

Weaving – An Overview

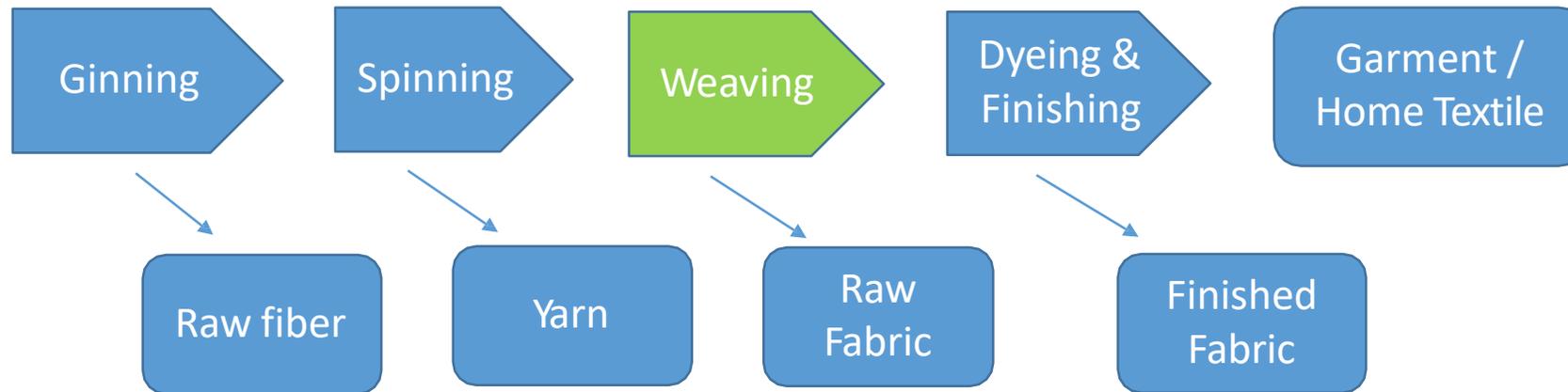
September 2019



Overview

- Textile Value Chain
- Weaving Introduction and Process
- Types of looms
- Construction and types of Weave
- Weaving In Pakistan
- Capacity & Utilization
- Production of Cloth
- Exports & Top Exporters
- Cotton Price vs Yarn Price Trend
- Duty Structure
- Key Challenges
- Bibliography

Textile Value Chain



Weaving Introduction and Process

Weaving is converting cotton yarn into raw fabric. Third process in the textile value chain process, it plays an instrumental role in the textile industry. In basic weaving, two distinct sets of yarns or threads are interlaced at right angles to form a fabric or cloth.

Process

Once the Yarn has been processed for weaving, after going through the series of processes, core weaving starts. It has 4 basic steps

Steps

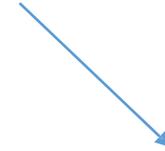
The loom goes through a series of motions

- 1) **Shedding**: raising and lowering of warp yarns by means of the harness to form shed, opening between warp yarns through which weft yarn passes
- 2) **Picking**: inserting of weft yarn by the shuttle through the shed
- 3) **Beating up**: packing the weft yarn into the cloth to make it compact
- 4) **Taking up**: winding newly formed cloth onto the cloth beam, Letting off: releasing yarn from a warp beam

Types of Weaving Looms

Shuttle Less Looms

In Shuttle less looms, weft pick is inserted by some another media instead of the shuttle.



Projectile Looms

In projectile looms instead of the shuttle the weft is inserted by means of the projectile.



Rapier Looms

Rapier head is used for the insertion of weft pick which inserts the picks on its alternate transverse.

