ASIA's INTRA-REGIONAL COTTON & TEXTILE TRADE, STRATEGIC IMPERATIVES

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1. Abstract:

This paper highlights the significance of the Asia as leader in global cotton and textiles market, as; it produces more than 60 percent and consumes more than 65 percent of world cotton. The paper pinpoints imperatives that Asian cotton producing countries need to address in order to strengthen intra-region trade and tap the opportunities in cotton and textiles trade from the paradigm shift that is taking place by significant decrease in cotton production and consumption in the world other than Asia. Statistical analysis reveals that demand for cotton and textiles from Asia, is likely to increase as cotton production and consumption by developed countries is on decline and have already lost the cost competitiveness in textiles. Cotton and textile Companies, in developed countries, are in search of location in the low cost countries of Asia for business activities. The phenomenon has resulted in increased demand for cotton and textiles from rising Asian economies, like, China, India, Pakistan, Uzbekistan and Bangladesh. This paradigm shift is about to shift global balance of economic power to Asia.

Key Words: Cotton, cotton production, cotton consumption, cotton trade, textiles trade.

2. Introduction

Cotton and Textiles are the leading sectors of Asian economies in terms of its contribution of output, employment and trade. This study intends to explore that as cotton production and consumption is increasing in Asia and decreasing in the world other than Asia, which strategies should these countries adopt to strengthen the intra-regional cotton and textiles trade and what are imperatives to consider in order to overcome the weaknesses and tap opportunities from emerging scenario.[1] Major Asian cotton producing countries produced 17 million metric tons of cotton in 2011-12, which comprises 61 percent of the world cotton production. Subsequently, in 2012-13, the region produced 16.60 million metric tons

[1] The study focuses on major cotton producing and consuming countries of Asia i.e. China, India, Pakistan, Bangladesh, and Uzbekistan.

which comprises 62 percent and in 2013-14, the region produced 16.03 million metric tons which comprises 62.30 percent of the world cotton production (ICAC,2014) . By the same token, the average cotton consumption of the Asian region is about 15.2 million metric tons, which comprises 65 percent of the total world consumption . The sectors collectively employed over 55 million people directly and nearly 90 million indirectly in the region . The sector constituted around 80 per cent of total exports of Bangladesh, employing three million people directly, 45 per cent of Sri Lanka employing 1.8 million, 55 per cent of Pakistan employing more than 15 million and around 12 per cent of India employing more than 38 million people directly. The global cotton production has come down substantially in the recent past, especially in US and developed nations, cotton textile demands are on frequent increase from rising Asian economies. This phenomenon has re-shifted global balance of economic power and with rising income in Asian countries the consumption for cotton and textile market has also seen substantial demand. This increasing demand has created the need for increasing cotton and textile value addition along with increasing spinning and weaving capacity to counter both domestic and global yarn and fabric shortage. With annual production cost and wages rising in the developed world as a whole and in China specifically at a rate of 20 percent, developed countries are likely to lose their competitive edge in cotton production, processing and exports of textiles in the coming years. This would open a market with an annual turnover of more than US$ 200 billion to countries like India, Pakistan, Bangladesh, Sri Lanka and Uzbekistan. As textile being highly labor intensive industry, developed nations have already lost their cost competitiveness and big firms in developed countries are trying to re-locate their activities in low cost countries like Pakistan, Bangladesh, Vietnam and India. Asia's Textile industry possess its unique position as a self-reliant industry, from the production of raw materials to fabric and fashion and plays a major role contributing to the world and regional economy. Being the world leader in cotton and textiles, the value creation of Asia is not at the potential level as compared to the global market.

3.Objectives of the study

- To explore the contribution of major cotton producing countries of Asia to the world cotton production.
- To Highlight the share of major cotton producing countries of Asia in world cotton consumption.

- To explore that cotton and textiles trade is concentrating in major Asian countries.
- To devise strategic imperatives that need to done to tap the opportunity from the emerging scenario of paradigm shift in cotton trade.

4. Literature Review

Regional integration is process in which neighboring states enter into an agreement in order to upgrade cooperation through common institutions and rules. The objectives of the agreement could range from economic to political interests. Intra-regional trade refers to trade which focuses on economic exchange primarily between countries of the same region or economic zone. It brings prosperity to the countries of the region and their people. Countries of North Atlantic Free Trade Agreement (NAFTA)[2] carry out over 60 percent of their trade with regional partners, while for European Union (EU)[3] it is 53 percent and 26 percent for Association of Southeast nations (ASEAN)[4]. However, the share of intra-regional trade among major cotton producing countries of Asia is not significant. China, which was once the biggest competitor of Pakistan in cotton yarn, today stands as the largest importer of Pakistani cotton yarn. Also, it procures grey fabric and denim from Pakistan for garment manufacturing. Bangladesh is the importer of cotton and cotton yarn from Pakistan, India and Uzbekistan.

5. Methodology

The literature predicted that world cotton trade has been increased in developing economies during last ten years. In this paper, major cotton producing and consuming countries of Asia, i.e. China, India, Pakistan, Bangladesh, and Uzbekistan were taken for study. What is the extent of increase in cotton production; consumption and trade volume of major Asian countries while the decline in cotton production in the countries other than Asia? In reciprocal to that increase, how much trade of Asia in cotton and its related produce has increased? What measures and strategic imperatives shall these cotton producing consider to strengthen the trade and tap the

[2] NAFTA is an agreement signed by, Canada, Mexico and United States on January 1, 1994.
[3] European Union comprises of 28 member states of Europe.

[4] ASEAN member countries are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

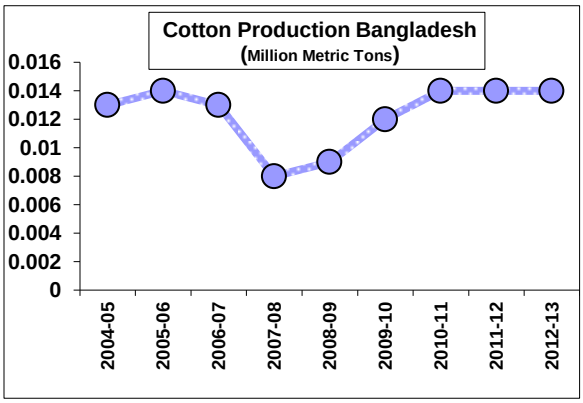
opportunities of this paradigm shift? These are the study questions to be answered. These are the questions to be answered in the current study.

