.13	24.65
54076900	Wovn fbrcs cntng 85% or more by wt of othr thn nn-txtrd polystr flmnts	17.01	10.61	2.38	11.14	0.12	-4.59
62144000	Shwls scrvs,mufflrs etc of artificial fbrs	11.64	21.4	15.86	11.07	0.12	-0.56
55161200	W/vn fbrcs,dyd,cntng 85% or more by wt of artificial staple fibres	3.17	9.29	73.28	10.76	0.12	14.54
60063200	Othr knitd or crocheted fbrcs of syn fibres, dyed	0.97	4.21	9.71	10.69	0.12	30.56
54011000	Sewing thred of synthetic filaments	9.11	10.42	10.48	10.63	0.12	1.73
61169300	Other gloves etc of synthetic fibres	7.69	10.5	6.67	10.46	0.12	3.48
55096200	Othr yrn of acrylc/modacrylc staple fibresmixed mainly/solely with cotton	10.73	13.72	9.51	10.33	0.12	-0.42
54079300	Othr synthtic wovn fabrcs of yarns of different colours	11.42	7.65	10.14	10.25	0.11	-1.19
55121910	Othr wovn fbrcs, dyed cntng polyetr >= 85%	2.99	29.41	30.62	10.22	0.11	14.63
61072210	Nightshirts and pyjamas of syn fibres	2	5.43	104.5	10.15	0.11	19.78
	Top 121 products	5354.14	8273.69	9598.78	8363.49	93.38	5.08
	Total MMF products	6310.6	9142.46	10414.58	8956.72	100.00	3.97

Annexure 5

Top Exported MMF Products and India(\$Bn)

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
Jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted (611030)	15.46	20.67	26.13	0.01	0.07	0.07	0.10	0.35	0.27
Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (620193)	4.99	7.86	10.83	0.00	0.00	0.01	0.02	0.02	0.05
Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (620293)	4.96	8.27	10.36	0.00	0.00	0.00	0.01	0.00	0.04
Woven fabrics of yarn containing >= 85% by weight of textured polyester filaments, incl. monofilament (540752)	5.49	7.71	8.86	0.16	0.15	0.12	2.85	1.90	1.41
Women's or girls' dresses of synthetic fibres (excluding knitted or crocheted and petticoats), (620443)	3.56	7.22	8.51	0.17	0.56	0.66	4.81	7.82	7.81
Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres (excluding (620343)	4.23	6.44	8.06	0.06	0.13	0.10	1.42	2.07	1.24
Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres,	2.64	5.79	7.97	0.00	0.02	0.02	0.18	0.33	0.29

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
(610463)									
Dyed fabrics, knitted or crocheted, of synthetic fibres, of a width of > 30 cm (excluding warp (600632))	3.40	6.09	7.20	0.00	0.00	0.01	0.10	0.07	0.12
Women's or girls' blouses, shirts and shirt-blouses of man-made fibres (excluding knitted or (620640))	2.59	6.31	7.14	0.21	0.83	0.52	8.20	13.22	7.29
Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres (620463)	2.99	5.13	6.74	0.03	0.13	0.14	0.92	2.54	2.04
Textile fabrics impregnated, coated, covered or laminated with polyurethane (excluding wallcoverings (590320))	5.00	5.57	5.93	0.00	0.00	0.01	0.01	0.05	0.08
Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made (620213)	2.24	3.17	5.15	0.00	0.00	0.00	0.07	0.08	0.08
Women's or girls' tracksuits and other garments, n.e.s. of man-made fibres (excluding knitted (621143))	1.78	3.93	5.06	0.03	0.55	0.59	1.57	13.94	11.58
Women's or girls' dresses of synthetic fibres, knitted or crocheted (excluding petticoats), (610443)	2.34	4.52	5.05	0.03	0.08	0.09	1.36	1.81	1.72
Woven fabrics of yarn containing >= 85% by	3.45	4.51	4.70	0.08	0.02	0.01	2.32	0.39	0.20

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
weight of non-textured polyester filaments, incl. (540761)									
Staple fibres of polyesters, not carded, combed or otherwise processed for spinning, (550320)	3.83	3.94	4.39	0.22	0.20	0.30	5.86	5.10	6.71
Full-length or knee-length stockings, socks and other hosiery, incl. footwear without applied (611596)	2.66	3.82	4.31	0.00	0.01	0.03	0.01	0.21	0.67
Textured filament yarn of polyester (excluding that put up for retail sale), (540233)	3.03	3.60	4.28	0.39	0.74	0.73	12.75	20.65	17.18
Women's or girls' jackets and blazers of synthetic fibres (excluding knitted or crocheted, (620433)	2.39	5.80	4.09	0.01	0.03	0.03	0.53	0.55	0.71
Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted (610343)	2.20	3.18	4.00	0.01	0.03	0.05	0.24	0.81	1.21
Curtains, incl. drapes, and interior blinds, curtain or bed valances of synthetic fibres (excluding (630392)	2.47	3.21	3.95	0.01	0.01	0.01	0.45	0.28	0.18
Women's or girls' swimwear of synthetic fibres, knitted or crocheted, (611241)	2.23	2.92	3.88	0.00	0.00	0.00	0.00	0.05	0.00
Special garments for professional, sporting or other purposes, n.e.s., of man-made fibres, (611430)	2.08	2.76	3.83	0.01	0.09	0.07	0.41	3.41	1.74

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
Textile fabrics impregnated, coated, covered or laminated with plastics other than poly"vinyl (590390)	3.09	3.31	3.82	0.00	0.02	0.07	0.13	0.49	1.72
Blankets and travelling rugs of synthetic fibres (excluding electric, table covers, bedspreads (630140)	2.48	3.71	3.76	0.01	0.04	0.03	0.43	1.11	0.70
Women's or girls' dresses of artificial fibres (excluding knitted or crocheted and petticoats), (620444)	0.91	1.93	3.72	0.01	0.13	0.26	1.55	6.88	7.10
Pile fabrics of man-made fibres, knitted or crocheted (excluding "long pile" fabrics), (600192)	1.73	2.84	3.60	0.00	0.00	0.00	0.02	0.02	0.03
Textile fabrics impregnated, coated, covered or laminated with poly"vinyl chloride" (excluding (590310)	3.22	3.69	3.56	0.08	0.12	0.07	2.58	3.30	2.09
Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of man-made filaments, (560312)	2.22	2.85	3.36	0.03	0.05	0.06	1.18	1.82	1.91
Carpets and other floor coverings, of man-made textile materials, tufted "needle punched", (570330)	2.30	2.97	3.30	0.02	0.11	0.14	0.93	3.63	4.31
Women's or girls' briefs and panties of man-made fibres, knitted or crocheted,	2.39	2.87	3.19	0.00	0.02	0.01	0.10	0.58	0.38

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
(610822)									
Men's or boys' jackets and blazers of synthetic fibres (excluding knitted or crocheted, and (620333)	1.79	3.24	3.17	0.02	0.04	0.03	1.14	1.13	0.89
Gloves, mittens and mitts, impregnated, coated or covered with plastics or rubber, knitted (611610)	1.38	2.19	2.98	0.00	0.01	0.01	0.35	0.39	0.49
Carpets and other floor coverings, of man-made textile materials, woven, not tufted or flocked, (570242)	1.82	2.46	2.93	0.00	0.03	0.04	0.25	1.09	1.23
Woven fabrics of yarn containing \geq 85% by weight of textured polyester filaments, incl. monofilament (540754)	1.17	2.02	2.87	0.09	0.05	0.08	7.35	2.50	2.83
Carpets and other floor coverings, of nylon or other polyamides, tufted "needle punched", whether (570320)	2.64	2.66	2.84	0.02	0.01	0.01	0.62	0.56	0.35
Men's or boys' tracksuits and other garments, n.e.s. of man-made fibres (excluding knitted (621133)	1.96	2.34	2.72	0.01	0.04	0.03	0.54	1.58	1.26
Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of synthetic or (560311)	1.92	2.18	2.47	0.01	0.01	0.02	0.54	0.24	0.80
Flexible intermediate bulk containers, for the packing of goods,	1.34	2.03	2.46	0.14	0.48	0.70	10.25	23.56	28.61

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
of synthetic or man-made textile (630532)									
Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of man-made filaments, (560314)	1.70	1.93	2.45	0.00	0.01	0.01	0.20	0.46	0.57
Men's or boys' shirts of man-made fibres, knitted or crocheted (excluding nightshirts, T-shirts, (610520)	1.38	1.96	2.37	0.14	0.28	0.15	10.41	14.53	6.36
Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of man-made filaments, (560313)	1.66	2.12	2.37	0.01	0.01	0.02	0.32	0.34	1.02
Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made (620113)	0.90	1.28	2.33	0.00	0.01	0.00	0.31	0.59	0.13
Women's or girls' skirts and divided skirts of synthetic fibres (excluding knitted or crocheted (620453)	1.15	1.88	2.28	0.04	0.12	0.10	3.69	6.34	4.31
Narrow woven fabrics of man-made fibres, with a width of <= 30 cm, n.e.s., (580632)	1.70	2.05	2.28	0.02	0.01	0.01	0.91	0.41	0.52
Women's or girls' overcoats, car coats, capes, cloaks, anoraks, incl. ski jackets, windcheaters, (610230)	0.88	1.44	2.22	0.00	0.00	0.00	0.04	0.01	0.02
Woven fabrics containing predominantly, but <	1.55	2.14	2.19	0.22	0.38	0.29	14.32	17.75	13.37

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
85% polyester staple fibres by weight, mixed (551511)									
Men's or boys' shirts of man-made fibres (excluding knitted or crocheted, nightshirts, singlets (620530)	1.35	1.53	2.14	0.05	0.08	0.07	3.41	4.96	3.34
Women's or girls' nightdresses and pyjamas of man-made fibres, knitted or crocheted (excluding (610832)	1.19	1.59	2.03	0.00	0.01	0.02	0.21	0.52	0.76
Tents of synthetic fibres (excluding umbrella and play tents), (630622)	1.28	1.78	2.03	0.00	0.00	0.00	0.01	0.06	0.01
Women's or girls' blouses, shirts and shirt-blouses of man-made fibres, knitted or crocheted (610620)	1.87	1.96	1.95	0.05	0.02	0.02	2.53	1.03	1.14
Sacks and bags, for the packing of goods, of polyethylene or polypropylene strip or the like (630533)	1.58	2.16	1.92	0.01	0.03	0.02	0.52	1.17	0.97
Bedlinen of man-made fibres (excluding printed, knitted or crocheted), (630232)	1.34	1.90	1.89	0.02	0.01	0.00	1.28	0.45	0.22
Women's or girls' dresses of artificial fibres, knitted or crocheted (excluding petticoats), (610444)	1.44	1.58	1.84	0.00	0.02	0.01	0.23	1.06	0.48
Dyed warp knit fabrics of synthetic fibres "incl. those made on galloon knitting machines", (600537)	0.00	0.00	1.80	0.00	0.00	0.00			0.03
Staple fibres of viscose rayon, not	1.44	1.46	1.74	0.15	0.27	0.16	10.10	18.43	9.46

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
carded, combed or otherwise processed for spinning, (550410)									
Women's or girls' jackets and blazers of synthetic fibres, knitted or crocheted (excluding (610433))	2.04	3.19	1.70	0.00	0.01	0.01	0.10	0.33	0.40
Woven fabrics containing >= 85% artificial staple fibres by weight, printed, (551614)	0.49	1.42	1.67	0.00	0.00	0.01	0.14	0.27	0.36
High-tenacity filament yarn of polyesters (excluding that put up for retail sale), (540220)	1.33	1.48	1.64	0.02	0.00	0.02	1.55	0.30	1.10
Woven fabrics of filament yarn containing >= 85% nylon or other polyamides by weight, incl. (540742)	1.08	1.30	1.60	0.00	0.01	0.02	0.17	0.58	1.46
Shawls, scarves, mufflers, mantillas, veils and similar articles of synthetic fibres (excluding (621430))	1.12	1.92	1.58	0.08	0.08	0.05	7.40	4.22	3.21
Woven fabrics containing >= 85% polyester staple fibres by weight, dyed, made of yarn of different (551219)	1.35	1.61	1.57	0.04	0.03	0.01	3.14	2.08	0.88
Synthetic filament elastomeric yarn, single, untwisted or with a twist of <= 50 turns per metre (540244)	1.39	1.41	1.56	0.00	0.00	0.00	0.00	0.35	0.26
Women's or girls' negligés, bathrobes,	0.96	1.49	1.50	0.00	0.01	0.01	0.03	0.56	0.35

