

# **BENCHMARKING THE PRACTICES FOR IMPROVING THE EXPORT PERFORMANCE OF COTTON YARN & FABRICS**

## **Executive Summary**

Over the years the textile sector of Pakistan has come a long way and is competing in the international market relatively well. Textile sector plays a major role in the export base of Pakistan. It enjoys large scale units with advanced technology and greater production. However, the study reflects that there are certain loopholes which affect production, quality and profit margins of Pakistani textile products in the international market. These loop holes begin right from cotton seed to market intelligence of the textile products. This study aims to highlight the loopholes from the introduction of hybrid cotton seed, ginning, spinning and weaving. Further, the study aims to reflect upon the mechanical upgradation, introduction of information technology, automation, freight issues and delivery deadlines. In order to take a comprehensive view of ginning and spinning sectors, the research paper would be based on local and international studies, interviews of academia such as National Textile University and University of Agriculture, Faisalabad and interviews of some LSUs and SMEs persons in order to get hand on information on cotton yarn and fabrics chain.

## **Background**

The major source of employment for the people of Pakistan is the Agriculture sector which has 20% contribution to the National Income (Economic Survey, 2018). For industrial products, agricultural inputs play a very important role. Cotton supply chain has been the biggest source of export income for Pakistan. Cotton and Textile sectors have a great contribution to Gross Domestic Product (GDP) which is approximately 10.50% (Economic Survey, 2018). But, due to climatic changes and conversion of cotton producing lands into commercial hubs, the cotton supply chain has been incessantly threatened. In 2016, cotton production reduced by 33% causing US\$ 5.7 Million to the national exchequer. The Sustainable Development Policy Institute (SDPI) called for special attention to this issue in three-phase research project, entitled “Effects of Climatic Change, Adaptation and Opportunities for Cotton Supply Chain”.

## Sub-Sectors

It is widely known that *Cotton Yarn* and *Fabrics* are the intermediate products with H.S. Codes:

### 1. COTTON YARN

HS Code	DESCRIPTION
5205	Cotton yarn (other than sewing thread), containing 85 % or more by weight of cotton, not put up for retail sale.
5206	Cotton yarn (other than sewing thread), containing less than 85 % by weight of cotton, not put up for retail sale.
5207	Cotton yarn (other than sewing thread) put up for retail sale.

### 2. COTTON FABRICS

5208	Woven Fabrics of cotton, containing 85 % or more by weight of cotton, weighing not more than 200 g/m <sup>2</sup> .
5209	Woven fabrics of cotton, containing 85 % or more by weight of cotton, weighing more than 200 g/m <sup>2</sup> .
5210	Woven fabrics of cotton, containing less than 85 % by weight of cotton, mixed mainly or solely with man-made fibers, weighing not more than 200 g/m <sup>2</sup> .
5211	Woven fabrics of cotton, containing less than 85 % by weight of cotton, mixed mainly or solely with man-made fibers, weighing more than 200 g/m <sup>2</sup> .
5212	Other woven fabrics of cotton.

## Geography

Almost all the industry related to the production of Cotton Yarn & Cotton Fabrics is located in the following three major cities of Pakistan:

- ✓ Faisalabad
- ✓ Karachi
- ✓ Lahore
- ✓ Multan

## Contribution to Economy

The textile sector is the largest industrial sector of Pakistan which accounts for 40% of the industrial labour force and employs 10 million people. This sector utilizes 40% of banking credit to manufacturing sector and makes up 55% of the exports of Pakistan. The textile sector has multiple socio-economic implications like food security, poverty and employment. Punjab

contributes about 80% to the total cotton production, whereas Sindh's contribution is 20%. Textile value chain is one of the largest value chains which begin from cotton production to garments and then to exports