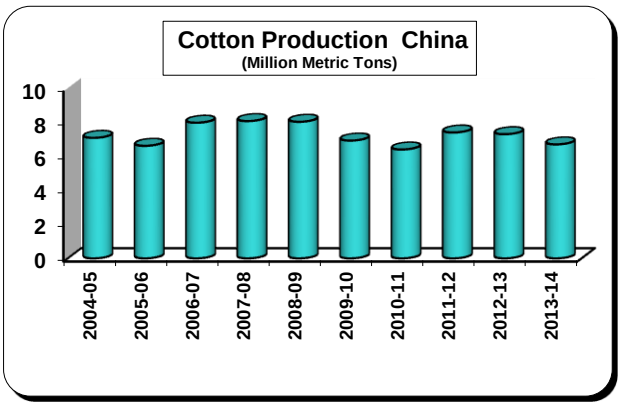
Various methodologies may be used to find out the results of the study. The first methodology is the before-after approach, which compares variables before and after paradigm shift. Cotton area, production, consumption and trade both in cotton and textiles during last ten years i.e. 2004-2014, will be compared using this approach. Another approach is the generalized evaluation approach, that aims to compare countries with a program and those without programs by adjusting exogenous influence, such as growth rates in macro-economic indicators. It may contain various variables of economy and may be difficult to quantify. We will see cotton production, consumption and Cotton and textiles trade volume of these Asian countries in 2004 and its extent in 2014, using before- after approach. Analysis consists of two parts. First part will contain graphs and calculation of indices of these countries from 2004 to 2014. In part two, cumulative statistical analysis will be done for Asia against world in cotton production, consumption and cotton & textiles trade by developing models.

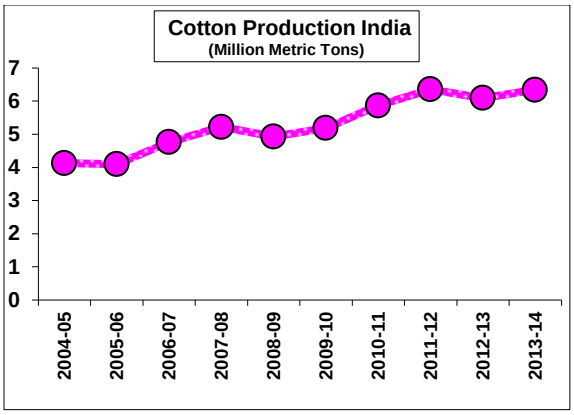
The paper has attempted to explore potential of cotton and textiles trade and point out the imperatives that need to be addressed in order to enhance and strengthen the cotton and textiles trade.

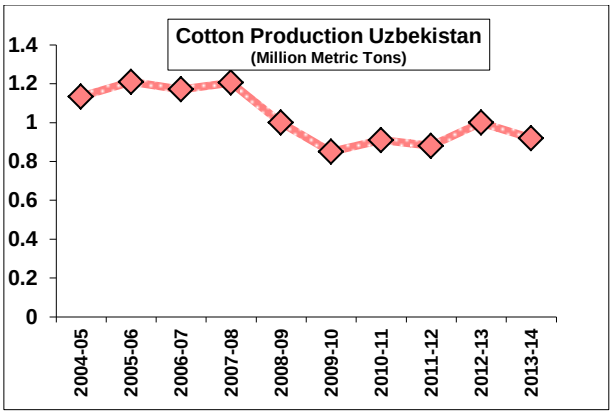
6. Results & Discussion

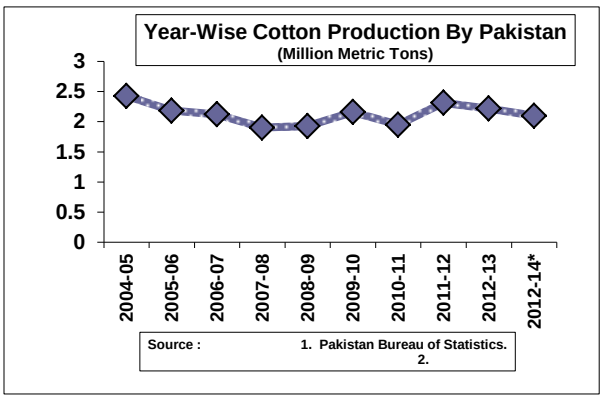
6.1 Part-1

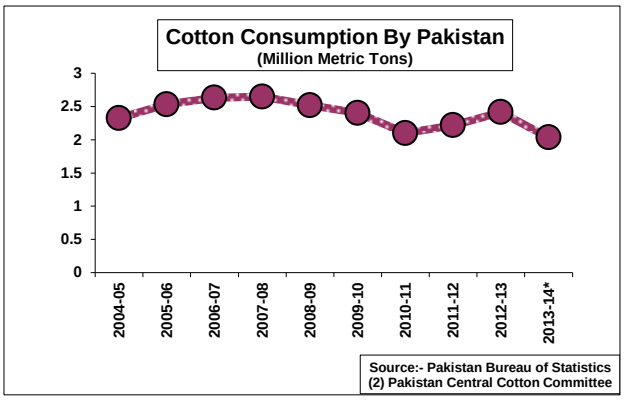


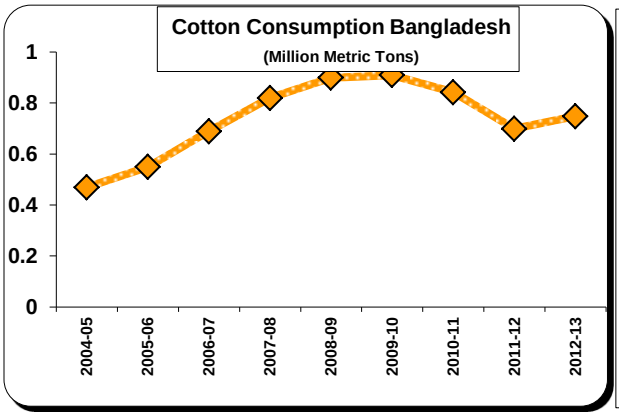


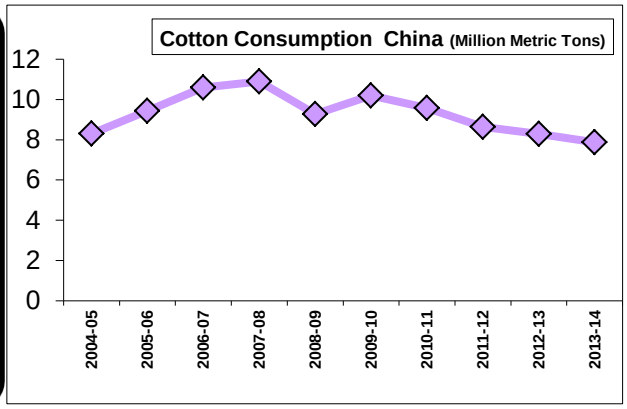

Cotton Production India
(Million Metric Tons)
7
6
5
4
3
2
1
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

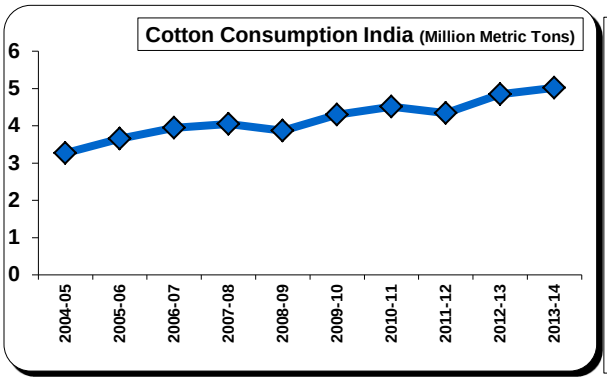

Cotton Production Uzbekistan
(Million Metric Tons)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

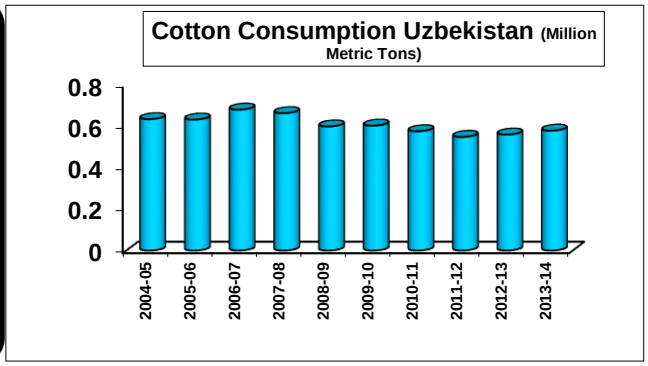

Year-Wise Cotton Production By Pakistan
(Million Metric Tons)
3
2.5
2
1.5
1
0.5
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2012-14*
Source : 1. Pakistan Bureau of Statistics.
2.