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
dressing gowns, housejackets and similar articles of (610892)									
Tarpaulins, awnings and sunblinds of synthetic fibres (excluding flat covers of light fabrics (630612)	0.76	1.07	1.41	0.00	0.01	0.00	0.05	0.60	0.19
Pantyhose and tights of synthetic fibres, knitted or crocheted, measuring per single yarn < (611521)	1.82	1.41	1.39	0.00	0.00	0.00	0.06	0.00	0.02
Overcoats, car coats, capes, cloaks, anoraks, incl. ski jackets, windcheaters, wind-jackets (610130)	0.66	0.98	1.39	0.00	0.00	0.00	0.02	0.18	0.09
Woven fabrics of high-tenacity yarn, nylon, other polyamides or polyesters, incl. monofilament (540710)	2.22	1.77	1.38	0.76	0.34	0.15	34.23	19.22	11.09
Men's or boys' underpants and briefs of man-made fibres, knitted or crocheted, (610712)	0.50	0.95	1.37	0.00	0.01	0.02	0.46	0.95	1.78
Woven fabrics of strip or the like, of synthetic filament, incl. monofilament of ≥ 67 decitex (540720)	0.84	1.08	1.35	0.05	0.13	0.33	5.68	11.85	24.54
Tyre cord fabric of high-tenacity polyester yarn, whether or not dipped or impregnated with (590220)	1.20	1.19	1.34	0.00	0.00	0.00	0.16	0.26	0.02
Gloves, mittens and mitts, of synthetic fibres, knitted or	0.92	1.10	1.32	0.01	0.01	0.01	0.71	0.99	0.85

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
crocheted (excluding impregnated, (611693)									
Filament yarn of polyester, incl. monofilament of < 67 decitex, single, untwisted or with a (540247)	1.08	1.14	1.30	0.01	0.02	0.04	1.32	1.52	3.13
Embroidery of man-made fibres on a textile fabric base, in the piece, in strips or in motifs (581092)	1.42	1.41	1.26	0.09	0.11	0.06	6.02	7.89	4.55
Articles for interior furnishing, of synthetic fibres (excluding knitted or crocheted, blankets (630493)	0.79	1.09	1.24	0.02	0.01	0.02	2.31	1.36	1.71
High-tenacity filament yarn of nylon or other polyamides (excluding sewing thread, yarn put (540219)	1.12	1.21	1.22	0.02	0.00	0.00	1.64	0.09	0.31
Tyre cord fabric of high-tenacity yarn of nylon or other polyamides, whether or not dipped (590210)	1.35	1.22	1.21	0.00	0.00	0.00	0.24	0.15	0.11
Woven fabrics of yarn containing >= 85% by weight of mixtures of textured and non-textured (540769)	1.08	1.47	1.21	0.02	0.00	0.01	1.53	0.27	0.81
Wadding of man-made fibres and articles thereof (excluding sanitary towels and tampons, napkins (560122)	0.84	1.15	1.19	0.00	0.00	0.00	0.01	0.15	0.12
Artificial filament tow as specified in Note 1 to chapter 55, of	0.00	0.00	1.13	0.00	0.00	0.00			0.00

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
acetate, (550210)									
Garments, knitted or crocheted, rubberised or impregnated, coated or covered with plastics (611300)	0.71	0.96	1.12	0.00	0.00	0.00	0.04	0.04	0.03
Filament yarn of polyester, incl. monofilament of < 67 decitex, single, untwisted or with a (540246)	0.81	0.80	1.08	0.16	0.14	0.13	19.77	17.64	11.91
Sewing thread of synthetic filaments, whether or not put up for retail sale, (540110)	0.89	1.04	1.06	0.01	0.01	0.01	0.97	0.92	1.03
Women's or girls' skirts and divided skirts of synthetic fibres, knitted or crocheted (excluding (610453)	0.69	1.34	1.04	0.01	0.01	0.01	0.75	0.71	0.73
Yarn containing predominantly, but < 85% polyester staple fibres by weight, mixed principally (550953)	0.93	1.09	1.03	0.11	0.17	0.17	11.48	15.40	15.97
Twine, cordage, ropes and cables, of synthetic fibres, whether or not plaited or braided and (560750)	0.67	0.94	1.02	0.01	0.01	0.01	1.68	1.15	1.21
High-tenacity filament yarn of aramids (excluding sewing thread and yarn put up for retail (540211)	0.83	0.72	1.01	0.00	0.00	0.00	0.00	0.00	0.03
Printed fabrics, knitted or crocheted, of synthetic fibres, of a width of > 30 cm	0.66	1.04	1.01	0.00	0.00	0.00	0.00	0.01	0.07

Product	World Export			India's Export			India's Share (%)		
	2010	2015	2019	2010	2015	2019	2010	2015	2019
(excluding (600634)									
Filament yarn of nylon or other polyamides, incl. monofilament of < 67 decitex, single, untwisted (540245)	1.48	1.08	1.00	0.00	0.00	0.00	0.01	0.07	0.48
Sum of 89 products	174.80	245.53	289.89	4.02	7.20	7.16	2.30	2.93	2.47
Total MMF	233.71	310.91	348.78	5.75	9.75	9.48	2.46	3.14	2.72

Annexure 6

Products with All Time RCD

Code	Product Description
540244	Synthetic filament elastomeric yarn, single, untwisted or with a twist of ≤ 50 turns per metre ...
540249	Synthetic filament yarn, incl. synthetic monofilament of < 67 decitex, single, untwisted or ...
540269	Multiple "folded" or cabled synthetic filament yarn, incl. synthetic monofilament of < 67 decitex ...
540753	Woven fabrics of yarn containing $\geq 85\%$ by weight of textured polyester filaments, incl. monofilament ...
540833	Woven fabrics of yarn containing predominantly, but $< 85\%$ artificial filament by weight, incl. ...
550120	Filament tow as specified in Note 1 to chapter 55, of polyesters
550290	Artificial filament tow, as specified in Note 1 to chapter 55 (excl. of acetate)
551020	Yarn containing predominantly, but $< 85\%$ artificial staple fibres by weight, mixed principally ...
551299	Woven fabrics containing $\geq 85\%$ synthetic staple fibres by weight, dyed, made of yarn of different ...
551313	Woven fabrics containing predominantly, but $< 85\%$ polyester staple fibres by weight, mixed ...
551442	Woven fabrics containing predominantly, but $< 85\%$ polyester staple fibres by weight, mixed ...
551614	Woven fabrics containing $\geq 85\%$ artificial staple fibres by weight, printed
560741	Binder or baler twine, of polyethylene or polypropylene
580131	Uncut weft pile fabrics, of man-made fibres (excluding terry towelling and similar woven terry ...
600192	Pile fabrics of man-made fibres, knitted or crocheted (excluding "long pile" fabrics)
600632	Dyed fabrics, knitted or crocheted, of synthetic fibres, of a width of > 30 cm (excluding warp ...
610130	Overcoats, car coats, capes, cloaks, anoraks, incl. ski jackets, windcheaters, wind-jackets ...
610453	Women's or girls' skirts and divided skirts of synthetic fibres, knitted or crocheted (excluding ...
611212	Track-suits of synthetic fibres, knitted or crocheted
611693	Gloves, mittens and mitts, of synthetic fibres, knitted or crocheted (excluding impregnated, ...
630232	Bedlinen of man-made fibres (excluding printed, knitted or crocheted)
630253	Table linen of man-made fibres (excluding knitted or crocheted)
630630	Sails for boats, sailboards or landcraft, of textile materials
540110	Sewing thread of synthetic filaments, whether or not put up for retail sale
540219	High-tenacity filament yarn of nylon or other polyamides (excluding sewing thread, yarn put ...

Code	Product Description
540231	Textured filament yarn of nylon or other polyamides, with a linear density of <= 50 tex per ...
540263	Multiple "folded" or cabled filament yarn of polypropylene, incl. monofilament of < 67 decitex ...
540743	Woven fabrics of yarn containing >= 85% by weight of filaments of nylon or other polyamides ...
540831	Woven fabrics of yarn containing predominantly, but < 85% artificial filament by weight, incl. ...
550311	Staple fibres of aramids, not carded, combed or otherwise processed for spinning
550490	Artificial staple fibres, not carded, combed or otherwise processed for spinning (excluding ...
550810	Sewing thread of synthetic staple fibres, whether or not put up for retail sale
551211	Woven fabrics containing >= 85% polyester staple fibres by weight, unbleached or bleached
551441	Plain woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, ...
551631	Woven fabrics containing predominantly, but < 85% artificial staple fibres by weight, mixed ...
600531	Unbleached or bleached warp knit fabrics of synthetic fibres "incl. those made on galloon knitting ...
600534	Printed warp knit fabrics of synthetic fibres "incl. those made on galloon knitting machines", ...
600537	Dyed warp knit fabrics of synthetic fibres "incl. those made on galloon knitting machines", ...
600641	Unbleached or bleached fabrics, knitted or crocheted, of artificial fibres, of a width of > ...
600642	Dyed fabrics, knitted or crocheted, of artificial fibres, of a width of > 30 cm (excluding ...
611231	Men's or boys' swimwear of synthetic fibres, knitted or crocheted
611521	Pantyhose and tights of synthetic fibres, knitted or crocheted, measuring per single yarn < ...
611610	Gloves, mittens and mitts, impregnated, coated or covered with plastics or rubber, knitted ...
630140	Blankets and travelling rugs of synthetic fibres (excluding electric, table covers, bedspreads ...
540120	Sewing thread of artificial filaments, whether or not put up for retail sale
540332	Yarn of viscose rayon filament, incl. monofilament of < 67 decitex, single, with a twist of ...
540412	Polypropylene monofilament of >= 67 decitex and with a cross sectional dimension of <= 1 mm ...
540742	Woven fabrics of filament yarn containing >= 85% nylon or other polyamides by weight, incl. ...
550390	Synthetic staple fibres, not carded, combed or otherwise processed for

Code	Product Description
	spinning
550700	Artificial staple fibres, carded, combed or otherwise processed for spinning
551221	Woven fabrics containing $\geq 85\%$ acrylic or modacrylic staple fibres by weight, unbleached or ...
551331	Plain woven fabrics containing predominantly, but $< 85\%$ polyester staple fibres by weight, ...
551443	Woven fabrics containing predominantly, but $< 85\%$ polyester staple fibres by weight, mixed ...
560600	Gimped yarn, gimped strip and the like of heading 5404 or 5405; chenille yarn, incl. flock ...
580135	Cut warp pile fabrics, of man-made fibres (excluding terry towelling and similar woven terry ...
580137	Warp pile fabrics, of man-made fibres (excluding terry towelling and similar woven terry fabrics, ...
590390	Textile fabrics impregnated, coated, covered or laminated with plastics other than poly"vinyl ...
600122	Looped pile fabrics of man-made fibres, knitted or crocheted
600533	Warp knit fabrics of synthetic fibres, of yarns of different colours "incl. those made on galloon ...
600538	Warp knit fabrics of synthetic fibres, of yarns of different colours "incl. those made on galloon ...
610444	Women's or girls' dresses of artificial fibres, knitted or crocheted (excluding petticoats)
620333	Men's or boys' jackets and blazers of synthetic fibres (excluding knitted or crocheted, and ...
621133	Men's or boys' tracksuits and other garments, n.e.s. of man-made fibres (excluding knitted ...
630312	Curtains, incl. drapes, and interior blinds, curtain or bed valances of synthetic fibres, knitted ...
540211	High-tenacity filament yarn of aramids (excluding sewing thread and yarn put up for retail ...
540232	Textured filament yarn of nylon or other polyamides, with a linear density of > 50 tex per ...
540234	Textured synthetic filament yarn of polypropylene (excluding sewing thread and yarn put up ...
540500	Artificial monofilament of ≥ 67 decitex and with a cross sectional dimension of ≤ 1 mm; strip ...
540810	Woven fabrics of high-tenacity viscose yarn, incl. monofilament of ≥ 67 decitex and a maximum ...
540832	Woven fabrics of yarn containing predominantly, but $< 85\%$ artificial filament by weight, incl. ...
550200	Artificial filament tow as specified in Note 1 to chapter 55
550319	Staple fibres of nylon or other polyamides, not carded, combed or otherwise processed for spinning ...