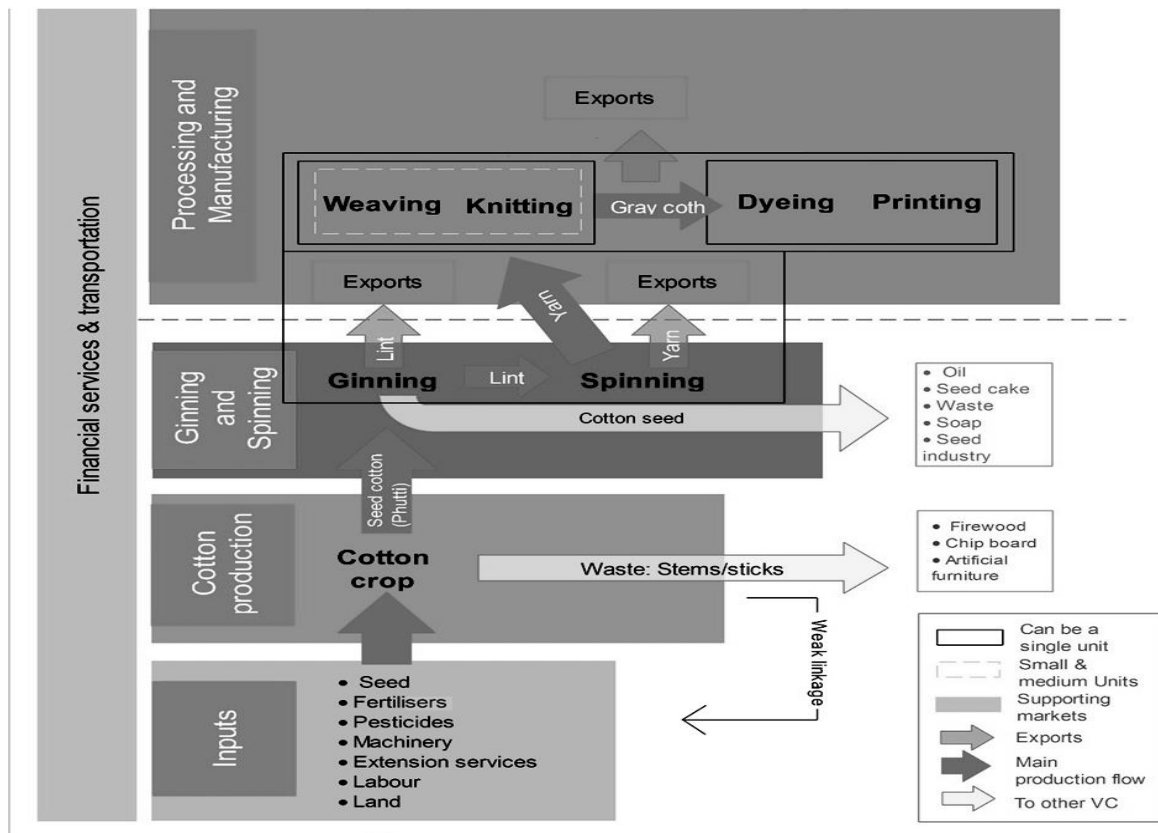
### **Global supply chain & value supply chain**

In our times of globalization, cotton supply chains, right from the production of cotton seed to ginning and spinning have been widely developed on the most modern lines for increasing the production of textile industry. The cotton supply chain is the most fundamental cycle of the complex textile production cycle which is subject to quality of the cotton seed, environmental factors, picking of cotton lint and making of contamination free cotton. In the post-WTO framework, the cotton industry has been established as buyer-driven supply chain, where the global firms have a key role on the price control.

In addition to climatic changes and low yield and reduced cultivation in Pakistan, cotton production is also adversely affected by high price inputs such as fertilizers, pesticides and the issues faced in availing the credit from the banks. It is pertinent to mention here that Pakistan is unable to produce high quality hybrid seed of cotton. Therefore, Pakistani cotton is capable of only producing a yarn of 30 – 40 counts. Whereas, Egyptian, America and Chinese cotton can go up to 70 – 80 counts. Despite this fact, Pakistan's spinning and weaving sector stands out to be one of the most advanced and productive sector (Pakistan position).