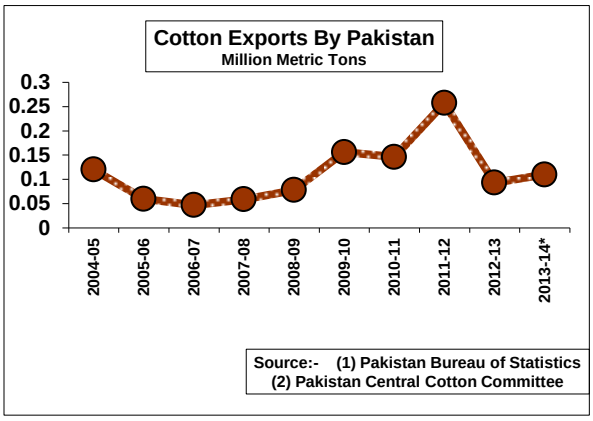

Cotton Consumption By Pakistan
(Million Metric Tons)
3
2.5
2
1.5
1
0.5
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14*
Source:- Pakistan Bureau of Statistics
(2) Pakistan Central Cotton Committee

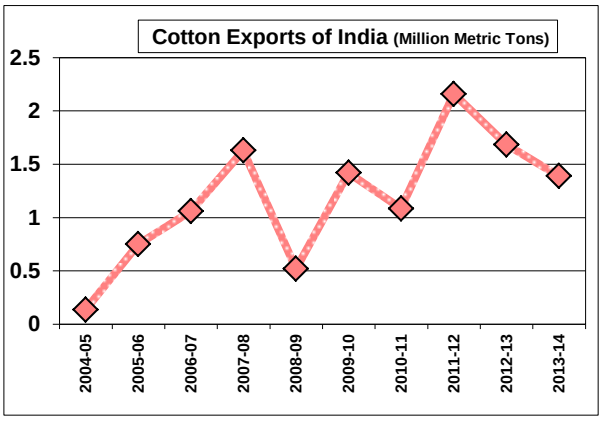

Cotton Consumption Bangladesh
(Million Metric Tons)
1
0.8
0.6
0.4
0.2
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13

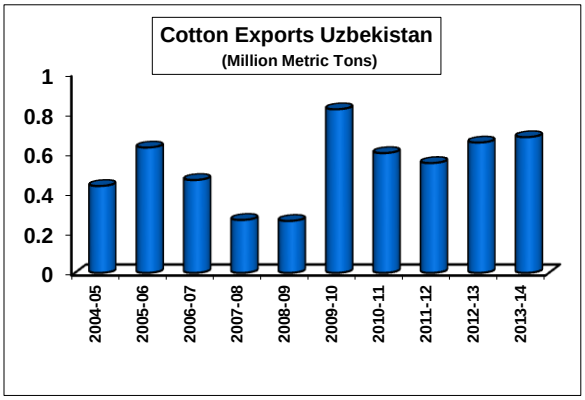

Cotton Consumption China (Million Metric Tons)
12
10
8
6
4
2
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

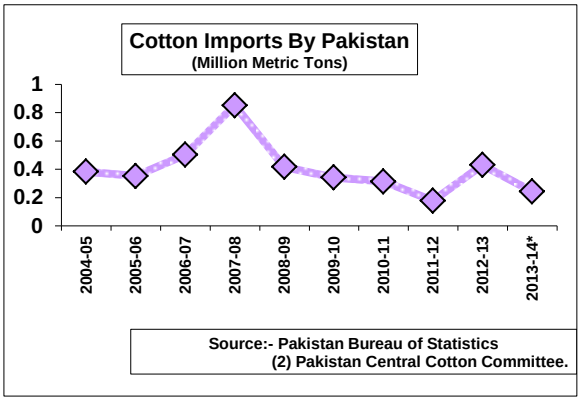

Cotton Consumption India (Million Metric Tons)
6
5
4
3
2
1
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

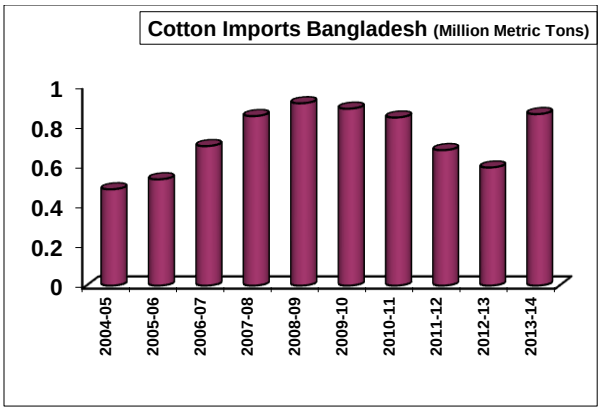

Cotton Consumption Uzbekistan (Million Metric Tons)
0.8
0.6
0.4
0.2
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

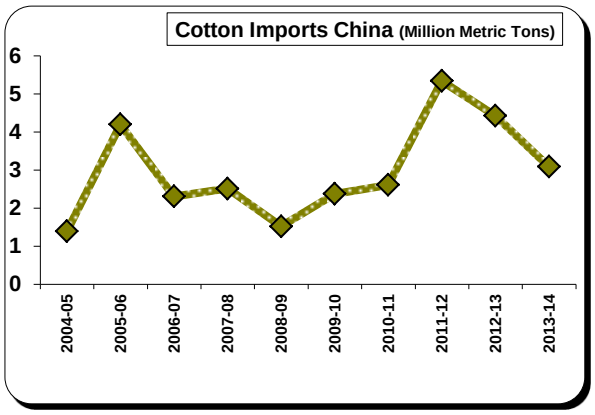

Cotton Exports By Pakistan
Million Metric Tons
0.3
0.25
0.2
0.15
0.1
0.05
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14*
Source:- (1) Pakistan Bureau of Statistics
(2) Pakistan Central Cotton Committee