Code	Product Description
550630	Acrylic or modacrylic staple fibres, carded, combed or otherwise processed for spinning
550961	Yarn containing predominantly, but < 85% acrylic or modacrylic staple fibres by weight, mixed ...
551321	Plain woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, ...
551522	Woven fabrics containing predominantly, but < 85% acrylic or modacrylic staple fibres by weight, ...
551613	Woven fabrics containing \geq 85% artificial staple fibres by weight, made of yarn of different ...
551623	Woven fabrics containing predominantly, but < 85% artificial staple fibres, mixed principally ...
551633	Woven fabrics containing predominantly, but < 85% artificial staple fibres by weight, mixed ...
551634	Woven fabrics containing predominantly, but < 85% artificial staple fibres by weight, mixed ...
551643	Woven fabrics containing predominantly, but < 85% artificial staple fibres by weight, mixed ...
551691	Woven fabrics containing predominantly, but < 85% artificial staple fibres by weight, other ...
560122	Wadding of man-made fibres and articles thereof (excluding sanitary towels and tampons, napkins ...
560312	Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of man-made filaments, ...
560490	Textile yarn, strip and the like of heading 5404 and 5405, impregnated, coated, covered or ...
580132	Cut corduroy, of man-made fibres (excluding terry towelling and similar woven terry fabrics, ...
600330	Knitted or crocheted fabrics of synthetic fibres, of a width of \leq 30 cm (excluding those containing ...
600340	Knitted or crocheted fabrics of artificial fibres, of a width of \leq 30 cm (excluding those ...
600532	Dyed warp knit fabrics of synthetic fibres "incl. those made on galloon knitting machines", ...
600544	Printed warp knit fabrics of artificial fibres "incl. those made on galloon knitting machines", ...
600634	Printed fabrics, knitted or crocheted, of synthetic fibres, of a width of $>$ 30 cm (excluding ...
600644	Printed fabrics, knitted or crocheted, of artificial fibres, of a width of $>$ 30 cm (excluding ...
610343	Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted ...
610832	Women's or girls' nightdresses and pyjamas of man-made fibres, knitted or crocheted (excluding ...

Code	Product Description
620113	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made ...
620193	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres ...
620463	Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres ...
630539	Sacks and bags, for the packing of goods, of man-made textile materials (excluding of polyethylene ...
540253	Filament yarn of polypropylene, incl. monofilament of < 67 decitex, single, with a twist of ...
540333	Filament yarn of cellulose acetate, incl. monofilament of < 67 decitex, single (excluding sewing ...
540339	Artificial filament yarn, incl. artificial monofilament of < 67 decitex, single (excluding ...
540341	Multiple "folded" or cabled filament yarn of viscose rayon, incl. monofilament of < 67 decitex ...
540411	Elastomeric monofilament of ≥ 67 decitex and with a cross sectional dimension of ≤ 1 mm
550110	Filament tow as specified in Note 1 to chapter 55, of nylon or other polyamides
550931	Single yarn containing $\geq 85\%$ acrylic or modacrylic staple fibres by weight (excluding sewing ...
551219	Woven fabrics containing $\geq 85\%$ polyester staple fibres by weight, dyed, made of yarn of different ...
551339	Woven fabrics containing predominantly, but < 85% synthetic staple fibres by weight, mixed ...
551419	Woven fabrics containing predominantly, but < 85% synthetic staple fibres by weight, mixed ...
551422	Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed ...
590210	Tyre cord fabric of high-tenacity yarn of nylon or other polyamides, whether or not dipped ...
590320	Textile fabrics impregnated, coated, covered or laminated with polyurethane (excluding wallcoverings ...
600536	Unbleached or bleached warp knit fabrics of synthetic fibres "incl. those made on galloon knitting ...
600539	Printed warp knit fabrics of synthetic fibres "incl. those made on galloon knitting machines", ...
611030	Jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted ...
611300	Garments, knitted or crocheted, rubberised or impregnated, coated or covered with plastics ...
611430	Special garments for professional, sporting or other purposes, n.e.s., of man-made fibres, ...

Code	Product Description
620343	Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres (excluding ...
630293	Toilet linen and kitchen linen of man-made fibres (excluding floorcloths, polishing cloths, ...
630392	Curtains, incl. drapes, and interior blinds, curtain or bed valances of synthetic fibres (excluding ...
540220	High-tenacity filament yarn of polyesters (excluding that put up for retail sale)
540349	Multiple "folded" or cabled artificial filament yarn, incl. artificial monofilament of < 67 ...
540490	Strip and the like, e.g. artificial straw, of synthetic textile material, with an apparent ...
540791	Woven fabrics of yarn containing predominantly, but < 85% synthetic filament by weight, incl. ...
540823	Woven fabrics of yarn containing \geq 85% artificial filament by weight, incl. monofilament of ...
550820	Sewing thread of artificial staple fibres, whether or not put up for retail sale
551312	Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed ...
551341	Plain woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, ...
590220	Tyre cord fabric of high-tenacity polyester yarn, whether or not dipped or impregnated with ...
600290	Knitted or crocheted fabrics, of a width of \leq 30 cm, containing \geq 5% by weight elastomeric ...
600633	Fabrics, knitted or crocheted, of synthetic fibres, of yarns of different colours, of a width ...
600643	Fabrics, knitted or crocheted, of artificial fibres, of yarns of different colours, of a width ...
610230	Women's or girls' overcoats, car coats, capes, cloaks, anoraks, incl. ski jackets, windcheaters, ...
610433	Women's or girls' jackets and blazers of synthetic fibres, knitted or crocheted (excluding ...
610443	Women's or girls' dresses of synthetic fibres, knitted or crocheted (excluding petticoats)
610463	Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, ...
610620	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres, knitted or crocheted ...
611241	Women's or girls' swimwear of synthetic fibres, knitted or crocheted
611596	Full-length or knee-length stockings, socks and other hosiery, incl. footwear without applied ...
620213	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made ...
621520	Ties, bow ties and cravats of man-made fibres (excluding knitted or

Code	Product Description
	crocheted)
630622	Tents of synthetic fibres (excluding umbrella and play tents)
550190	Synthetic filament tow as specified in Note 1 to chapter 55 (excluding that of acrylic, modacrylic, ...
550210	Artificial filament tow as specified in Note 1 to chapter 55, of acetate
551291	Woven fabrics containing \geq 85% synthetic staple fibres by weight, unbleached or bleached (excluding ...
551311	Plain woven fabrics containing predominantly, but $<$ 85% polyester staple fibres by weight, ...
551421	Plain woven fabrics containing predominantly, but $<$ 85% polyester staple fibres by weight, ...
551423	Woven fabrics containing predominantly, but $<$ 85% polyester staple fibres by weight, mixed ...
551599	Woven fabrics containing predominantly, but $<$ 85% synthetic staple fibres, other than those ...
560313	Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of man-made filaments, ...
560819	Knotted netting of twine, cordage, ropes or cables, by the piece or metre; made-up nets, of ...
580632	Narrow woven fabrics of man-made fibres, with a width of \leq 30 cm, n.e.s.
600542	Dyed warp knit fabrics of artificial fibres "incl. those made on galloon knitting machines", ...
600543	Warp knit fabrics of artificial fibres, of yarns of different colours "incl. those made on ...
610712	Men's or boys' underpants and briefs of man-made fibres, knitted or crocheted
620433	Women's or girls' jackets and blazers of synthetic fibres (excluding knitted or crocheted, ...
540245	Filament yarn of nylon or other polyamides, incl. monofilament of $<$ 67 decitex, single, untwisted ...
540342	Multiple "folded" or cabled filament yarn of cellulose acetate, incl. monofilament of $<$ 67 ...
540419	Synthetic monofilament of \geq 67 decitex and with a cross sectional dimension of \leq 1 mm (excluding ...
540769	Woven fabrics of yarn containing \geq 85% by weight of mixtures of textured and non-textured ...
550140	Synthetic filament tow as specified in Note 1 to chapter 55, of polypropylene
550610	Staple fibres of nylon or other polyamides, carded, combed or otherwise processed for spinning
550620	Staple fibres of polyesters, carded, combed or otherwise processed for spinning
550690	Synthetic staple fibres carded, combed or otherwise processed for spinning (excluding acrylic, ...
551120	Yarn containing predominantly, but $<$ 85% synthetic staple fibres by weight,

Code	Product Description
	put up for retail ...
551529	Woven fabrics containing predominantly, but < 85% acrylic or modacrylic staple fibres by weight, ...
551632	Woven fabrics containing predominantly, but < 85% artificial staple fibres by weight, mixed ...
560311	Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of synthetic or ...
560314	Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of man-made filaments, ...
560750	Twine, cordage, ropes and cables, of synthetic fibres, whether or not plaited or braided and ...
570320	Carpets and other floor coverings, of nylon or other polyamides, tufted "needle punched", whether ...
580133	Cut weft pile fabrics, of man-made fibres (excluding terry towelling and similar woven terry ...
580421	Mechanically made lace of man-made fibres in the piece, in strips or in motifs (excluding fabrics ...
600535	Warp knit fabrics of synthetic fibres, antimalarial, of a width of > 30 cm
600631	Unbleached or bleached fabrics, knitted or crocheted, of synthetic fibres, of a width of > ...
610822	Women's or girls' briefs and panties of man-made fibres, knitted or crocheted
610892	Women's or girls' négligés, bathrobes, dressing gowns, housejackets and similar articles of ...
611522	Pantyhose and tights of synthetic fibres, knitted or crocheted, measuring per single yarn >= ...
620293	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres ...
630533	Sacks and bags, for the packing of goods, of polyethylene or polypropylene strip or the like ...
630612	Tarpaulins, awnings and sunblinds of synthetic fibres (excluding flat covers of light fabrics ...

Annexure 7

Top imported products of USA

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
6110303059	Women's or Girls' Pullovers and Similar Articles of Man-Made Fibers Knitted or Crocheted, But Not Knit To Shape, Nesoi	3184.99	6.83	23.76	-3.85	0.75
6110303053	Men's or Boys' Pullovers and Similar Articles of Man-Made Fibers Knitted or Crocheted, But Not Knit To Shape, Nesoi	1803.94	10.58	5.49	6.25	0.30
6212109020	Brassieres, Not Containing Lace or Net or Embroidery, of Man-Made Fibers, Whether or Not Knitted or Crocheted	1681.69	1.42	66.23	-6.97	3.94
6206403030	Women's Blouses, Shirts, and Shirt Blouses, of Man-Made Fibers, Not Knitted, With Less Than Two Colors in The Warp And/or The Filling	1155.09	8.70	158.36	-2.37	13.71
6104632006	Women's Trousers and Breeches, Knitted or Crocheted, of Synthetic Fibers, Containing 5 Percent or More by Weight of Elastomeric Yarn or Rubber Thread	1062.84	19.68	1.54	19.88	0.15
6204434030	Women's Dresses, of Synthetic Fibers, Not Knitted, With Less Than Two Colors in The Warp	1049.57	3.27	71.01	3.57	6.77
6301400020	Blankets and Traveling Rugs, of Synthetic Fibers, Other Than Woven	1005.22	9.69	10.39	-5.22	1.03
6104432010	Women's Dresses, Knitted or Crocheted, of Synthetic Fiber, Containing Less Than 23 Percent by Weight of Wool or Fine Animal Hair	962.83	5.28	38.99	0.49	4.05
6105202010	Men's Shirts, Knitted or Crocheted, of Man-Made Fibers, Containing Less Than 23 Percent of Wool or Fine Animal Hair	890.83	7.91	8.23	-2.31	0.92
6109901007	Men's T-Shirts, Knitted or Crocheted, of Other Textile Materials: of Man-Made Fibers	773.24	10.25	3.37	-6.17	0.44
6108229020	Women's Briefs and Panties, Knitted or Crocheted, of Man-Made Fibers	762.88	3.14	17.66	-8.04	2.32
5702422080	Carpets and Other Textile Floor Coverings, Not Tufted or Flocked, of Man-Made Fibers, Pile Construction, Other Carpets	721.90	13.85	14.10	12.12	1.95
6112410010	Women's Swimwear, Knitted or Crocheted, of Synthetic Fibers, Containing by Weight 5 Percent or More Elastomeric Yarn or Rubber Thread	676.25	2.85	0.42	104.29	0.06
6103431520	Men's Trousers and Breeches, Knitted or Crocheted, of Synthetic Fibers, Containing Less Than 23 Percent by Weight of Wool or	520.85	10.10	0.79	17.36	0.15

294230/2021/Economic Division

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	Fine Animal Hair					
6303922010	Window Curtains, Including Drapes, and Window Valances, Not Knitted or Crocheted, of Synthetic Fibers	519.66	0.27	2.24	-23.93	0.43
6108320010	Women's Nightdresses and Pajamas, Knitted or Crocheted, of Man-Made Fibers	484.61	8.05	2.68	13.18	0.55
6204444010	Women's Dresses, of Artificial Fibers, Not Knitted, Containing Less Than 36 Percent by Weight of Wool or Fine Animal Hair	480.95	11.89	116.93	4.94	24.31
6205302070	Men's Other Shirts, of Man-Made Fibers, Not Knitted, With Less Than Two Colors in The Warp And/or The Filling	464.27	4.89	11.03	20.50	2.38
6303922030	Window Shades and Window Blinds of Synthetic Fibers, Not Knitted or Crocheted	453.85	13.22			
6307906800	Other Made Up Articles, Including Dress Patterns: Surgical Drapes of Spunlaced or Bonded Fiber Fabric Disposable Surgical Drapes of Man-Made Fibers	452.40	5.59			
6110303020	Women's Other Sweaters, of Man-Made Fibers, Knitted or Crocheted, Containing Less Than 30 Percent by Weight of Silk or Silk Waste	419.38	4.29	1.12	14.67	0.27
6107120010	Men's Underpants and Briefs, Knitted or Crocheted, of Man-Made Fibers	419.21	19.10	20.59	29.76	4.91
6104442010	Women's Dresses, Knitted or Crocheted, of Artificial Fibers, Containing Less Than 23 Percent of Wool or Fine Animal Hair	391.09	3.46	5.04	-7.12	1.29
6108920030	Women's Bathrobes, Dressing Gowns, Negligees, and Similar Articles, Knitted or Crocheted, of Man-Made Fibers	390.64	7.54	1.99	28.27	0.51
6212105020	Brassieres, Containing Lace or Net or Embroidery, of Man-Made Fibers, Whether or Not Knitted or Crocheted	388.05	2.67	2.87	-38.00	0.74
5603120090	Oth Non-Woven Fab, of Man-Made Filaments, Oth Thanfloor Covering Underlays & Laminated Fab, Not Impreg/Coated/Covered, Weighing Gt 25 and Lt= 70 G/M2	378.40	6.88	25.26	2.29	6.67
6305320010	Flexible Intermediate Bulk Containers, For The Packing of Goods, of Synthetic or Man-Made Textile Materials , Weighing 1 Kg or More	367.88	5.68	184.22	12.52	50.08
6106202010	Women's Blouses and Shirts, Knitted or Crocheted, of Man-Made Fibers, Containing Less Than 23 Percent of Wool or Fine Animal Hair	358.55	5.37	12.67	2.10	3.53