Moreover, the significant factor which reduces the quality and strength of Pakistani yarn is contaminated cotton. Due to contamination, cotton breaks up in ginning/spinning rollers. Initially, government introduced measures and encouraged cotton growers to use jute bags for storing cotton. Afterwards, polypropylene bags were also introduced for cotton storage. But it has been observed that Polypropylene causes more contamination than anything else as it neither dissolves nor breakup in the ginning/spinning process. Large scale units in Faisalabad such as Masood Textile Mills, Gohar Textile Mills and Nishat Chunian have installed foreign fiber sorter machines for contamination free cotton. However SMEs can't afford installation of such expensive machines. Further these machines have certain limits as they could achieve only 60% efficiency in availing contamination free cotton.

The quality of cotton fiber is measured in term of **GOT** (Ginning Out Turn) which reflects the quality of cotton fiber. That is to say if raw cotton of 100 Kg is ginned and we avail 14% of the ginned cotton as output, it means that GOT of ginned cotton is 14%. If a unit avails 13 – 14% of ginned cotton as output, its production is considered as ideal. In short we can that Pakistani cotton is one of the most worst Contaminated cotton in the world but on the other hand it is best dyable cotton around the globe. Concerned departments should introduce measures with the cooperation from cotton growers for developing SOPs for picking and clipping cotton. It could lead to increase production and improved quality of cotton fiber. The spinnability of cotton and high quality of fabrics largely depends upon the high quality of cotton. High quality of cotton is measured by micro NAIR value, fiber length, strength, moisture and percentage of trash. The ideal micro NAIR value in the world is considered to be 5.5, whereas Pakistani cotton goes up to 4.6 only. Similarly, the fiber length should be up to 1.09 inches, whereas the length of Pakistan fiber touches only 1.03 inches. Strength of fiber is measured in gram/texture. The strength of Pakistani fiber is up to 26, whereas, ideally it should be 28.5. As far as moisture is concerned, textile units have been relatively successful in achieving 8.5% moisture for cotton yarn. This percentage of moisture decreased the strength of the fiber and reduces coarseness.



It may also be noted that there is no effective communication and knowledge sharing between textile industries and cotton producers, thereby, hindering innovation methods and meeting of the demand and supply between the two most important sectors in textiles. All Pakistan Textile Mills Association (APTMA), Pakistan Textile Exporters Association (PTEA), All Pakistan Textile Processing Mills Association (APTPMA), Pakistan Readymade Garments Manufacturers & Exporters Association (PRGMEA) and Pakistan Cotton Ginner's Association (PCGA) are the biggest lobby groups that represent yarn producing groups. Contrary to this, the cotton producers/growers have no proactive representative body except Pakistan Farmers Association, Pakistan Kissan Board, and Anjuman-e-Kashtkaran.

Globally and locally prices of cotton yarn depend upon the production of cotton, quality of yarn and demand by global market. Textile units in Pakistan have been successful in reducing the cost in the spinning sector by introducing inverters for spindles. A unit can achieve optimum utilization, if it is capable to balance out cost in supply chain, spindles and final production. It is pertinent to mention here that a spindle is the unit of spinning. For achieving the economies of scale, a textile unit must have 480 spindles at least. Pakistan's spinning sector is relatively stronger one and enjoys advance technology from Germany, Japan, China and Switzerland. That is to say the capital intensive sight of textile supply chain is in a better position. There is a need to produce fine counts and fancy yarn such as *MELANCH*. The versatility in yarn can give weaving industry, a stronger basis. In most of the spinning and fabrics manufacturing units, there is a lack of marketing, planning and finance matters. Moreover, there is a need of linking the industry with computer networking for efficient and optimum utilization. It has been observed that most of the units including large scale manufacturing units focus on production, leaving behind mechanical upgradation and forecasting. It is deplorable that Pakistan has not been able to develop its own spinning and weaving machines. It is understandable that upgrading machinery requires heavy financial resources and proper Research & Development Sectors. Without a proper strategy, it would be extremely difficult to match the future upgradation of machinery by its competitors like China and India. Similarly, in dyeing yarn and fabrics, most of the units use imported chemicals for high quality and true colours. But the importation of chemicals causes increase in production cost and lowers the profit margins.