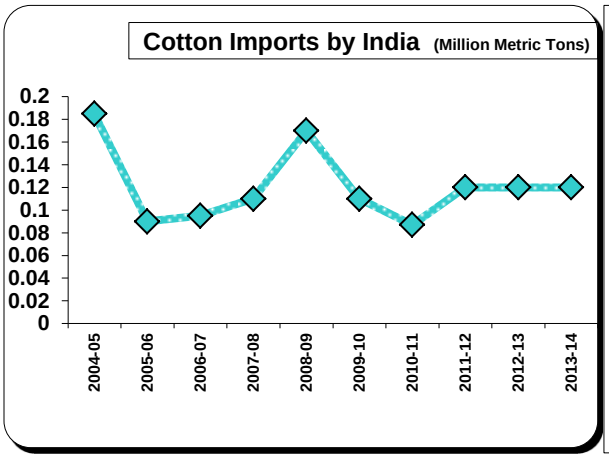

Cotton Exports of India (Million Metric Tons)
2.5
2
1.5
1
0.5
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

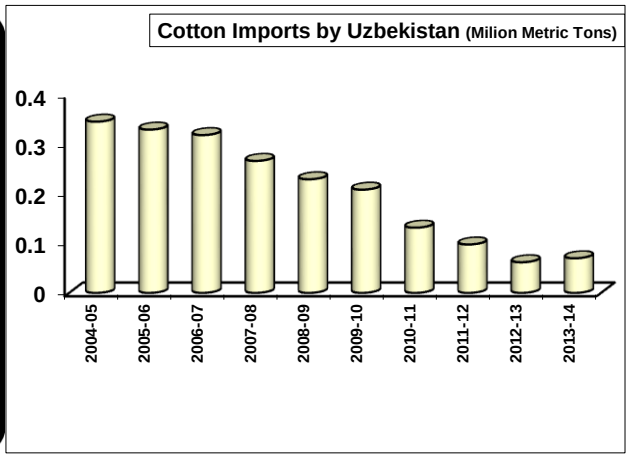

Cotton Exports Uzbekistan
(Million Metric Tons)
1
0.8
0.6
0.4
0.2
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

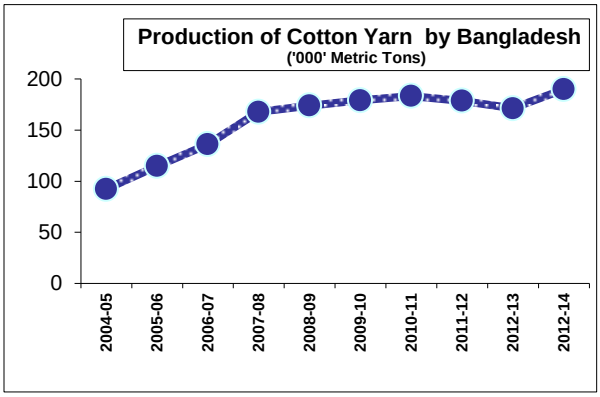

Cotton Imports By Pakistan
(Million Metric Tons)
1
0.8
0.6
0.4
0.2
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14*
Source:- Pakistan Bureau of Statistics
(2) Pakistan Central Cotton Committee.

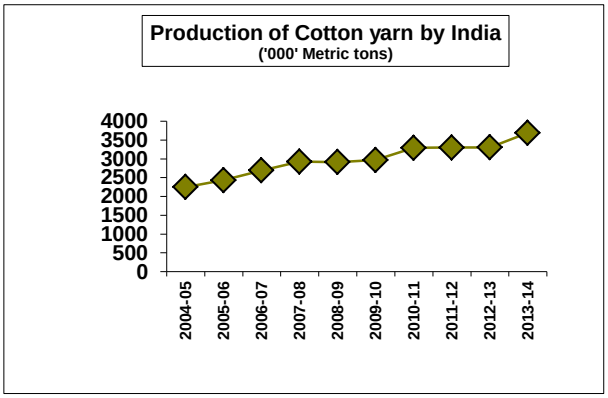

Cotton Imports Bangladesh (Million Metric Tons)
1
0.8
0.6
0.4
0.2
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

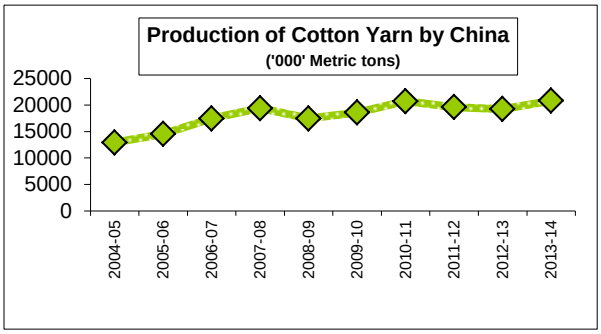

Cotton Imports China (Million Metric Tons)
6
5
4
3
2
1
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

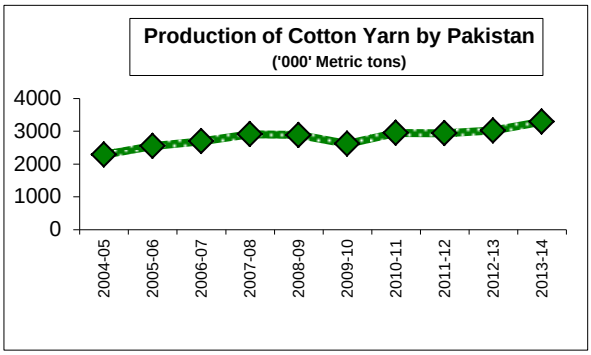

Cotton Imports by India (Million Metric Tons)
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

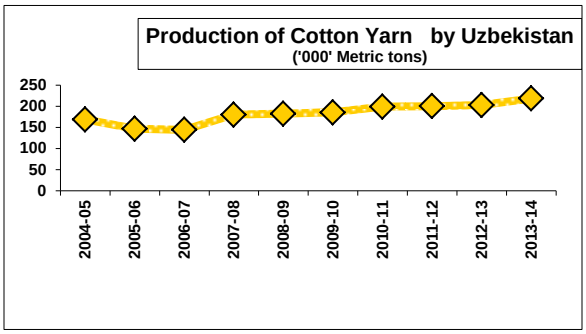

Cotton Imports by Uzbekistan (Milion Metric Tons)
0.4
0.3
0.2
0.1
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

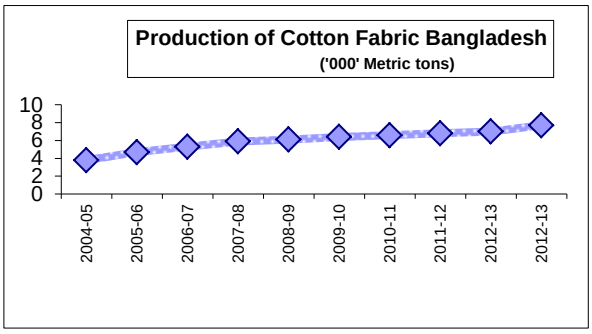

Production of Cotton Yarn by Bangladesh
('000' Metric Tons)
200
150
100
50
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2012-14