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
6109901050	Women's T-Shirts, Knitted or Crocheted, of Other Textile Materials: of Man-Made Fibers	352.06	13.74	5.40	7.16	1.53
6103431550	Men's Shorts, Knitted or Crocheted, of Synthetic Fibers, Containing Less Than 23 Percent by Weight of Wool or Fine Animal Hair	349.38	2.09	0.59	6.68	0.17
6114301020	Women's or Girls' Other Garments, Knitted or Crocheted, of Man-Made Fibers: Tops	346.54	3.79	6.25	3.17	1.80
5407200000	Woven Fabrics of Synthetic Filament Yarn; Obtained From Strip or The Like	321.06	5.69	121.25	-4.27	37.77
6104632011	Women's Trousers and Breeches, Knitted or Crocheted, of Synthetic Fibers, Other	294.15	7.77	2.00	12.86	0.68
6109901065	Women's Tanktops and Singlets, Knitted or Crocheted, of Other Textile Materials: of Man-Made Fibers	277.15	4.07	8.46	-0.01	3.05
5903102090	Fabrics, of Man-Made Fibers, Other Than Yarns Sheathed With Polyvinyl Chloride, Greater Than 70 Percent by Weight of Rubber or Plastic	244.81	0.48	9.60	19.05	3.92
6104692030	Women's or Girls' Trousers and Breeches, Knitted or Crocheted, of Artificial Fibers, Containing Less Than 23 Percent of Wool or Fine Animal Hair	227.21	13.97	1.13	14.35	0.50
6304930000	Furnishing Articles, Nesoi, Excluding Those of Heading 9404: Not Knitted or Crocheted, of Synthetic Fibers	222.63	2.90	8.38	6.07	3.76
5503200065	Synthetic Staple Fibers, Not Carded or Combed, or Otherwise Processed For Spinning: of Polyesters Measuring 13.2 Decitex or More, Nesoi	200.82	1.94	12.00	-14.63	5.98
5903202500	Other Fabrics, of Man-Made Fibers, Impregnated, Coated, Covered or Laminated With Polyurethane, Less Than or Equal To 70 Percent Rubber or Plastics	194.70	6.64			
6203332010	Men's Suit-Type Jackets and Blazers, Not Knitted, of Synthetic Fibers, Containing Less Than 36 Percent by Weight of Wool or Fine Animal Hair	189.28	8.37	19.10	19.88	10.09
6301400010	Blankets and Traveling Rugs, of Synthetic Fibers, Woven	180.87	5.58	13.93	14.28	7.70
6114303070	Women's or Girls' Other Garments, Knitted or Crocheted, of Man-Made Fibers: Other Apparel	179.91	5.57	0.94	-3.16	0.52
6214300000	Shawls, Scarves, Mufflers, Mantillas, Veils and The Like, of Synthetic Fibers, Not Knitted or Crocheted	179.28	5.69	8.14	-18.65	4.54

294230/2021/Economic Division

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
5705002030	Other Carpets and Textile Floor Coverings, Whether or Not Made Up, of Man-Made Fibers	177.92	11.13	25.02	16.52	14.06
6108320025	Girls' Nightdresses and Pajamas, Knitted or Crocheted, of Man-Made Fibers, Other Than Blanket Sleepers	177.79	2.65			
6103431570	Boys' Shorts, Knitted or Crocheted, of Synthetic Fibers, Containing Less Than 23 Percent by Weight of Wool or Fine Animal Hair, Other Than Playsuits	176.84	8.21	0.39	47.30	0.22
6202131000	Women's or Girls' Overcoats, Raincoats, Car Coats, Capes, Cloaks and Similar Articles, of Man-Made Fibres (Excl. Knitted or Crocheted)	173.84	9.87			
6216005820	Gloves, Mittens and Mitts, of All Types of Textile Materials (Excl. Knitted or Crocheted and For Babies) : of Man-Made Fibers: Fourchettes, Sidewalls, Less Than 36 Percent of Wool or Fine Animal Hair	172.81	8.27			
6103431540	Boys' Trousers and Breeches, Knitted or Crocheted, of Synthetic Fibers, Less Than 23 Percent by Weight of Wool or F.A.H., Other Than Playsuits	172.24	12.24	0.33	55.81	0.19
6303922050	Curtains (Including Drapes) and Interior Blinds; Curtain or Bed Valances of Synthetic Fibers, Not Knitted or Crocheted, Except Window Shades & Blinds	170.26	0.60	1.59	9.88	0.94
5603130090	Oth Non-Woven Fab, of Man-Made Filaments, Oth Thanfloor Covering Underlays & Laminated Fab, Not Impreg/Coated/Covered, Weighing Gt 70 and Lt=150 G/M2	166.60	6.09	19.22	17.77	11.53
5603110090	Other Non-Woven Fabric, of Man-Made Filaments, Other Than Floor Covering Underlays & Laminated Fabrics, Not Impreg/Coated/Covered, Weighing Lt=25 G/M2	164.80	1.45	19.41	41.73	11.78
6202134020	Women's Overcoats, Carcoats, Capes, Cloaks and Similar Coats, Not Knitted, of Man-Made Fibers, Other	157.34	4.33	2.24	1.70	1.42
6114303054	Women's or Girls' Coveralls, Jumpsuits, and Similar Apparat, Knitted or Crocheted, of Man-Made Fibers: Containing Less Than 23 Percent of Wool or Fah.	156.35	37.94	4.03	67.92	2.58
6104632030	Women's Shorts, Knitted or Crocheted, of Synthetic Fibers, Containing Less Than 23 Percent of Wool or Fine Animal Hair	154.46	7.62	0.20	5.74	0.13

294230/2021/Economic Division

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
5702421000	Carpets and Other Textile Floor Coverings, Not Tufted or Flocked, Hand Woven Carpets, Pile Construction, of Man-Made Fibers, Wilton/Velvet, Made Up	152.81	10.37	2.30	12.16	1.51
5603149090	Other Non-Woven Fab, of Man-Made Filaments, Other Than Floor Covering Underlays & Laminated Fab, Notimpreg/Coated/Covered, Weighing Gt 150 G/M2	151.58	8.31	10.31	19.81	6.80
5503200045	Synthetic Staple Fibers, Nt Carded or Combed,or Otherwise Prcsd For Spinning: of Polyesters Measuring Gt= 3.3 Decitex But Less Than 13.2 Decitex,Neso	148.09	0.04	19.37	13.58	13.08
6104432020	Girls' Dresses, Knitted or Crocheted, of Synthetic Fiber, Containing Less Than 23 Percent by Weight of Wool or Fine Animal Hair	142.26	4.69	2.63	22.96	1.85
5503200025	Synthetic Staple Fibers, Not Carded or Combed, or Otherwise Processed For Spinning: of Polyesters Measuring Less Than 3.3 Decitex,Neso	141.72	3.27	1.05	-51.18	0.74
6206403010	Women's Blouses, Shirts, and Shirt Blouses, of Man-Made Fibers, Not Knitted, With Two or More Colors in The Warp And/or The Filling	134.19	22.24	42.79	4.97	31.89
6211111010	Men's Swimwear, of Man-Made Fibers, Not Knitted	132.67	8.29			
5402203050	Synthetic Filament Yarn: Single, High Tenacity,Monofilament/Multifilament,Lt 5 Turns/Me Ter, of Polyester Filament, Gt 920 Decitex, Not For Ret Sale	124.31	2.11	15.61	91.99	12.56
6109901009	Boys' T-Shirts, Knitted or Crocheted, of Other Textile Materials: of Man-Made Fibers	122.79	10.03	0.66	-11.57	0.54
6205302050	Men's Other Shirts, of Man-Made Fibers, Not Knitted, With Two or More Colors in The Warp And/or The Filling	119.41	6.25	3.90	16.41	3.27
6212200020	Girdles and Panty-Girdles, of Man-Made Fibers, Whether or Not Knitted or Crocheted	119.35	2.18			
5903902500	Other Fabrics, of Man-Made Fibers, Impregnated, Coated, Covered or Laminated With Other Rubber or Plastic, Not Exceeding 70 Percent Rubber or Plastic	118.89	6.57	1.58	10.92	1.33
6104532010	Women's Skirts and Divided Skirts, Knitted or Crocheted, of Synthetic Fibers, Containing Less Than 23 Percent by Weight of Wool or Fine Animal Hair	118.81	4.15	1.72	-1.13	1.45
5404900000	Synthetic Monofilament >= 67 Decitex: Strip and The Like (Ex. Artificial Straw) of	114.37	8.11	0.40	-1.34	0.35

294230/2021/Economic Division

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	Synthetic Textile Material of An Apparent Width Not > 5Mm, Other					
6204434040	Girls' Dresses, of Synthetic Fibers, Not Knitted, With Less Than Two Colors in The Warp	109.55	4.15	6.33	11.51	5.78
6114303060	Men's or Boys' Other Garments, Knitted or Crocheted, of Man-Made Fibers: Other Apparel	103.76	2.26	0.35	2.63	0.33
6111305070	Babies' Garments and Clothing Accessories of Synthetic Fibres, Knitted or Crocheted (Excl. Hats)	101.61	0.79	1.34	38.25	1.32
6306221000	Tents, of Synthetic Fibers, Backpacking Tents	99.22	4.32			
5402333000	Synthetic Filament Yarn (Other Than Sewing Thread): Including Synthetic Monofilament: Single Textured Yarns of Polyester Filament, Not For Retail Sale	97.46	3.31	7.22	-11.07	7.41
6217109530	Other Made Up Clothing: Accessories, of Man-Made Fibers	97.17	1.77	0.72	-6.95	0.74
5503110000	Synthetic Staple Fibers of Aramids, Not Carded, Combed or Otherwise Processed For Spinning	96.83	9.67			
6306120000	Tarpaulins, Awnings, and Sunblinds, of Synthetic Fibers	95.12	14.83	0.50	24.78	0.52
5806322000	Narrow Woven Fabrics, Other Than Goods of Heading 5807; Other Woven Fabrics, of Man-Made Fibers, Nesoï	91.14	3.09	0.81	6.49	0.88
6116930800	Gloves, Mittens and Mitts, Knitted or Crocheted, of Synthetic Fiber: Other Gloves, Specially Designed For Use in Sports	87.52	10.84	2.30	7.87	2.63
6107991030	Men's or Boys' Sleepwear and Similar Articles, Knitted or Crocheted, of Man-Made Fibers	86.65	6.35	0.92	61.95	1.06
5603143000	Nonwovens, Whether or Not Impregnated, Coated, Covered or Laminated, N.E.S., of Man-Made Filaments, Weighing > 150 G: of Man-Made Filaments, Laminated Fabrics, Weighing Gt 150 G/M2	78.48	11.28	23.43	940.34	29.85
5609003000	Other Articles of Yarn, Strip, Like Heading 5404 or 5405, Twine Cordage, Rope or Cables, Not Elsewhere Specified or Included: of Man-Made Fibers	77.24	2.37	4.87	-0.39	6.31
6216004600	Gloves, Mittens and Mitts, of All Types of Textile Materials (Excl. Knitted or Crocheted and For Babies) : of Man-Made Fibers: Specially Designed For Use in Sports, Including Snowmobile and Ski Gloves	76.22	0.35			