**World's TOP 10 IMPORTERS of COTTON YARN (Last 5 Years) - Value: US\$ '000'**

Country	2015	2016	2017	2018	2019	Avg. Last 5 Years	Share
<b>World</b>	<b>14,284,395</b>	<b>12,596,919</b>	<b>13,481,864</b>	<b>14,521,541</b>	<b>12,565,337</b>	<b>13,490,011</b>	<b>100%</b>
China	6,368,396	5,128,728	5,460,304	5,852,874	4,947,402	5,551,541	41.15%
Bangladesh	1,039,957	988,968	1,077,485	1,270,521	940,859	1,063,558	7.88%
Hong Kong, China	989,768	778,473	682,163	594,915	432,903	695,644	5.16%
Turkey	423,940	508,857	651,163	547,628	552,494	536,816	3.98%
Korea, Republic of	470,557	457,047	419,202	538,907	426,043	462,351	3.43%
Italy	350,479	354,659	370,635	348,439	316,790	348,200	2.58%
Portugal	302,303	306,898	370,260	412,224	324,848	343,307	2.54%
Viet Nam	217,955	219,208	254,520	394,171	414,697	300,110	2.22%
Russian Federation	237,990	265,816	304,011	343,286	325,771	295,375	2.19%
Dominican Republic	299,062	232,135	261,469	301,976	263,307	271,590	2.01%

**World's TOP 10 IMPORTERS of COTTON FABRICS (Last 5 Years) - Value: US\$ '000'**

Country	2015	2016	2017	2018	2019	Avg. Last 5 Years	Share
<b>World</b>	<b>22,036,966</b>	<b>20,485,255</b>	<b>20,283,189</b>	<b>21,384,157</b>	<b>20,651,485</b>	<b>20,968,210</b>	<b>100%</b>
Bangladesh	3,845,929	3,307,378	3,317,270	3,677,672	3,333,876	3,496,425	16.67%
Viet Nam	1,552,421	1,489,978	1,428,567	1,593,495	2,081,259	1,629,144	7.77%
China	1,230,548	941,560	855,582	864,418	708,430	920,108	4.39%
Indonesia	939,703	909,844	843,269	854,977	737,772	857,113	4.09%
Hong Kong, China	1,141,723	927,797	800,955	754,332	588,923	842,746	4.02%
USA	915,264	789,006	762,449	772,644	706,101	789,093	3.76%
Italy	784,723	751,554	752,346	697,509	627,860	722,798	3.45%
Germany	643,393	604,086	594,374	582,306	471,310	579,094	2.76%
Turkey	594,354	538,455	643,066	550,328	473,834	560,007	2.67%
Mexico	605,385	525,688	521,632	566,293	451,482	534,096	2.55%