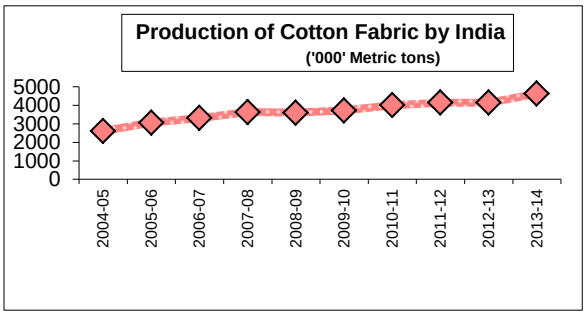

Production of Cotton yarn by India
('000' Metric tons)
4000
3500
3000
2500
2000
1500
1000
500
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

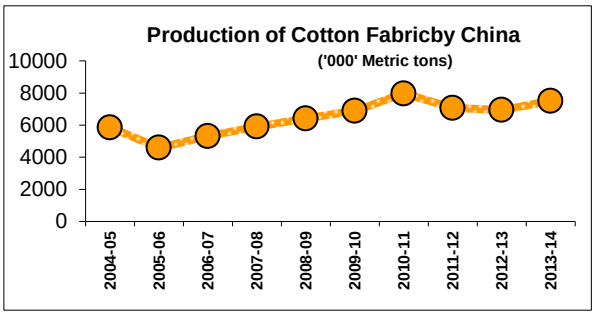

Production of Cotton Yarn by China
('000' Metric tons)
25000
20000
15000
10000
5000
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

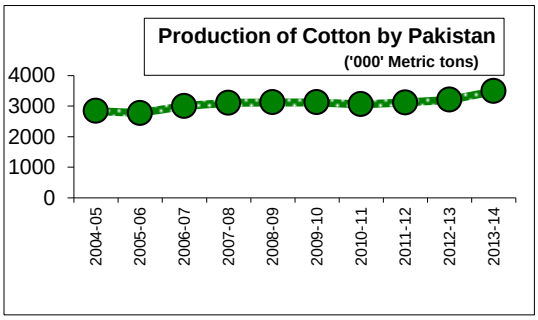

Production of Cotton Yarn by Pakistan
('000' Metric tons)
4000
3000
2000
1000
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

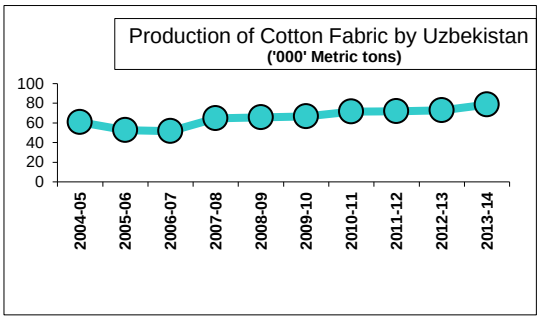

Production of Cotton Yarn by Uzbekistan
('000' Metric tons)
250
200
150
100
50
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14


Production of Cotton Fabric Bangladesh
('000' Metric tons)
10
8
6
4
2
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2012-13

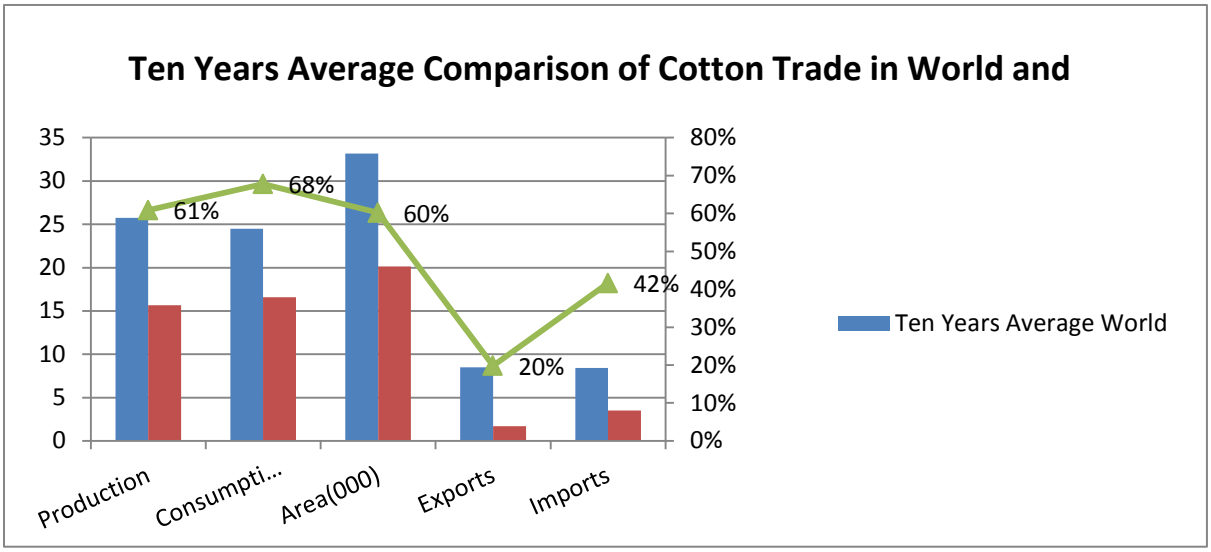

Production of Cotton Fabric by India
('000' Metric tons)
5000
4000
3000
2000
1000
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