294230/2021/Economic Division

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
6104632026	Girls' Trousers and Breeches, Knitted or Crocheted, of Synthetic Fibers, Containing 5 Percent or More by Weight of Elastomeric Yarn, Other	76.00	38.10	0.23	14.12	0.30
5810921000	Badges, Emblems, and Motifs of Man-Made Fibers, Other Embroidery With Visible Ground, Embroidery in The Piece, in Strips or in Motifs	70.99	0.75	1.69	32.81	2.37
6204593010	Women's Skirts and Divided Skirts, of Artificial Fibers, Not Knitted, Containing Less Than 36 Percent of Wool or Fine Animal Hair	69.38	4.77	12.52	2.22	18.05
5402203070	Syn. Filament Yarn: Single, High Tenacity, Multifilament;Gt= 5 Turns Per Meter of Polyester, Not For Retail Sale Gt 920 Decitex	69.08	10.83	0.18	9.46	0.26
5903102010	Fabrics, of Man-Made Fibers, Yarns Sheathed With Polyvinyl Chloride, Greater Than 70 Percent by Weight of Rubber or Plastic	66.41	22.35			
5702929000	Carpets and Other Textile Floor Coverings, Not Tufted or Flocked, Hand Woven Carpets, Not of Pile Construction, of Man-Made Fibers, Made Up,Power Loom	65.91	14.11	22.05	8.52	33.45
5903202000	Other Fabrics, of Man-Made Fibers, Impregnated, Covered, Coated or Laminated With Polyurethane, Greater Than 70 Percent of Plastics, Not Bonded	64.36	15.85			
6116939400	Gloves, Mittens and Mitts, Knitted or Crocheted, of Synthetic Fiber: Fourchettes Sidewalls, Containing Less Than 23 Percent Wool or F.A.H.	63.15	3.74			
6110303045	Women's or Girls' Sweatshirts, of Man-Made Fibers, Knitted or Crocheted, Containing Less Than 30 Percent by Weight of Silk or Silk Waste	63.01	7.53	1.14	80.47	1.80
6104332000	Women's or Girls' Suit-Type Jackets and Blazers, Knitted or Crocheted, of Synthetic Fibers, Containing Less Than 23 Percent of Wool or F.A.H.	61.37	4.88	0.55	56.72	0.89
6112410030	Women's Swimwear, Knitted or Crocheted, of Synthetic Fibers, Containing Less Than 5 Percent of Elastomeric Yarn or Rubber Thread	60.30	8.49			
5511100030	Yarns, Other Than Sewing Thread, Put Up For Retail Sale, Greater Than or Equal To 85 Percent by Weight of Acrylic Staple Fibers	59.23	2.13	7.46	24.78	12.59

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
6302931000	Other Linen, of Man-Made Fibers: of Pile or Tufted Construction, Toilet or Kitchen Linen	58.24	18.27	0.16	-48.99	0.27
6203122010	Men's Suits, Not Knitted, of Synthetic Fibers, Less Than 36 Percent Wool or Fine Animal Hair	57.21	3.03	1.80	21.77	3.15
6110303030	Men's or Boys' Vests, Other Than Sweater Vests, of Man-Made Fibers, Knitted or Crocheted, Containing Less Than 30 Percent by Weight of Silk	56.95	7.83	0.30	-13.10	0.53
6305320020	Flexible Intermediate Bulk Containers, For The Packing of Goods, of Synthetic or Man-Made Textile Materials , Weighing Lt 1 Kg	56.02	12.09	29.32	14.48	52.35
5801360010	Woven Pile Fabrics and Chenille Fabrics, Other Than Fabrics of Heading 5802 or 5806: of Man-Made Fibers: Chenille Fabrics, Chenille Yarns On One Side	55.76	0.26	1.63	7.25	2.93
5503400000	Synthetic Staple Fibers Not Carded, Combed or Otherwise Processed For Spinning: of Polypropylene	55.43	13.41	10.88	-18.60	19.62
6114302010	Other Garments, Knitted or Crocheted, of Man-Made Fibers: Bodysuits and Bodyshirts, Containing 5 Percent or More of Elastomeric Yarn or Rubber Thread	53.93	15.36	0.20	76.54	0.38
5801360020	Woven Pile Fabrics and Chenille Fabrics, Other Than Fabrics of Heading 5802 or 5806: of Man-Made Fibers: Chenille Fabrics, Chenille Yarns On Both Side	53.51	0.20	6.19	-7.40	11.56
5910001090	Transmission or Conveyor Belts or Belting, Whether or Not Reinforced With Metal: Other Transmission or Conveyor Belts, of Man-Made Fibers	52.13	2.68	7.15	58.48	13.71
6105202030	Boys' Shirts, Knitted or Crocheted, of Man-Made Fibers, Containing Less Than 23 Percent of Wool or Fine Animal Hair, Other Than For Playsuits	51.37	10.19	0.33	8.09	0.64
6110303035	Women's or Girls' Vests, Other Than Sweater Vests, of Man-Made Fibers, Knitted or Crocheted, Containing Less Than 30 Percent by Weight of Silk	51.23	0.16			
6115220000	Panty Hose and Tights, Knitted or Crocheted, of Synthetic Fibers, Measuring 67 Decitex or More Per Single Yarn, Other Than Compression Hosiery	50.99	4.78			
6107991040	Men's Bathrobes, Dressing Gowns, and Similar Articles, Knitted or Crocheted, of Man-Made Fibers	50.46	12.01	0.14	3.99	0.27
6104591030	Women's Skirts and Divided Skirts, Knitted or Crocheted, of Artificial Fibers, Containing	50.45	2.96	0.32	-27.48	0.64

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	Less Than 23 Percent of Wool or Fine Animal Hair					
	Top 109 products	32684.20	1.23	1351.94	2.74	4.14

Annexure 8

Top imported products of Germany

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
61103099	Women's or girls' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and wadded waistcoats)	1765.09	1.16	12.46	2.78	0.71
62029300	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	1095.70	2.79	2.66	-13.32	0.24
62064000	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres (excl. knitted or crocheted and vests)	870.28	0.41	126.35	-3.15	14.52
62019300	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	785.18	4.56	1.31	-12.36	0.17
61143000	Special garments for professional, sporting or other purposes, n.e.s., of man-made fibres, knitted or crocheted	494.87	8.37	4.93	11.29	1.00
62044400	Women's or girls' dresses of artificial fibres (excl. knitted or crocheted and petticoats)	373.94	26.71	54.83	21.41	14.66
62021390	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	285.55	17.12	0.28	62.51	0.10
61103091	Men's or boys' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and wadded waistcoats)	272.96	5.43	1.58	9.28	0.58
61082200	Women's or girls' briefs and panties of man-made fibres, knitted or crocheted	270.75	4.72	3.25	14.13	1.20

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
62114390	Women's or girls' garments, of man-made fibres, n.e.s. (not knitted or crocheted)	256.09	0.37	36.48	2.17	14.24
61023090	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	253.37	5.10	1.20	3.23	0.47
62021310	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)	234.34	5.67	0.46	0.61	0.20
62046918	Women's or girls' trousers and breeches, of artificial fibres (not of cut corduroy, of denim or knitted or crocheted and excl. industrial and occupational clothing, bib and brace overalls, briefs and tracksuit bottoms)	234.25	10.20	13.38	5.62	5.71
61044400	Women's or girls' dresses of artificial fibres, knitted or crocheted (excl. petticoats)	226.35	9.18	6.37	17.75	2.82
56031490	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 150 g/m ² (excl. coated or covered)	216.77	7.29	0.28	9.54	0.13
56031290	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 25 g/m ² but <= 70 g/m ² (excl. coated or covered)	168.73	1.33	0.39	-12.30	0.23
56039290	Nonwovens, whether or not impregnated or laminated, n.e.s., weighing > 25 g/m ² but <= 70 g/m ² (excl. coated or covered or of man-made filaments)	138.29	13.74	0.00	-63.76	0.00
55041000	Staple fibres of viscose rayon, not carded, combed or otherwise processed for spinning	108.82	8.04	3.96	-5.20	3.64
61023010	Women's or girls' overcoats, car coats, capes, cloaks and similar articles of man-made fibres, knitted or crocheted	101.43	17.45	0.08	11.72	0.08
56039490	Nonwovens, whether or not impregnated or laminated, n.e.s.,	90.70	4.21	0.09	-36.58	0.10

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	weighing > than 150 g/m ² (excl. coated or covered or of man-made filaments)					
62011390	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	88.05	13.14	0.07	32.51	0.08
62053000	Men's or boys' shirts of man-made fibres (excl. knitted or crocheted, nightshirts, singlets and other vests)	82.50	4.88	6.37	35.43	7.72
54024900	Synthetic filament yarn, incl. synthetic monofilament of < 67 decitex, single, untwisted or with a twist of <= 50 turns per metre (excl. sewing thread, yarn put up for retail sale, textured yarn, elastomeric yarn and filament yarn of polyester, nylon or other polyamides)	80.74	2.93	0.01	NA	0.01
62011310	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)	72.50	17.19	0.04	-28.40	0.06
54075200	Woven fabrics of yarn containing >= 85% by weight of textured polyester filaments, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, dyed	71.36	5.37	0.49	-19.00	0.69
55091200	Multiple "folded" or cabled yarn containing >= 85% nylon or other polyamide staple fibres by weight (excl. sewing thread and yarn put up for retail sale)	66.78	9.21	0.08	15.76	0.12
62045910	Women's or girls' skirts and divided skirts of artificial fibres (excl. knitted or crocheted and petticoats)	58.20	20.05	7.43	21.83	12.76
54075300	Woven fabrics of yarn containing >= 85% by weight of textured polyester filaments, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, made of yarn of different colours	57.89	2.95	1.62	6.69	2.80
56039390	Nonwovens, whether or not impregnated or laminated, n.e.s., weighing > 70 g/m ² but <= 150 g/m ² (excl. coated or covered or of man-made filaments)	52.37	0.57	0.04	-14.93	0.08

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
55039000	Synthetic staple fibres, not carded, combed or otherwise processed for spinning (excl. those of polypropylene, acrylic, modacrylic, polyesters, nylon or other polyamides)	50.23	4.32	0.00	NA	0.00
62034919	Men's or boys' trousers and breeches of artificial fibres (excl. knitted or crocheted, industrial and occupational, bib and brace overalls and underpants)	50.12	15.71	1.81	-2.40	3.61
	Top 31 products	8974.17	4.93	288.29	2.74	3.21

Annexure 9

Top imported products of Japan

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
620193200	Mens/boys anoraks and similar articles, of man-made fibres, not knitted: Other	915.18	8.34	0.87	11.78	0.10
620343200	Mens/boys trousers and shorts, of synthetic fibres, not knitted: Other	823.03	6.16	0.65	21.60	0.08
620463200	Womens/girls trousers and shorts, of synthetic fibres, not knitted: Other	588.45	1.87	0.98	9.43	0.17
620293200	Womens/girls anoraks & similar article of man-made fibres, not knitted: Other	586.59	10.29	0.81	25.30	0.14
620640210	Womens/girls blouses and shirts, of man-made fibres, not knitted: Other: Blouses, shirt-blouses, open shirts and similar shirts	514.25	7.71	7.35	-5.68	1.43
621133200	Mens/boys garments nes, of man-made fibres, not knitted: Other	425.15	7.87	0.12	45.34	0.03
620443200	Womens/girls dresses, of synthetic fibres, not knitted: Other	422.50	8.33	2.27	15.83	0.54
620453200	Womens/girls skirts, of synthetic fibres, not knitted: Other	399.06	14.56	0.88	17.90	0.22
630532000	Flexible intermediate bulk containers, of man-made textile materials	377.39	1.07	0.54	3.91	0.14
621143200	Womens/girls garments nes, of man-made fibres, not knitted: Other	375.76	3.25	1.97	5.53	0.52
620530010	Mens/boys shirts, of man-made fibres, not knitted: Of synthetic fibres	308.49	3.15	1.24	-0.16	0.40
610712000	Men's or boys' underpants and briefs, knitted or	211.38	2.32	0.37	269.79	0.18

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	crocheted, of man-made fibres					
610822000	Women's or girls' briefs and panties, knitted or crocheted, of man-made fibres	184.93	2.28	0.03	NA	0.02
620113200	Mens/boys overcoats & similar articles of man-made fibres, not knitted: Other	181.98	1.85	0.24	58.20	0.13
620312200	Mens/boys suits, of synthetic fibres, not knitted: Other	181.84	2.37	3.01	27.73	1.66
620433200	Womens/girls jackets, of synthetic fibres, not knitted: Other	179.20	3.06	0.19	46.65	0.10
620333200	Mens/boys jackets and blazers, of synthetic fibres, not knitted: Other	131.19	10.06	0.39	42.71	0.30
611693015	Gloves, mittens and mitts, nes, of synthetic fibres, knitted: Knitted or crocheted, directly shaped	128.93	3.35	0.01	NA	0.00
540233021	Textured yarn nes, of polyester filaments, not put up for retail sale: Other: Containing more than 50% by weight of synthetic fibres or synthetic fibres and acetate fibres taken together	127.86	4.36	1.14	12.29	0.89
570500022	Carpets and other textile floor coverings, nes: Other: Of man-made textile materials	125.53	5.86	0.07	-17.66	0.06
560819091	Knotted netting of twine/cordage/rope, and other made up nets of man-made textile materials: Other: Of synthetic fibres	114.59	1.75			
630622000	Tents, of synthetic fibres	106.35	19.77	0.00	NA	0.00
620444200	Womens/girls dresses, of artificial fibres, not knitted: Other	101.13	13.30	9.75	10.07	9.64