**TOP 10 EXPORTING Countries for COTTON YARN (Last 5 Years) - Value: US\$ '000'**

Country	2015	2016	2017	2018	2019	Avg. Last 5 Years	Share
<b>World</b>	<b>14,737,170</b>	<b>13,586,554</b>	<b>14,744,382</b>	<b>15,615,656</b>	<b>14,207,176</b>	<b>14,578,188</b>	<b>100%</b>
India	3,783,088	3,217,435	3,441,407	3,937,140	2,989,920	3,473,798	23.83%
Viet Nam	1,597,638	1,978,857	2,474,925	2,624,668	2,794,261	2,294,070	15.74%
China	1,646,536	1,534,872	1,637,210	1,746,921	1,571,244	1,627,357	11.16%
Pakistan	1,554,871	1,219,686	1,248,481	1,252,988	1,122,198	1,279,645	8.78%
USA	1,321,281	1,192,943	1,252,763	1,236,726	1,217,170	1,244,177	8.53%
Hong Kong, China	1,051,525	807,337	698,154	617,970	458,067	726,611	4.98%
Indonesia	525,438	523,165	591,841	606,171	582,243	565,772	3.88%
Turkey	458,124	446,111	505,124	590,849	511,398	502,321	3.45%
Uzbekistan			631,312	726,645	926,119	456,815	3.13%
Taipei, Chinese	269,434	259,146	260,193	298,261	252,396	267,886	1.84%

**TOP 10 EXPORTING Countries for COTTON FABRICS (Last 5 Years) - Value: US\$ '000'**

Country	2015	2016	2017	2018	2019	Avg. Last 5 Years	Share
<b>World</b>	<b>29,137,582</b>	<b>27,351,499</b>	<b>27,227,374</b>	<b>27,487,100</b>	<b>25,276,933</b>	<b>27,296,098</b>	<b>100%</b>
China	14,086,127	13,424,141	13,444,049	13,533,427	12,461,969	13,389,943	49.05%
Pakistan	2,319,292	2,164,426	2,132,402	2,189,475	2,058,440	2,172,807	7.96%
India	1,762,718	1,615,715	1,656,207	1,833,538	1,941,008	1,761,837	6.45%
Italy	1,201,146	1,174,799	1,181,737	1,165,955	1,036,894	1,152,106	4.22%
Turkey	1,097,710	1,081,901	1,017,292	974,067	895,395	1,013,273	3.71%
Hong Kong, China	1,277,612	1,046,117	890,286	822,599	645,085	936,340	3.43%
Germany	764,627	727,742	740,951	734,599	626,797	718,943	2.63%
USA	561,389	473,876	493,611	522,619	471,623	504,624	1.85%
Spain	477,457	518,475	505,266	461,703	415,040	475,588	1.74%
Japan	532,742	487,305	456,065	419,499	398,725	458,867	1.68%

**Pakistan's Exports of COTTON YARN During Last 5 Years - Value: US\$ '000'**

Period	Category/HS Code			Total Exports
	5205	5206	5207	
2015	1,529,820	24,449	602	1,554,871
2016	1,186,789	32,265	632	1,219,686
2017	1,218,988	28,992	501	1,248,481
2018	1,209,725	43,250	13	1,252,988
2019	1,078,479	43,709	10	1,122,198

**Pakistan's Exports of COTTON FABRICS During Last 5 Years - Value: US\$ '000'**

Period	Category/HS Code					Total Exports
	5208	5209	5210	5211	5212	
2015	627,920	1,006,190	395,924	123,332	165,926	2,319,292
2016	584,784	936,059	391,253	88,474	163,856	2,164,426
2017	557,829	942,318	361,422	113,956	156,877	2,132,402
2018	628,941	971,247	309,903	151,970	127,414	2,189,475
2019	605,975	906,473	290,399	147,983	107,610	2,058,440

**Analysis of COTTON YARN Exports  
Last 5 Years - Value: US\$ '000'**

Period	World Imports	Pakistan's Exports	Pakistan's Share
2015	14,284,395	1,554,871	10.89%
2016	12,596,919	1,219,686	9.68%
2017	13,481,864	1,248,481	9.26%
2018	14,521,541	1,252,988	8.63%
2019	12,565,337	1,122,198	8.93%

**Analysis of COTTON FABRICS Exports  
Last 5 Years - Value: US\$ '000'**

Period	World Imports	Pakistan's Exports	Pakistan's Share
2015	22,036,966	2,319,292	10.52%
2016	20,485,255	2,164,426	10.57%
2017	20,283,189	2,132,402	10.51%
2018	21,384,157	2,189,475	10.24%
2019	20,651,485	2,058,440	9.97%