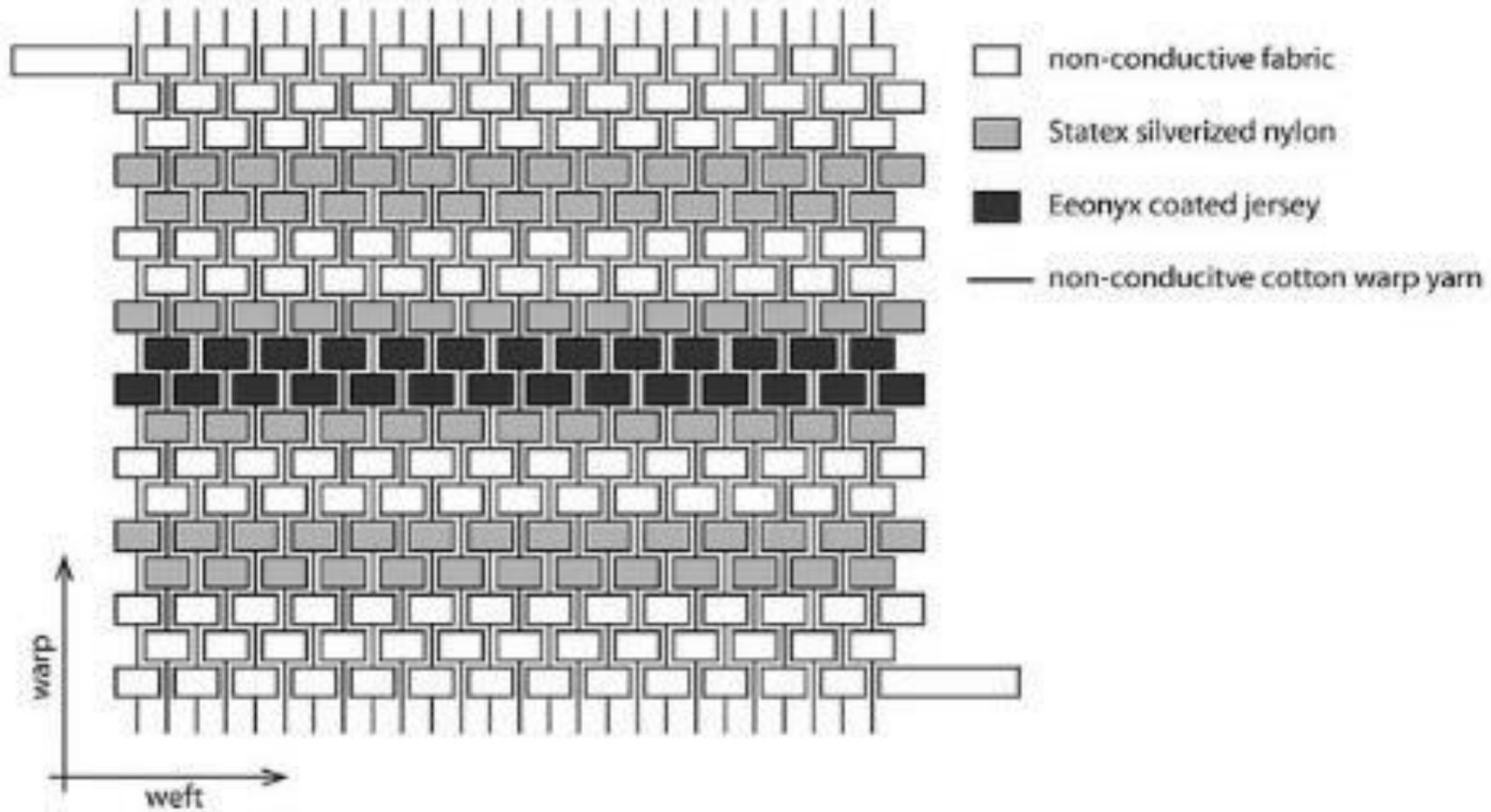


Jet Looms

In Jet Looms, the jet of either water or air is used for insertion of weft pick. Wildly used loom type.



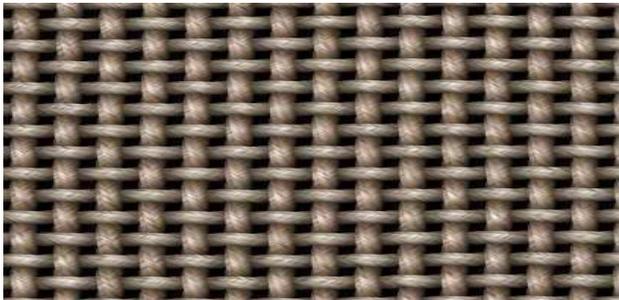
Construction of Weave



Types of Weave

Plain Weave

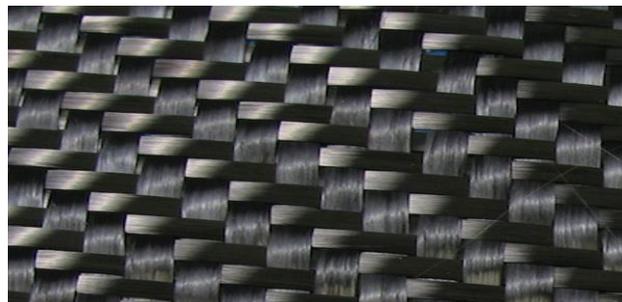
A basic weave, that is a simple alternate interlacing of warp and filling yarns.