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
630140010	Blankets (o/t electric) and travelling rugs, of synthetic fibres: Blankets (raised textile production)	99.51	0.88	0.02	-21.44	0.02
621010210	Garments made up of textile felts and of nonwoven textile fabrics: Other: Of man-made fibres	99.43	0.59	0.00	NA	0.00
630293090	Toilet and kitchen linen, of man-made fibres: Other	64.18	7.91	0.01	NA	0.01
550320010	Staple fibres of polyesters, not carded or combed: Measuring more than 3.88 decitex but less than 22.23 decitex, 25 mm or more but not more than 80 mm in length	62.72	15.22			
620213100	Womens/girls overcoats&sim articles of man-made fibres,not knitted: Containing fur skin	54.33	5.28	0.00	NA	0.00
540220021	High tenacity yarn (o/t sewing thread),of polyester filaments,not put up: Other: Containing more than 50% by weight of synthetic fibres or synthetic fibres and acetate fibres taken together	54.11	8.01	0.38	195.45	0.70
630612000	Tarpaulins, awnings and sunblinds, of synthetic fibres	52.06	5.35	0.00	NA	0.00
611693095	Gloves, mittens and mitts, nes, of synthetic fibres, knitted: Made up by sewing	51.87	2.15	0.01	-27.40	0.01
	Top 31 products	8048.97	5.94	33.28	7.31	0.41

Annexure 10

Top imported products of United Kingdom

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
62044300	Women's or girls' dresses of synthetic fibres (excl. knitted or crocheted and petticoats)	665.68	2.28	46.95	-5.08	7.05
61099020	T-shirts, singlets and other vests of wool or fine animal hair or man-made fibres, knitted or crocheted	544.63	0.40	9.27	-10.22	1.70
62064000	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres (excl. knitted or crocheted and vests)	527.85	2.22	61.81	-9.58	11.71
62019300	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	433.39	7.19	0.12	-16.26	0.03
62029300	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	331.08	4.65	0.30	-15.80	0.09
61103091	Men's or boys' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and wadded waistcoats)	309.71	2.01	3.28	-9.83	1.06
62044400	Women's or girls' dresses of artificial fibres (excl. knitted or crocheted and petticoats)	302.76	10.27	59.69	24.38	19.72
61046300	Women's or girls' trousers, bib and brace overalls, breeches and	287.28	5.51	4.18	10.75	1.45

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	shorts of synthetic fibres, knitted or crocheted (excl. panties and swimwear)					
61044300	Women's or girls' dresses of synthetic fibres, knitted or crocheted (excl. petticoats)	258.96	2.59	9.90	-6.58	3.82
62021310	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)	204.79	2.94	0.35	-15.21	0.17
63039290	Curtains, incl. drapes, and interior blinds, curtain or bed valances of synthetic fibres (excl. nonwovens, knitted or crocheted, awnings and sunblinds)	174.84	1.25	0.88	-9.63	0.51
61124190	Women's or girls' swimwear of synthetic fibres, knitted or crocheted (excl. containing >= 5% by weight of rubber thread)	173.47	1.17	0.12	31.06	0.07
61143000	Special garments for professional, sporting or other purposes, n.e.s., of man-made fibres, knitted or crocheted	168.64	3.22	1.91	-19.91	1.13
61034300	Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted or crocheted (excl. swimwear and underpants)	158.76	8.37	1.35	-7.08	0.85
62114390	Women's or girls' garments, of man-made fibres, n.e.s. (not knitted or crocheted)	147.76	7.58	19.95	-5.15	13.50
56031290	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 25 g/m ² but <= 70 g/m ² (excl. coated or covered)	147.59	2.48	14.38	12.14	9.75
62033390	Men's or boys' jackets and blazers of synthetic fibres (excl.	145.11	0.72	3.14	-6.19	2.16

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	knitted or crocheted, industrial and occupational, and wind-jackets and similar articles)					
61052010	Men's or boys' shirts of synthetic fibres, knitted or crocheted (excl. nightshirts, t-shirts, singlets and other vests)	106.72	0.20	1.04	-3.65	0.98
62011310	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)	106.64	7.17	0.03	-19.32	0.02
62034390	Men's or boys' shorts of synthetic fibres (excl. knitted or crocheted, underpants and swimwear)	102.58	6.44	0.83	33.63	0.81
62021390	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	90.72	3.93	0.08	-19.95	0.09
61083200	Women's or girls' nightdresses and pyjamas of man-made fibres, knitted or crocheted (excl. t-shirts, vests and nã%ogligã%os)	87.23	3.12	7.17	31.71	8.21
56031390	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 70 g/mâ² but <= 150 g/mâ² (excl. coated or covered)	86.55	2.27	0.46	-18.22	0.53
61159699	Full-length stockings, socks and other hosiery, incl. footwear without applied soles, of synthetic fibres, knitted or crocheted (excl. graduated compression hosiery, women's pantyhose and tights, full-length or knee-length stockings, and hosiery for babies)	84.59	1.72	0.37	20.41	0.44
62046918	Women's or girls' trousers and	83.17	8.07	6.05	-3.73	7.28

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	breeches, of artificial fibres (not of cut corduroy, of denim or knitted or crocheted and excl. industrial and occupational clothing, bib and brace overalls, briefs and tracksuit bottoms)					
62113310	Men's or boys' industrial and occupational clothing of man-made fibres (excl. knitted or crocheted)	79.69	1.55	0.44	70.03	0.56
61103010	Lightweight fine knit roll, polo or turtleneck jumpers and pullovers of man-made fibres, knitted or crocheted	77.66	15.20	0.63	9.40	0.81
61013090	Men's or boys' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles of man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, bib and brace overalls and trousers)	77.55	6.90	0.10	6.45	0.13
54023200	Textured filament yarn of nylon or other polyamides, with a linear density of > 50 tex per single yarn (excl. sewing thread and yarn put up for retail sale)	76.86	1.65			
62034311	Men's or boys' trousers and breeches of synthetic fibres, industrial and occupational (excl. knitted or crocheted and bib and brace overalls)	75.68	3.27	0.67	-0.11	0.88
54075200	Woven fabrics of yarn containing >= 85% by weight of textured polyester filaments, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, dyed	59.23	9.42	8.04	-8.44	13.58
56031190	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing	54.35	0.15	0.40	47.19	0.73

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	<= 25 g/mâ² (excl. coated or covered)					
62011390	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	53.30	8.80	0.04	-25.04	0.07
	Top 33 products	6284.82	3.01	263.91	-1.69	4.20

Annexure 11

Top imported products of Vietnam

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
600632	Dyed fabrics, knitted or crocheted, of synthetic fibres, of a width of > 30 cm (excluding warp ...	1245.84	21.68	0.02	-27.48	0.00
551219	Woven fabrics containing >= 85% polyester staple fibres by weight, dyed,	619.01	2.59	0.54	-11.04	0.09
540742	Woven fabrics of filament yarn containing >= 85% nylon or other polyamides by weight, incl. ...	362.46	20.53	0.43	189.01	0.12
550320	Staple fibres of polyesters, not carded, combed or otherwise processed for spinning	360.04	5.94	1.04	48.35	0.29
540233	Textured filament yarn of polyester (excluding that put up for retail sale)	358.32	15.09	8.54	4.09	2.38
540761	Woven fabrics of yarn containing >= 85% by weight of non-textured polyester filaments,	347.82	24.46	0.28	-14.76	0.08
540769	Woven fabrics of yarn containing >= 85% by weight of mixtures of textured and non-textured	313.46	6.19	0.26	-23.50	0.08
540752	Woven fabrics of yarn containing >= 85% by weight of textured polyester filaments, incl. monofilament	239.50	39.34	0.12	40.37	0.05
540243	Filament yarn of polyester, incl. monofilament of < 67 decitex, single, untwisted or with a ...	201.72	12.75	6.81	35.58	3.37
540710	Woven fabrics of high-tenacity yarn, nylon, other polyamides or polyesters, incl. monofilament ...	175.68	5.95	0.09	-19.82	0.05
540741	Woven fabrics of yarn containing >= 85% by weight of filaments of nylon or other polyamides,	172.56	11.40	0.09	-13.92	0.05
600192	Pile fabrics of man-made fibres, knitted or crocheted (excluding "long pile" fabrics)	164.88	40.86	0.00	NA	0.00
540210	High tenacity filament yarn of nylon or other polyamides (excluding sewing thread and yarn ...	128.86	10.44	0.03	NA	0.02
540792	Woven fabrics of yarn containing predominantly, but < 85% synthetic filament by weight, incl. ...	121.91	20.60	1.48	106.64	1.22
540241	Filament yarn of nylon or other polyamides, incl. monofilament of < 67 decitex, single, untwisted ...	116.44	26.75	0.77	NA	0.66

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
551511	Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed ...	114.14	21.89	15.98	26.52	14.00
540772	Woven fabrics of yarn containing >= 85% synthetic filament by weight, incl. monofilament	107.85	17.92	0.17	NA	0.15
550410	Staple fibres of viscose rayon, not carded, combed or otherwise processed for spinning	97.63	9.89	0.12	53.76	0.12
540220	High-tenacity filament yarn of polyesters (excluding that put up for retail sale)	80.12	15.45	1.38	123.27	1.72
600642	Dyed fabrics, knitted or crocheted, of artificial fibres, of a width of > 30 cm	79.78	13.62	0.00	NA	0.00
560312	Nonwovens, whether or not impregnated, coated, covered or laminated, n.e.s., of man-made filaments,	79.57	2.68	0.33	25.86	0.41
600531	Unbleached or bleached warp knit fabrics of synthetic fibres "incl. those made on galloon knitting	70.30	14.26	0.00	NA	0.00
580136	Chenille fabrics, of man-made fibres (excluding terry towelling and similar woven terry fabrics, ...	68.56	94.56	0.10	45.54	0.14
600634	Printed fabrics, knitted or crocheted, of synthetic fibres, of a width of > 30 cm (excluding ...	64.18	8.36	0.00	NA	0.00
540110	Sewing thread of synthetic filaments, whether or not put up for retail sale	63.22	12.31	0.65	48.50	1.02
550810	Sewing thread of synthetic staple fibres, whether or not put up for retail sale	61.45	7.87	0.02	67.04	0.03
580632	Narrow woven fabrics of man-made fibres, with a width of <= 30 cm, n.e.s.	57.44	16.31	0.03	-61.86	0.06
551529	Woven fabrics containing predominantly, but < 85% acrylic or modacrylic staple fibres by weight,	53.40	7.44	0.55	-1.76	1.04
	Top 28 products	5926.13	14.57	39.82	17.32	0.67

Annexure 12

Top imported products of France

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
61103099	Women's or girls' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and wadded waistcoats)	1086.01	0.05	5.48	-3.53	0.50
62029300	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	556.24	7.14	3.77	0.46	0.68
62064000	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres (excl. knitted or crocheted and vests)	515.61	0.89			
62044300	Women's or girls' dresses of synthetic fibres (excl. knitted or crocheted and petticoats)	498.50	5.66	44.96	6.36	9.02
62019300	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	429.34	8.45	1.93	-2.77	0.45
61046300	Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted or crocheted (excl. panties and swimwear)	337.83	4.49	3.88	9.02	1.15
62044400	Women's or girls' dresses of artificial fibres (excl. knitted or crocheted and petticoats)	283.08	7.89	40.71	15.78	14.38

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
62046318	Women's or girls' trousers and breeches, of synthetic fibres (not of cut corduroy, of denim or knitted or crocheted and excl. industrial and occupational clothing, bib and brace overalls, briefs and tracksuit bottoms)	264.26	13.25	5.63	2.15	2.13
62114390	Women's or girls' garments, of man-made fibres, n.e.s. (not knitted or crocheted)	243.38	7.24	17.74	3.92	7.29
61143000	Special garments for professional, sporting or other purposes, n.e.s., of man-made fibres, knitted or crocheted	206.53	12.18	5.00	24.38	2.42
61044300	Women's or girls' dresses of synthetic fibres, knitted or crocheted (excl. petticoats)	195.45	4.48	6.18	14.50	3.16
61124190	Women's or girls' swimwear of synthetic fibres, knitted or crocheted (excl. containing >= 5% by weight of rubber thread)	183.92	3.74	0.05	-27.98	0.03
61103091	Men's or boys' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and wadded waistcoats)	183.19	4.09	2.22	-5.57	1.21
62043390	Women's or girls' jackets and blazers of synthetic fibres (excl. knitted or crocheted, industrial and occupational, wind-jackets and similar articles)	182.92	5.04	1.18	4.53	0.64
62034319	Men's or boys' trousers and breeches of synthetic fibres (excl. knitted or crocheted, industrial and occupational, bib and brace overalls and underpants)	159.30	11.85	5.77	10.21	3.62
62021310	Women's or girls' overcoats, raincoats, car coats, capes,	156.87	2.48	0.38	4.04	0.24