**Pakistan's TOP 10 EXPORT Destinations for COTTON YARN (Last 5 Years) - Value: US\$ '000'**

Country	2015	2016	2017	2018	2019	Avg. Last 5 Years	Share
<b>World</b>	<b>1,554,871</b>	<b>1,219,686</b>	<b>1,248,481</b>	<b>1,252,988</b>	<b>1,122,198</b>	<b>1,279,645</b>	<b>100%</b>
China	1,051,274	831,936	772,007	765,710	745,114	833,208	65.11%
Bangladesh	112,845	77,627	81,902	89,862	74,399	87,327	6.82%
Turkey	37,235	45,827	79,778	52,490	52,402	53,546	4.18%
Portugal	33,558	40,774	53,357	52,864	42,920	44,695	3.49%
Hong Kong, China	85,353	37,835	35,263	29,716	14,427	40,519	3.17%
Korea, Republic of	40,181	24,077	32,913	29,656	25,029	30,371	2.37%
Japan	28,310	28,316	30,586	36,917	25,547	29,935	2.34%
Italy	12,732	17,854	28,048	26,271	22,575	21,496	1.68%
United States of America	17,581	14,879	11,301	18,043	23,337	17,028	1.33%
Viet Nam	14,912	9,508	6,877	8,924	7,888	9,622	0.75%

**Pakistan's TOP 10 EXPORT Destinations for COTTON FABRICS (Last 5 Years) - Value: US\$ '000'**

Country	2015	2016	2017	2018	2019	Avg. Last 5 Years	Share in
<b>World</b>	<b>2,319,292</b>	<b>2,164,426</b>	<b>2,132,402</b>	<b>2,189,475</b>	<b>2,058,440</b>	<b>2,172,807</b>	<b>100%</b>
Bangladesh	462,718	480,782	455,991	486,592	499,152	477,047	21.96%
Italy	152,692	150,982	153,297	158,469	139,985	151,085	6.95%
China	206,982	134,790	112,106	109,606	73,361	127,369	5.86%
Turkey	88,127	92,092	137,772	139,361	122,711	116,013	5.34%
USA	94,223	81,714	86,809	95,118	133,212	98,215	4.52%
Germany	106,415	99,890	92,556	98,634	80,234	95,546	4.40%
Spain	75,840	84,752	83,161	86,500	77,528	81,556	3.75%
Sri Lanka	86,966	71,990	77,115	87,346	82,960	81,275	3.74%
Portugal	71,074	69,431	81,730	86,267	82,387	78,178	3.60%
Netherlands	60,871	65,515	62,669	75,946	70,378	67,076	3.09%

For locating Pakistan's position globally, the comparative advantage of major exporters of cotton yarn & fabrics will be quantified, Pakistan's roll will be accessed by the comparative advantage it enjoys in the production of cotton yarn & fabrics. The revealed comparative advantage (RCA) is a useful measure of analyzing Pakistan's comparative advantage because it is calculated on actual export performance. As trade studies suggests that countries specialize and export those products which they can produce at a relatively low cost in comparison with other countries.. This measure was also suggested by the researchers working in NTU Faisalabad in order to explain patterns of trade and international specialization globally.

RCA can be described as follows:

$$RCA_{ij} = \frac{X_{it} / X_{it}}{X_{wj} / X_{wt}}$$

Where;  $RCA_i$  = share of country in world exports of good  $i$ /share of country in total world exports,

$X_{ij}$  = country  $i$ 's export of product  $j$ ,

$X_{wj}$  = world export of product  $j$ ,

$X_{it}$  = country's total export, and

$X_{wt}$  = world total export.

RCA will be quantified for top 5 exporters of the cotton yarn and fabrics i.e

**COTTON YARN**

1. India
2. Vietnam
3. China
4. Pakistan
5. USA

**COTTON FABRICS**

1. China
2. Pakistan
3. India
4. Italy
5. Turkey