Source : textileschool.com

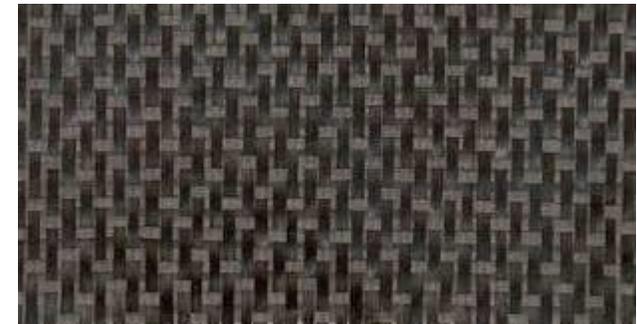
Twill Weave

A basic weave that has a diagonal effect on the face, or right side of the fabric.



Satin Weave

A basic weave, characterized by long floats of yarn on the face of the fabric.



Weaving in Pakistan

- Weaving industry is divided into two sub- sectors, organized mill sector and unorganized mill sector
- Unorganized Mill sector roughly accounts for 90% of total weaving capacity. No conclusive figures are available on the share of each of these sub-sectors in the total weaving industry.
- In Organized Mill sector, Jet looms are the most commonly used looms. In air jet loom, the air consumption varies from 13 to 40 liters/second.
- Revolution per minute (RPM) of the crank shaft is used to measure the loom speed. In Pakistan, RPM ranges from 150 to 200 in the unorganized sector. In the organized sector, it is as high as 950 RPM. Big Textile mills usually invest in higher RPM capacity.
- Looms can be of two lengths : Wider & Narrow. Wider width fabric is utilized in USA in contrast to narrow width fabric in Europe
- Nishat Mills has the largest weaving facility in Pakistan. It has 794 modern Air Jet Looms which produce around 11.3 million meters of fabric each year.

Capacity and Utilization of Textile Sub- Sectors

CAPACITY INSTALLED	FY16	FY17	FY18
Spindle	13,409,320	13,409,420	13,409,420
Rotor	187,259	198,801	198,801
Loom	8,188	9,084	9,084
CAPACITY WORKED (AVG.)	FY16	FY17	FY18
Spindle	11,263,025	11,288,105	11,338,265
Rotor	115,041	126,583	126,583
Loom	5,488	6,384	6,384

Source : Textile Commissioner of Pakistan

Breakdown of Looms

- Weaving looms, both in organized and unorganized sector lack capacity to convert all the yarn produced in spinning mills into fiber / cloth.
- The weaving sector is dominated by a large unorganized sector.
- “Power Looms” have the largest share of output in cloth making.
- Most Power Looms have 80- 100 people working in a single small locality.
- The output is usually of low quality.

	FY16	FY17	FY18
Looms (Mill Sector)	8,188	9,084	9,084
Shuttle Less	28,500	28,500	28,500
Power Looms	375,000	375,000	375,000
Total Looms	411,688	412,584	412,584

Production of Cloth in Pakistan

SQ Mater	Total Production FY16	Total Production FY17	Total Production FY18
S. Fine	26,658,511	27,178,518	27,185,054
Fine	16,588,500	16,479,190	16,485,740
Medium	28,114,997	27,221,401	27,227,356
Coarse	14,637,992	15,195,895	15,201,850
Total	86,000,000	86,075,004	86,100,000

SQ Meter	Total Production FY16	Total Production FY17	Total Production FY18
Grey	48,349,714	48,660,368	48,666,048
Bleached	6,652,868	6,636,256	6,641,936
Dyed	9,770,341	9,858,661	9,864,091
Printed	14,263,077	14,463,765	14,469,045
Blended	6,964,000	6,456,000	6,458,880
Total	86,000,000	86,075,004	86,100,000