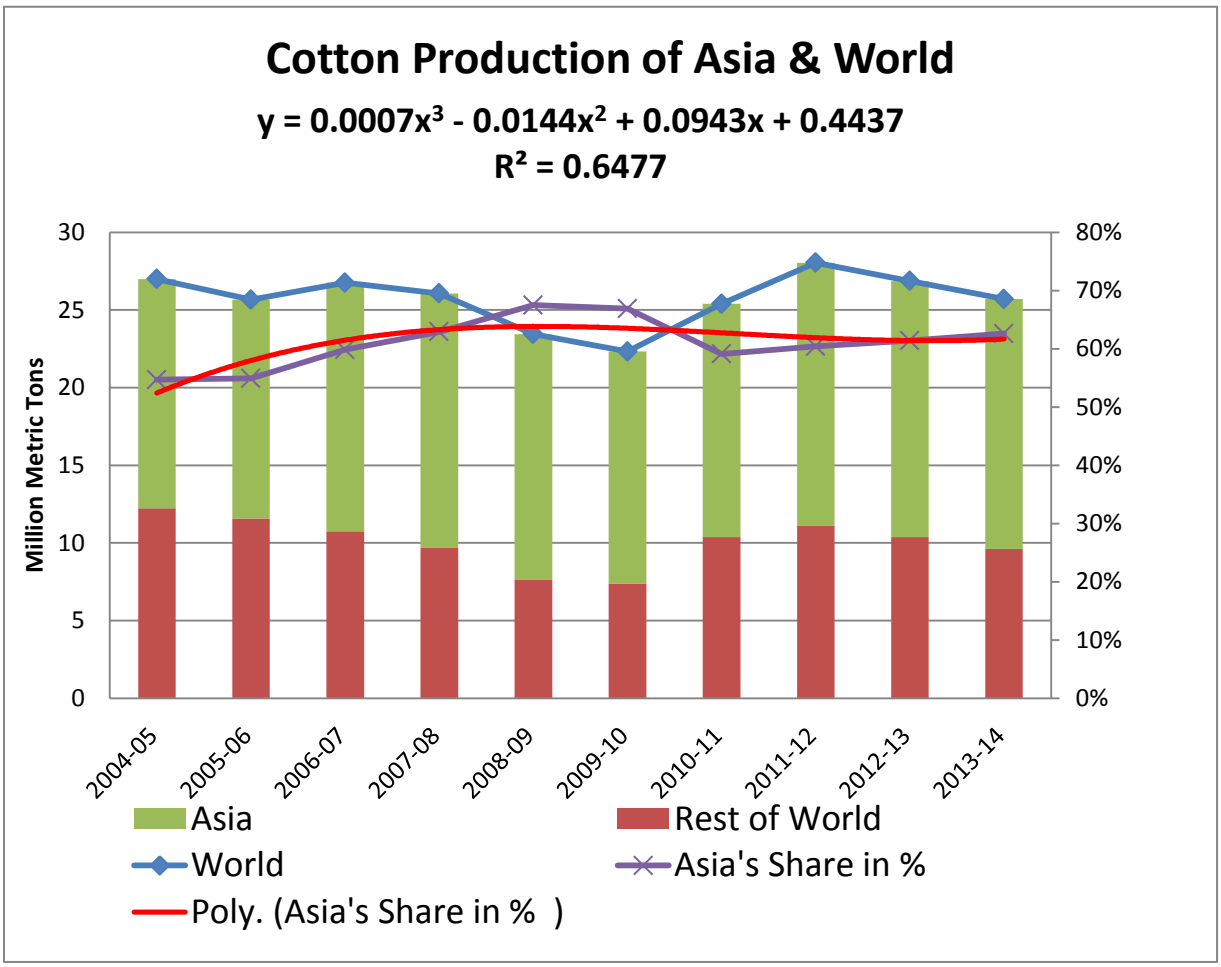

Production of Cotton Fabricby China
('000' Metric tons)
10000
8000
6000
4000
2000
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

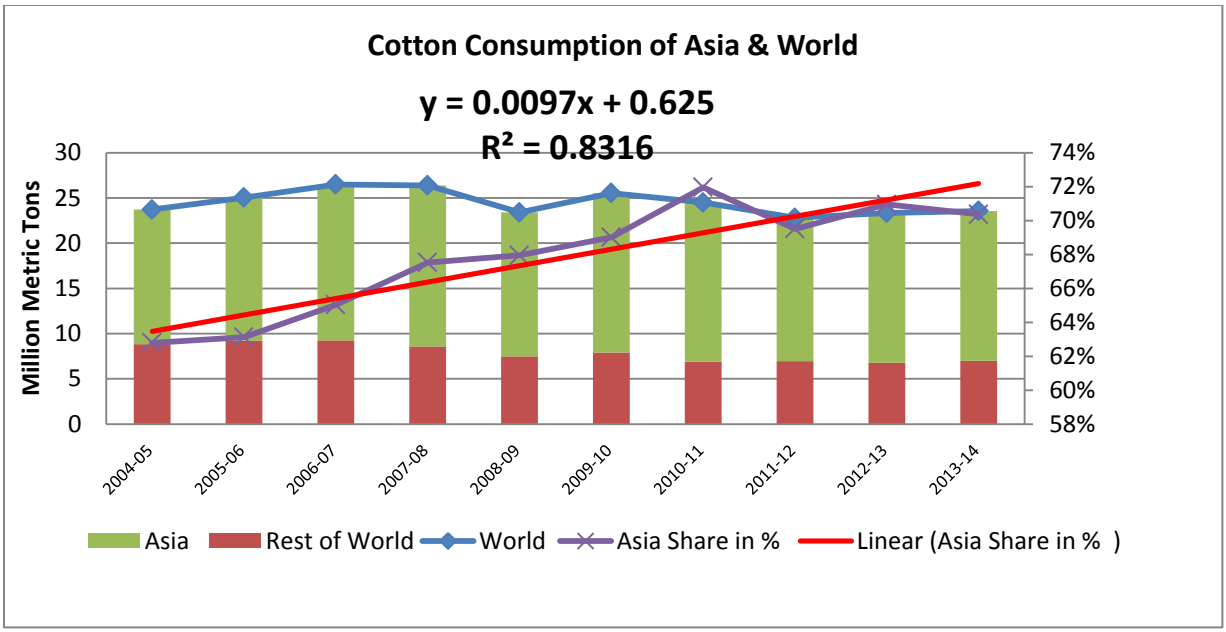

Production of Cotton by Pakistan
('000' Metric tons)
4000
3000
2000
1000
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

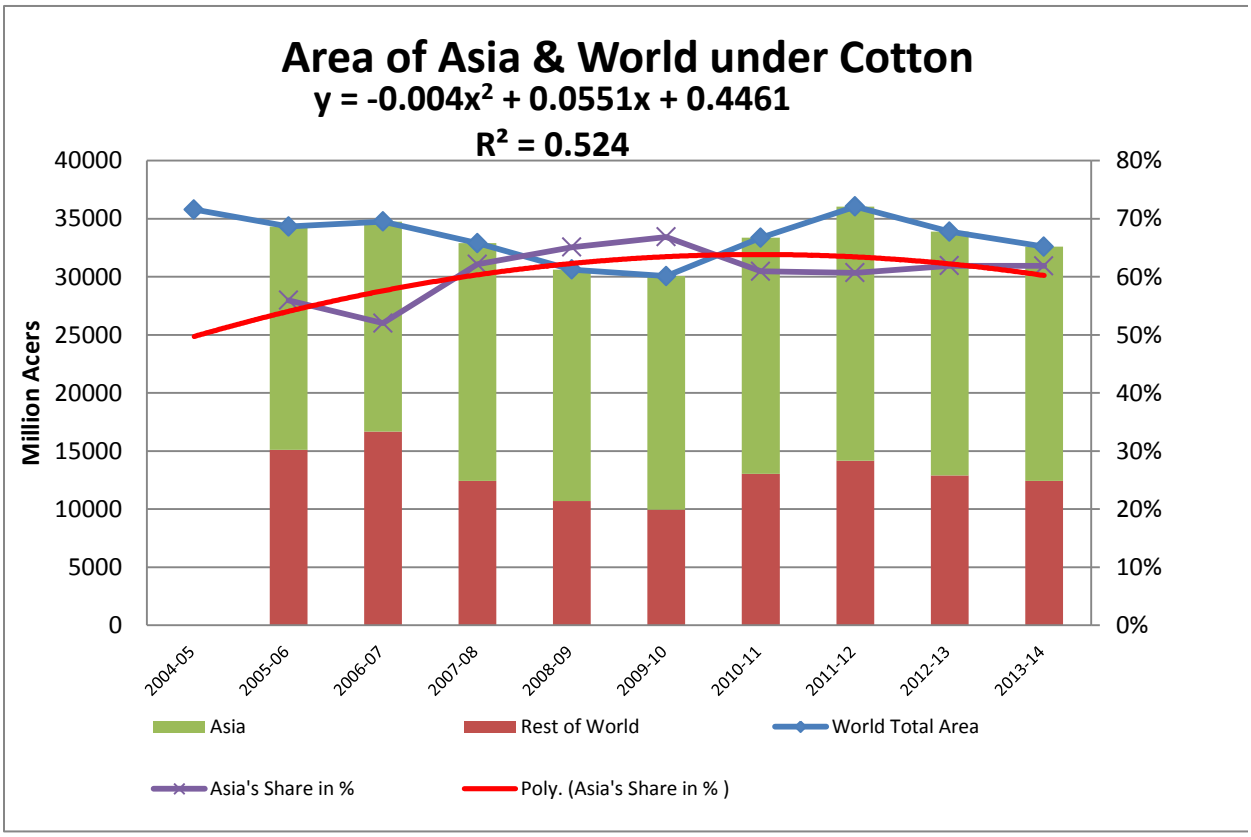

Production of Cotton Fabric by Uzbekistan
('000' Metric tons)
100
80
60
40
20
0
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