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)					
62021390	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	153.68	9.00	0.12	15.55	0.08
63039290	Curtains, incl. drapes, and interior blinds, curtain or bed valances of synthetic fibres (excl. nonwovens, knitted or crocheted, awnings and sunblinds)	139.99	2.96	0.87	-8.20	0.62
55032000	Staple fibres of polyesters, not carded, combed or otherwise processed for spinning	125.68	2.36	10.86	6.51	8.64
61159699	Full-length stockings, socks and other hosiery, incl. footwear without applied soles, of synthetic fibres, knitted or crocheted (excl. graduated compression hosiery, women's pantyhose and tights, full-length or knee-length stockings, and hosiery for babies)	121.35	13.27	0.56	-3.23	0.46
62046918	Women's or girls' trousers and breeches, of artificial fibres (not of cut corduroy, of denim or knitted or crocheted and excl. industrial and occupational clothing, bib and brace overalls, briefs and tracksuit bottoms)	119.40	6.03	6.90	2.20	5.78
62045300	Women's or girls' skirts and divided skirts of synthetic fibres (excl. knitted or crocheted and petticoats)	113.77	8.65	5.58	1.44	4.90
61023090	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of	109.17	14.54	1.15	61.61	1.05

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)					
61152100	Pantyhose and tights of synthetic fibres, knitted or crocheted, measuring per single yarn < 67 decitex (excl. graduated compression hosiery)	99.79	0.45	0.01	18.92	0.01
56031390	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 70 g/m ² but <= 150 g/m ² (excl. coated or covered)	89.51	2.47	0.03	-47.85	0.03
61034300	Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted or crocheted (excl. swimwear and underpants)	88.76	22.22	0.47	38.43	0.53
62033390	Men's or boys' jackets and blazers of synthetic fibres (excl. knitted or crocheted, industrial and occupational, and wind-jackets and similar articles)	82.83	3.45	3.39	-8.32	4.09
63062200	Tents of synthetic fibres (excl. umbrella and play tents)	80.07	0.68	0.00	-62.70	0.00
62034311	Men's or boys' trousers and breeches of synthetic fibres, industrial and occupational (excl. knitted or crocheted and bib and brace overalls)	79.81	8.63	0.39	46.88	0.49
62011390	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	79.34	17.65	0.02	-20.87	0.03
62011310	Men's or boys' overcoats, raincoats, car coats, capes,	76.99	13.78	0.06	-31.08	0.08

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)					
56031290	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 25 g/mâ² but <= 70 g/mâ² (excl. coated or covered)	76.72	6.38	1.62	13.58	2.11
62034390	Men's or boys' shorts of synthetic fibres (excl. knitted or crocheted, underpants and swimwear)	73.30	5.94	0.57	-20.21	0.78
56031490	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 150 g/mâ² (excl. coated or covered)	73.15	8.46	0.06	22.96	0.09
54024900	Synthetic filament yarn, incl. synthetic monofilament of < 67 decitex, single, untwisted or with a twist of <= 50 turns per metre (excl. sewing thread, yarn put up for retail sale, textured yarn, elastomeric yarn and filament yarn of polyester, nylon or other polyamides)	71.97	9.04	0.00	-100.00	0.00
61169300	Gloves, mittens and mitts, of synthetic fibres, knitted or crocheted (excl. impregnated, coated or covered with plastics or rubber, and for babies)	69.50	6.96	2.77	11.33	3.98
54022000	High-tenacity filament yarn of polyesters (excl. that put up for retail sale)	64.15	3.57	0.04	NA	0.06
57050030	Carpets and other floor coverings, of man-made textile materials, whether or not made up (excl. knotted, woven or tufted "needle punched", and of felt)	59.07	6.92	3.22	17.11	5.44
61113090	Babies' garments and clothing	58.07	5.70	1.51	9.88	2.61

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	accessories, of synthetic fibres, knitted or crocheted (excl. gloves, mittens, mitts and hats)					
63023290	Bedlinen of man-made fibres (excl. nonwovens, printed, knitted or crocheted)	56.39	3.21	0.28	32.19	0.50
62053000	Men's or boys' shirts of man-made fibres (excl. knitted or crocheted, nightshirts, singlets and other vests)	55.41	7.58	2.96	19.78	5.34
63029390	Toilet linen and kitchen linen of man-made fibres (excl. nonwovens, floorcloths, polishing cloths, dishcloths and dusters)	54.01	14.27	0.16	6.29	0.29
63061200	Tarpaulins, awnings and sunblinds of synthetic fibres (excl. flat covers of light fabrics made up as tarpaulins)	53.20	3.86	0.04	-36.92	0.07
54024500	Filament yarn of nylon or other polyamides, incl. monofilament of < 67 decitex, single, untwisted or with a twist of ≤ 50 turns per metre (excl. sewing thread, yarn put up for retail sale, elastomeric yarn, high-tenacity yarn and textured yarn)	51.23	2.52	0.00	NA	0.00
61083200	Women's or girls' nightdresses and pyjamas of man-made fibres, knitted or crocheted (excl. t-shirts, vests and ñ%ogligã%os)	50.53	5.66	1.68	11.37	3.32
	Top 45 products	2583.71	6.68	45.70	4.54	1.77

Annexure 13

Top imported products of Spain

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
61103099	Women's or girls' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and wadded waistcoats)	950.99	6.69	7.29	10.58	0.77
62064000	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres (excl. knitted or crocheted and vests)	622.96	19.29	42.62	-10.22	6.84
62044300	Women's or girls' dresses of synthetic fibres (excl. knitted or crocheted and petticoats)	433.82	11.37	28.84	4.57	6.65
62029300	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	419.04	12.95	5.33	51.59	1.27
62019300	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	369.92	9.88	0.29	85.96	0.08
62044400	Women's or girls' dresses of artificial fibres (excl. knitted or crocheted and petticoats)	367.17	17.73	24.66	0.62	6.72
62046318	Women's or girls' trousers and breeches, of synthetic fibres (not of cut corduroy, of	357.61	14.26	4.83	7.51	1.35

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	denim or knitted or crocheted and excl. industrial and occupational clothing, bib and brace overalls, briefs and tracksuit bottoms)					
61046300	Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted or crocheted (excl. panties and swimwear)	288.30	16.13	4.35	37.72	1.51
61044300	Women's or girls' dresses of synthetic fibres, knitted or crocheted (excl. petticoats)	242.30	10.68	4.71	1.34	1.94
61143000	Special garments for professional, sporting or other purposes, n.e.s., of man-made fibres, knitted or crocheted	231.26	10.28	2.45	0.78	1.06
62046918	Women's or girls' trousers and breeches, of artificial fibres (not of cut corduroy, of denim or knitted or crocheted and excl. industrial and occupational clothing, bib and brace overalls, briefs and tracksuit bottoms)	207.68	19.86	2.35	-12.15	1.13
61103091	Men's or boys' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and wadded waistcoats)	191.07	7.94	0.41	58.26	0.22
62114390	Women's or girls' garments, of man-made fibres, n.e.s. (not knitted or crocheted)	190.87	17.95	10.91	-6.86	5.72
62043390	Women's or girls' jackets and	188.70	11.12	0.71	-7.90	0.38

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	blazers of synthetic fibres (excl. knitted or crocheted, industrial and occupational, wind-jackets and similar articles)					
62021310	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)	183.80	7.31	0.19	-30.89	0.10
62034319	Men's or boys' trousers and breeches of synthetic fibres (excl. knitted or crocheted, industrial and occupational, bib and brace overalls and underpants)	182.88	11.07	8.03	142.00	4.39
62021390	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	178.65	16.21	0.04	67.12	0.02
61044400	Women's or girls' dresses of artificial fibres, knitted or crocheted (excl. petticoats)	144.43	5.81	3.42	-15.91	2.37
55032000	Staple fibres of polyesters, not carded, combed or otherwise processed for spinning	139.45	3.60	10.99	10.42	7.88
61124190	Women's or girls' swimwear of synthetic fibres, knitted or crocheted (excl. containing >= 5% by weight of rubber thread)	131.99	4.12	0.02	NA	0.02
62045300	Women's or girls' skirts and divided skirts of synthetic fibres (excl. knitted or crocheted and petticoats)	130.07	13.54	3.98	4.01	3.06
61034300	Men's or boys' trousers, bib	117.14	19.57	0.32	12.23	0.27

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	and brace overalls, breeches and shorts of synthetic fibres, knitted or crocheted (excl. swimwear and underpants)					
62033390	Men's or boys' jackets and blazers of synthetic fibres (excl. knitted or crocheted, industrial and occupational, and wind-jackets and similar articles)	113.80	12.85	0.12	16.99	0.10
61023090	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	92.20	18.74	3.55	159.65	3.84
54023300	Textured filament yarn of polyester (excl. that put up for retail sale)	91.50	0.11	11.63	-11.49	12.71
61023010	Women's or girls' overcoats, car coats, capes, cloaks and similar articles of man-made fibres, knitted or crocheted	90.55	25.04	0.03	-14.24	0.04
61082200	Women's or girls' briefs and panties of man-made fibres, knitted or crocheted	89.83	2.73	0.14	-5.43	0.15
54075200	Woven fabrics of yarn containing $\geq 85\%$ by weight of textured polyester filaments, incl. monofilament of ≥ 67 decitex and a maximum diameter of ≤ 1 mm, dyed	82.85	9.42	0.23	-23.77	0.28
61062000	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres, knitted or	79.21	2.66	2.56	-9.93	3.24

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	crocheted (excl. t-shirts and vests)					
62053000	Men's or boys' shirts of man-made fibres (excl. knitted or crocheted, nightshirts, singlets and other vests)	70.98	11.54	4.70	70.76	6.62
62011390	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	70.92	13.88			
62046390	Women's or girls' shorts of synthetic fibres (excl. knitted or crocheted, panties and swimwear)	70.41	3.80	3.98	41.75	5.65
63062200	Tents of synthetic fibres (excl. umbrella and play tents)	66.43	12.89			
62011310	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)	66.11	9.24	0.05	98.95	0.07
55151190	Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with viscose staple fibres, dyed, or made of yarn of different colours	65.54	5.75	0.31	-10.24	0.47
62143000	Shawls, scarves, mufflers, mantillas, veils and similar articles of synthetic fibres (excl. knitted or crocheted)	59.55	7.01	3.07	-16.50	5.16
61113090	Babies' garments and clothing accessories, of synthetic fibres, knitted or crocheted (excl. gloves,	57.56	13.09	0.73	31.83	1.26

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	mittens, mitts and hats)					
62045910	Women's or girls' skirts and divided skirts of artificial fibres (excl. knitted or crocheted and petticoats)	55.49	13.03	3.10	-3.82	5.58
61159699	Full-length stockings, socks and other hosiery, incl. footwear without applied soles, of synthetic fibres, knitted or crocheted (excl. graduated compression hosiery, women's pantyhose and tights, full-length or knee-length stockings, and hosiery for babies)	55.47	10.22	0.99	NA	1.78
56031190	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing <= 25 g/m ² (excl. coated or covered)	51.92	0.17	0.00	NA	0.00
55041000	Staple fibres of viscose rayon, not carded, combed or otherwise processed for spinning	51.21	0.71	0.74	-42.03	1.44
63039290	Curtains, incl. drapes, and interior blinds, curtain or bed valances of synthetic fibres (excl. nonwovens, knitted or crocheted, awnings and sunblinds)	50.51	4.01	0.12	-5.94	0.24
	Top 42 products	7702.10	9.30	202.80	-1.17	2.63