Source : Textile Commissioner of Pakistan

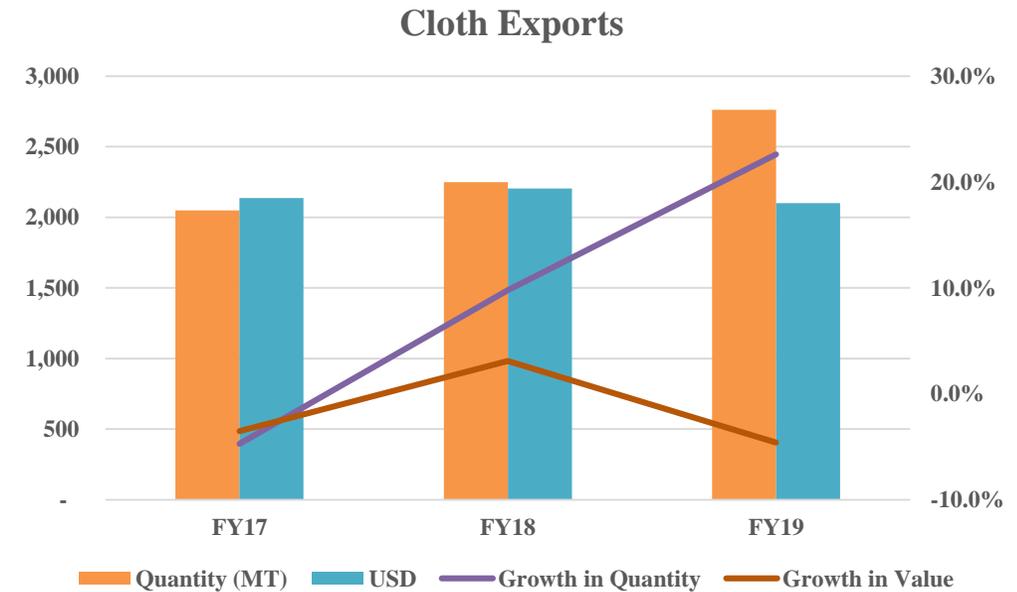
Pakistan's Cloth Exports

Cloth Exports have shown growth in quantity in FY19 despite decline in per unit value

Cloth Exports are ~16% of total Textile Exports

Pakistan Exports 33% of its cloth production

Pakistan's Cloth Exports have witnessed decrease in price per unit price of cloth exported in FY19



Source : Pakistan Bureau of Statistics

Pakistan's Top Export Destinations of Cloth

FY16	US\$ '000'	%	FY17	US\$ '000'	%	FY18	US\$ '000'	%
Bangladesh	488,390	22	Bangladesh	442,598	21	Bangladesh	479,254	22
China	154,364	7	Italy	152,468	7	Italy	163,869	7
Italy	152,209	7	China	116,794	5	Turkey	162,608	7
Turkey	102,601	5	Germany	96,356	5	China	122,449	6
Germany	99,781	5	Turkey	91,700	4	US	90,042	4
US	82,572	4	US	90,537	4	Germany	98,956	4
Sri Lanka	78,353	4	Spain	86,932	4	Portugal	86,869	4
Spain	76,366	3	Sri Lanka	76,125	4	Spain	85,955	4
Portugal	72,610	3	Portugal	74,476	3	Sri Lanka	79,169	3
Egypt	64,505	3	UK	69,621	3	Netherlands	69,860	3
Total	2,213,859		Total	2,136,417		Total	2,203,587	

Source : Trade Development Authority of Pakistan

Duty Structure

- In Recent budget Government has ended Zero rating regime of Textile sector and imposed 10% sales tax on raw cotton and 17% on yarn.
- 3% additional sales tax is applicable on unregistered customers
- Weaving & Processing | 15% import duty on greige and processed fabric: Including Customs Duty: 5%, Regulatory Duty: 10%.
- The government has withdrawn Rebate from yarn and fabric.

	REBATE	
	Previous Package	Current Package
Yarn	4%	0%
Greige Fabric	4%	0%
Processed Fabric	5%	2.50%

Source : Federal Board of Revenue

Key Challenges

- Removal of Textile's Zero Rated status will cause liquidity problems for Textile Sector in general and export oriented entities in particular
- Criteria of CNIC for Unregistered customers will create hurdles in short term for small scale weavers
- Lack of investment in weaving sector has lead to use of outdated machinery, under utilization total capacity and higher production costs.
- Higher input costs, specially energy cost makes this sector regionally less competitive. Significant progress has been made to reduce input costs but without long term sustainability of such initiatives, the sector will not be fully cost effect.
- Tax Rebates are not available to weaving sector anymore
- Currency Devaluation has further made investment in new machinery tougher
- Withdrawal of Tax credits for expansion and replacement has made new investment more tougher



Bibliography

Pakistan Economic Survey
World Bank
Pakistan Bureau of Statistics
Textile Commissioner Organization
Trade Deveopment Authority of Pakistan
Federal Board of Revenue
US Department of Agriculture
textileschool.com

Analysts	Farhan Ullah Financial Analyst Farhanullah@pacra.com	Muhammad Hassan Supervisory Senior Muhammad.hassan@pacra.com
-----------------	---	---

Contact Number: +92 42 3586 9504

DISCLAIMER

PACRA has used due care in preparation of this document. Our information has been obtained from sources we consider to be reliable but its accuracy or completeness is not guaranteed. The information in this document may be copied or otherwise reproduced, in whole or in part, provided the source is duly acknowledged. The presentation should not be relied upon as professional advice.