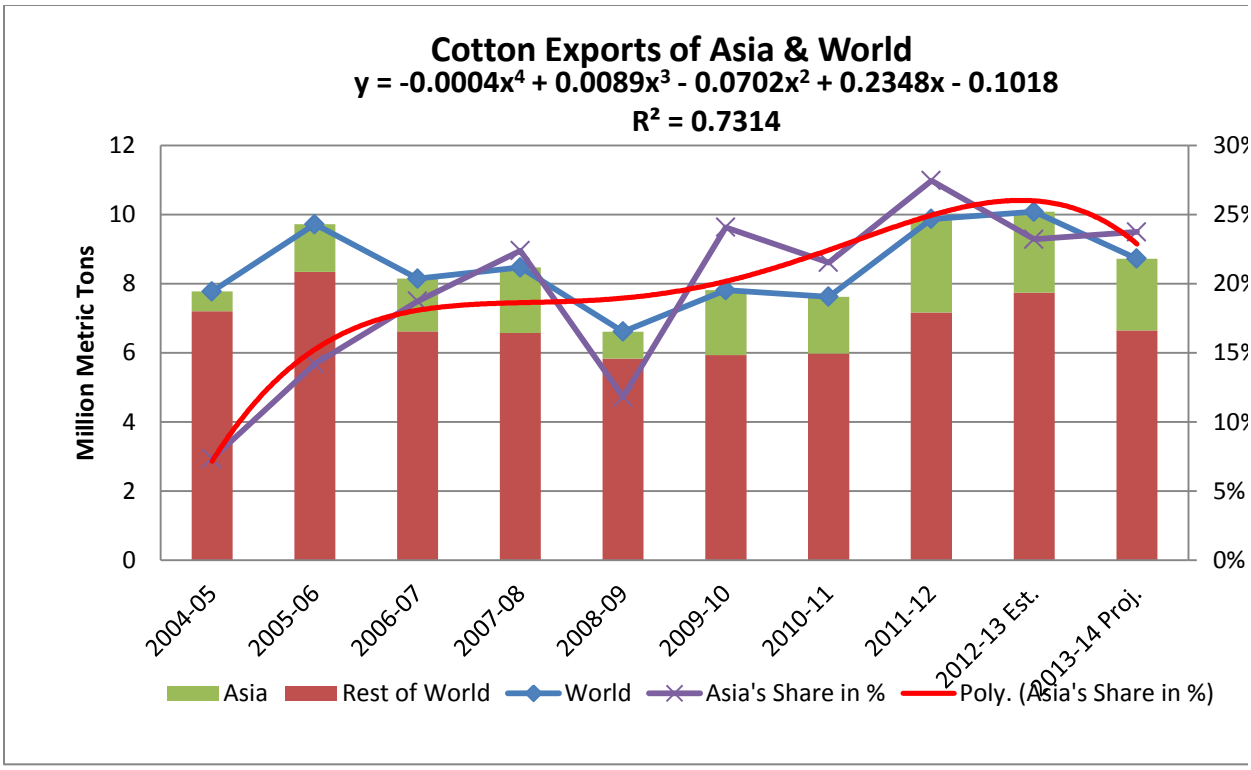
6.2 Part-2 (Models)

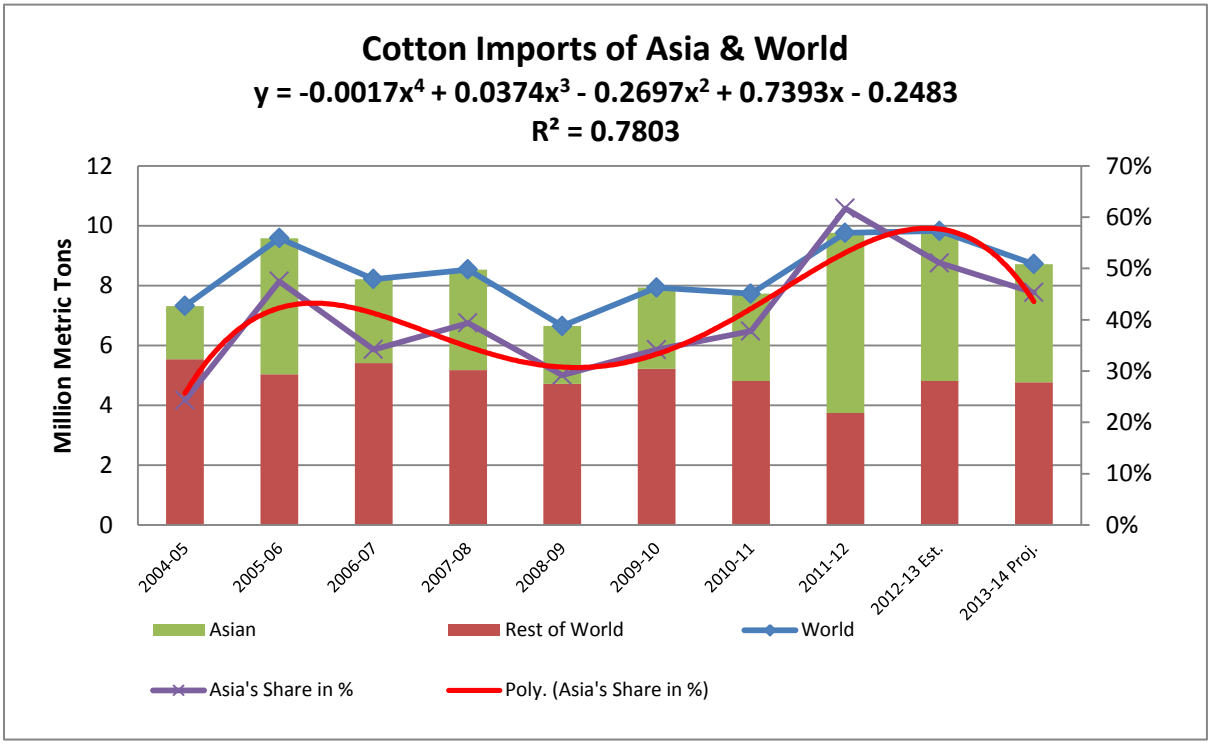





Cotton Consumption of Asia & World
y = 0.0097x + 0.625
R² = 0.8316
Million Metric Tons
30
25
20
15
10
5
0
74%
72%
70%
68%
66%
64%
62%
60%
58%
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
Asia
Rest of World
World
Asia Share in %
Linear (Asia Share in %)