Annexure 14

Top imported products of China

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
61103000	Jerseys, pullovers, etc, of man-made fibres, knitted or crocheted	310.28	11.58	1.19	21.49	0.38
55049000	Artificial staple fibres, (excl. viscose), not carded, etc	268.75	11.32	19.06	NA	7.09
55041029	Other Artificial staple fibres, of wood viscose rayon, not carded, etc	266.43	10.36	22.68	54.34	8.51
55032000	Synthetic staple fibres, of polyesters, not carded, etc	242.41	8.18	1.35	11.89	0.56
55039090	Other synthetic staple fibres, not carded	215.52	17.36	0.00	NA	0.00
62019390	Men's or boys' anoraks, wind-cheaters, etc, of man-made fibres, nes	210.47	0.05	0.67	46.70	0.32
54024410	Elastomeric yarn(polyurethane),single,untwist/twist50turns/m, not retail	200.61	5.28	0.00	NA	0.00
54021120	High tenacity yarn of poly-p-phenylene terephthamide	181.36	28.29	0.04	NA	0.02
62034390	Men's or boys' trousers, breeches, nes, of synthetic fibres	172.39	9.60	0.22	-11.89	0.13
62113390	Men's or boys' garments, of man-made fibres, nes	162.89	25.89	0.26	116.37	0.16
62019310	Men's/boys' anoraks, wind-cheaters..., of man-made fib, down stuffed	160.00	12.26	0.23	123.85	0.14
54074100	Unbleached or bleached woven fabrics, nylon etc.85%	153.18	0.72	0.51	298.82	0.33
62114390	Women's or girls' garments, of man-made fibres, nes	142.16	19.52	6.11	2.22	4.30
62121010	Brassieres, of man-made fibres	130.64	4.74	3.17	108.40	2.43
62021310	Woman's or girls' overcoats, etc, of man-made fibres, down stuffed	107.48	28.60	0.00	-9.64	0.00
62029310	Woman's/girls' anoraks,wind-cheaters..., of man-made fib, down stuffd	105.97	4.39	0.03	50.77	0.03
62046300	Women's or girls' trousers, breeches, etc, of synthetic fibres	100.00	12.68	0.20	-18.93	0.20

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
54041900	Other synthetic monofilament, cross section 1mm, Dtex 67	98.58	8.78	0.10	-18.77	0.10
61034300	Men's or boys' trousers, etc, of synthetic fibres, knitted/crocheted	90.03	26.97	0.33	201.83	0.37
62011310	Men's or boys' overcoats, etc, of man-made fibres, down stuffed	88.55	65.17	0.08	NA	0.09
54021920	High tenacity yarn of nylon-6,6	87.78	1.21	0.00	NA	0.00
61046300	Women's or girls' trousers, etc, of synthetic, knitted or crocheted	87.21	18.27	0.37	25.66	0.42
62044300	Dresses of synthetic fibres	83.78	2.78	3.45	8.15	4.11
62044400	Dresses of artificial fibres	73.62	2.67	3.68	-6.77	5.00
54024700	Other yarn of polyesters, nes, untwist or twist 50 turns/m, not for retail sale	69.97	4.22	0.17	154.57	0.24
56075000	Twine, cordage, ropes & cables, of synthetic fibres, nes	66.62	11.19	0.45	-14.43	0.68
54033310	Single yarn of cellulose diacetate, not for retail sale	66.38	38.03	0.00	NA	0.00
54083200	Dyed woven fabrics of artificial filament yarn, nes	64.47	11.32	0.02	-9.19	0.03
61143000	Garments of man-made fibres, knitted or crocheted, nes	54.90	21.05	0.22	-3.64	0.40
56031310	Nonwovens of man-made filament, >70g/m ² but 150g/m ² , coated, etc.	50.57	6.31	0.00	NA	0.00
	Top 30 products	4112.99	11.06	64.59	32.29	1.57

Annexure 15

Top imported products of Italy

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
62019300	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	687.70	6.46	0.39	28.28	0.06
61103099	Women's or girls' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and wadded waistcoats)	559.87	1.44	0.66	-16.09	0.12
62029300	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres (not knitted or crocheted and excl. suits, ensembles, jackets, blazers, trousers and tops of ski suits)	480.59	0.12	0.43	22.85	0.09
61103091	Men's or boys' jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted or crocheted (excl. lightweight fine knit roll, polo or turtleneck jumpers and pullovers and	260.41	6.10	0.25	-1.81	0.10

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	wadded waistcoats)					
62044300	Women's or girls' dresses of synthetic fibres (excl. knitted or crocheted and petticoats)	233.60	5.30	10.67	2.52	4.57
62064000	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres (excl. knitted or crocheted and vests)	208.50	6.69	11.58	-7.94	5.55
61046300	Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted or crocheted (excl. panties and swimwear)	170.51	9.44	1.61	33.87	0.94
62021310	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)	164.60	7.13	0.06	-12.26	0.04
55032000	Staple fibres of polyesters, not carded, combed or otherwise processed for spinning	164.01	1.10	7.54	4.05	4.60
62046318	Women's or girls' trousers and breeches, of synthetic fibres (not of cut corduroy, of denim or knitted or crocheted and excl. industrial and occupational clothing, bib and brace overalls, briefs and tracksuit bottoms)	148.97	16.48	1.70	-5.38	1.14
54023300	Textured filament yarn of polyester (excl. that put up for retail sale)	132.56	1.10	4.76	6.01	3.59

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
62044400	Women's or girls' dresses of artificial fibres (excl. knitted or crocheted and petticoats)	130.44	15.58	7.12	3.06	5.45
61124190	Women's or girls' swimwear of synthetic fibres, knitted or crocheted (excl. containing \geq 5% by weight of rubber thread)	121.63	4.99	0.05	NA	0.04
62034319	Men's or boys' trousers and breeches of synthetic fibres (excl. knitted or crocheted, industrial and occupational, bib and brace overalls and underpants)	107.52	17.46	0.76	38.21	0.71
61082200	Women's or girls' briefs and panties of man-made fibres, knitted or crocheted	105.94	1.61	0.16	28.53	0.15
56031490	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing $>$ 150 g/m ² (excl. coated or covered)	105.30	10.35	0.01	62.66	0.01
62021390	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of $>$ 1 kg (excl. knitted or crocheted)	103.44	24.97	0.01	NA	0.01
54075200	Woven fabrics of yarn containing \geq 85% by weight of textured polyester filaments, incl. monofilament of \geq 67	101.28	6.41	0.13	15.61	0.13

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	decitex and a maximum diameter of <= 1 mm, dyed					
61044300	Women's or girls' dresses of synthetic fibres, knitted or crocheted (excl. petticoats)	98.46	3.85	1.87	-4.00	1.90
61034300	Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted or crocheted (excl. swimwear and underpants)	95.93	17.05	0.33	36.42	0.34
62043390	Women's or girls' jackets and blazers of synthetic fibres (excl. knitted or crocheted, industrial and occupational, wind-jackets and similar articles)	94.86	10.65	0.35	-8.98	0.37
62011310	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of <= 1 kg (excl. knitted or crocheted)	93.88	7.87	0.12	133.05	0.13
54021100	High-tenacity filament yarn of aramids (excl. sewing thread and yarn put up for retail sale)	92.71	11.31	0.00	NA	0.00
54024500	Filament yarn of nylon or other polyamides, incl. monofilament of < 67 decitex, single, untwisted or with a twist of <= 50 turns per metre (excl. sewing thread, yarn put up for retail sale,	87.27	3.10	0.16	87.01	0.18

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	elastomeric yarn, high-tenacity yarn and textured yarn)					
55034000	Staple fibres of polypropylene, not carded, combed or otherwise processed for spinning	80.07	3.14	0.00	NA	0.00
54023100	Textured filament yarn of nylon or other polyamides, with a linear density of <= 50 tex per single yarn (excl. sewing thread and yarn put up for retail sale)	79.27	8.08	0.08	-19.41	0.10
56031290	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 25 g/m ² but <= 70 g/m ² (excl. coated or covered)	77.12	4.74	0.74	-8.84	0.96
62033390	Men's or boys' jackets and blazers of synthetic fibres (excl. knitted or crocheted, industrial and occupational, and wind-jackets and similar articles)	70.46	10.83	0.07	-26.93	0.10
62046918	Women's or girls' trousers and breeches, of artificial fibres (not of cut corduroy, of denim or knitted or crocheted and excl. industrial and occupational clothing, bib and brace overalls, briefs and tracksuit bottoms)	69.89	16.39	1.33	26.11	1.90
62114390	Women's or girls' garments, of man-made	66.03	10.56	3.85	9.81	5.84

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	fibres, n.e.s. (not knitted or crocheted)					
62011390	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made fibres, of a weight per garment of > 1 kg (excl. knitted or crocheted)	65.17	16.93	0.00	NA	0.00
56031190	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing <= 25 g/m ² (excl. coated or covered)	56.05	5.21	0.12	NA	0.21
56031390	Nonwovens, whether or not impregnated or laminated, n.e.s., of man-made filaments, weighing > 70 g/m ² but <= 150 g/m ² (excl. coated or covered)	55.52	2.93	0.00	-72.54	0.00
54074200	Woven fabrics of filament yarn containing >= 85% nylon or other polyamides by weight, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, dyed	53.59	3.67	0.03	12.80	0.06
54076130	Woven fabrics of yarn containing >= 85% by weight of non-textured polyester filaments, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, dyed	53.12	1.48	0.02	-38.95	0.04
62045300	Women's or girls' skirts and divided skirts of	50.53	9.30	1.61	0.66	3.19

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	synthetic fibres (excl. knitted or crocheted and petticoats)					
61023090	Women's or girls' anoraks, incl. ski jackets, windcheaters, wind-jackets and similar articles, of man-made fibres, knitted or crocheted (excl. suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls)	50.51	17.47	0.08	32.41	0.16
	Top 37 products	5377.30	6.09	58.64	0.75	1.09

Annexure 16

Top imported products of Korea

(\$ Mn)

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
620193	Men's or boys' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres ...	779.45	6.22	0.35	40.44	0.05
620293	Women's or girls' anoraks, windcheaters, wind jackets and similar articles, of man-made fibres	691.01	10.25	0.14	28.95	0.02
611030	Jerseys, pullovers, cardigans, waistcoats and similar articles, of man-made fibres, knitted	426.44	9.65	0.34	-9.94	0.08
620343	Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres	419.66	7.09	1.13	3.93	0.27
620463	Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres	263.91	2.89	0.18	-6.47	0.07
540233	Textured filament yarn of polyester (excluding that put up for retail sale)	223.91	5.35	40.73	0.01	18.19
621133	Men's or boys' tracksuits and other garments, n.e.s. of man-made fibres	220.88	1.39	0.09	36.02	0.04
630532	Flexible intermediate bulk containers, for the packing of goods, of synthetic or man-made textile	211.99	6.99	0.93	73.02	0.44
620213	Women's or girls' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made	209.45	1.22	0.03	-20.91	0.01
621143	Women's or girls' tracksuits and other garments, n.e.s. of man-made fibres	183.23	8.98	0.44	-3.37	0.24

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
620443	Women's or girls' dresses of synthetic fibres (excluding knitted or crocheted and petticoats)	170.21	25.14	1.15	16.52	0.68
611430	Special garments for professional, sporting or other purposes, n.e.s., of man-made fibres	162.07	0.21	0.26	85.59	0.16
620640	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres	161.12	9.28	3.06	18.25	1.90
620433	Women's or girls' jackets and blazers of synthetic fibres (excluding knitted or crocheted)	150.71	11.74	0.04	13.85	0.03
610463	Women's or girls' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, ...	129.16	9.59	0.08	-10.22	0.06
620333	Men's or boys' jackets and blazers of synthetic fibres (excluding knitted or crocheted)	128.27	1.83	0.40	13.02	0.31
610343	Men's or boys' trousers, bib and brace overalls, breeches and shorts of synthetic fibres, knitted	126.71	17.50	0.07	14.54	0.06
610520	Men's or boys' shirts of man-made fibres, knitted or crocheted (excluding nightshirts, T-shirts, etc)	102.58	23.04	0.00	-36.11	0.00
540247	Filament yarn of polyester, incl. monofilament of < 67 decitex, single, untwisted	90.62	8.42	0.70	20.37	0.77
610822	Women's or girls' briefs and panties of man-made fibres, knitted or crocheted	87.84	15.97	0.00	-53.83	0.00
540219	High-tenacity filament yarn of nylon or other polyamides (excluding sewing thread,	86.67	1.02	0.33	324.59	0.38

Code	Product label	Imports from World		Imports from India		
		2019	CAGR % (2015-19)	2019	CAGR % (2015-19)	India's Share % 2019
	yarn)					
620113	Men's or boys' overcoats, raincoats, car coats, capes, cloaks and similar articles, of man-made	85.64	2.70	0.09	31.96	0.11
620453	Women's or girls' skirts and divided skirts of synthetic fibres (excluding knitted or crocheted)	68.37	21.53	0.27	7.29	0.40
610712	Men's or boys' underpants and briefs of man-made fibres, knitted or crocheted	68.13	23.59	0.59	392.85	0.87
620530	Men's or boys' shirts of man-made fibres (excluding knitted or crocheted, nightshirts, singlets)	67.82	7.72	0.70	61.13	1.03
540220	High-tenacity filament yarn of polyesters (excluding that put up for retail sale)	67.62	5.60	0.02	NA	0.03
560811	Made-up knotted fishing nets of man-made textile materials (excluding landing nets)	64.59	8.69	0.76	43.44	1.18
540245	Filament yarn of nylon or other polyamides, incl. monofilament of < 67 decitex, single, untwisted	58.58	10.75	0.26	NA	0.45
610620	Women's or girls' blouses, shirts and shirt-blouses of man-made fibres, knitted or crocheted	51.71	4.66	0.07	-22.18	0.13
	Top 29 products	5558.33	7.65	53.24	3.13	0.96

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