Area of Asia & World under Cotton
y = -0.004x² + 0.0551x + 0.4461
R² = 0.524
Million Acers
40000
35000
30000
25000
20000
15000
10000
5000
0
80%
70%
60%
50%
40%
30%
20%
10%
0%
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
Asia
Rest of World
World Total Area
Asia's Share in %
Poly. (Asia's Share in %)


Cotton Exports of Asia & World
y = -0.0004x⁴ + 0.0089x³ - 0.0702x² + 0.2348x - 0.1018
R² = 0.7314
Million Metric Tons
12
10
8
6
4
2
0
30%
25%
20%
15%
10%
5%
0%
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13 Est.
2013-14 Proj.
Asia
Rest of World
World
Asia's Share in %
Poly. (Asia's Share in %)


Cotton Imports of Asia & World
y = -0.0017x⁴ + 0.0374x³ - 0.2697x² + 0.7393x - 0.2483
R² = 0.7803
Million Metric Tons
12
10
8
6
4
2
0
70%
60%
50%
40%
30%
20%
10%
0%
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13 Est.
2013-14 Proj.
Asian
Rest of World
World
Asia's Share in %
Poly. (Asia's Share in %)

Note: Here significant correlations has been highlighted

Correlations: Wpro, Wcon, WArea, WExp, WImp, Apro, Acon, AArea, ...

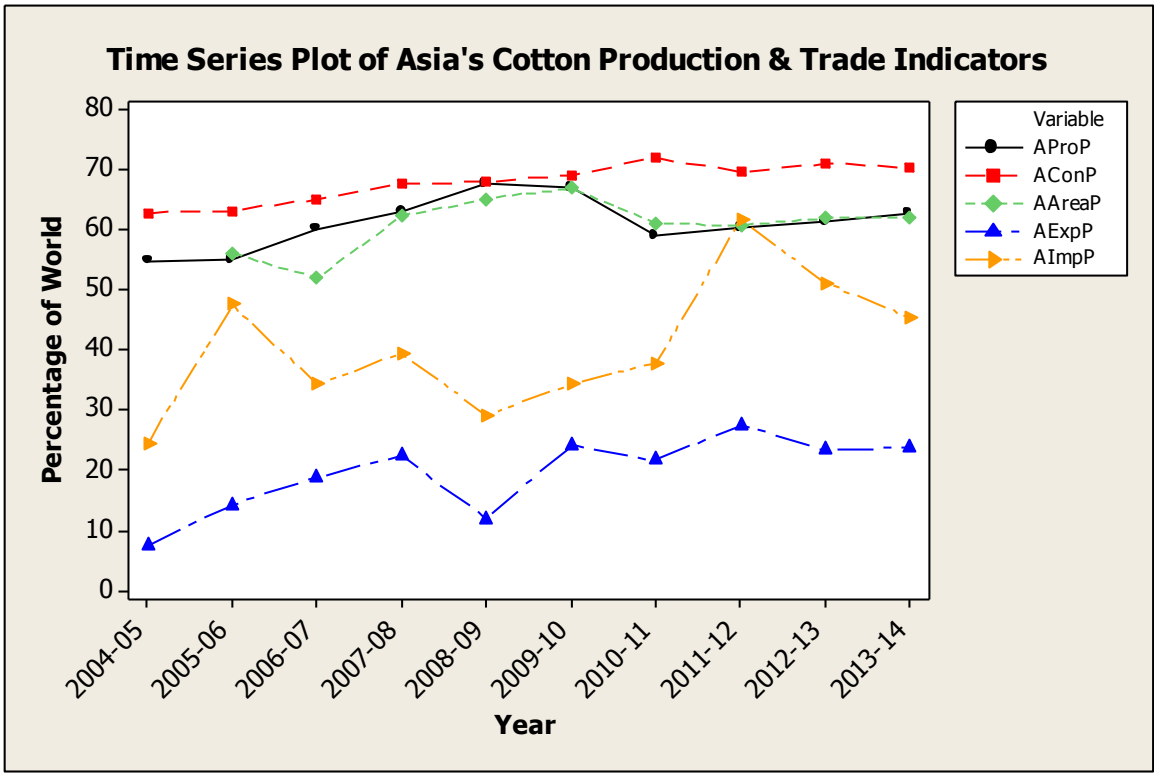
	Wpro	Wcon	WArea	WExp	WImp	Apro	Acon	AArea
Wcon	-0.223							
	0.535							
WArea	**0.937**	-0.183						
	0.000	0.613						
WExp	**0.609**	-0.190	0.535					
	0.062	0.600	0.111					
WImp	0.544	-0.112	0.453	**0.987**				
	0.104	0.758	0.188	0.000				
Apro	0.413	-0.233	0.119	0.272	0.307			
	0.236	0.517	0.744	0.448	0.388			
Acon	-0.335	**0.656**	-0.463	-0.140	-0.007	0.172		
	0.344	0.039	0.178	0.701	0.985	0.635		
AArea	0.241	**-0.667**	0.116	0.363	0.354	0.493	-0.177	
	0.532	0.050	0.765	0.337	0.350	0.177	0.649	
AExp	0.301	-0.113	0.113	**0.695**	**0.769**	0.621	0.394	**0.673**
	0.399	0.757	0.757	0.026	0.009	0.055	0.261	0.047
AImp	0.522	-0.323	0.411	**0.921**	**0.944**	0.440	-0.065	0.577
	0.122	0.362	0.237	0.000	0.000	0.204	0.859	0.104
AProP	**-0.656**	0.018	**-0.830**	-0.392	-0.303	0.415	0.454	0.184
	0.039	0.961	0.003	0.262	0.395	0.233	0.188	0.636
AConP	-0.148	-0.326	-0.358	0.063	0.141	0.497	0.499	**0.680**
	0.683	0.358	0.309	0.863	0.697	0.144	0.142	0.044

AAreaP	-0.601	-0.369	**-0.728**	-0.322	-0.333	0.091	0.109	0.595
	0.087	0.329	0.026	0.398	0.381	0.815	0.781	0.091
AExpP	0.092	0.025	-0.096	0.463	0.568	0.583	0.605	0.620
	0.800	0.945	0.791	0.178	0.087	0.077	0.064	0.075
AImpP	0.476	-0.339	0.353	**0.867**	**0.904**	0.472	-0.011	0.633
	0.165	0.338	0.318	0.001	0.000	0.168	0.976	0.067
Years	0.001	-0.489	-0.226	0.299	0.358	0.573	0.274	**0.680**
	0.997	0.151	0.529	0.401	0.310	0.083	0.444	0.044

	AExp	AImp	AProP	AConP	AAreaP	AExpP	AImpP
AImp	**0.830**						
	0.003						
AProP	0.202	-0.168					
	0.577	0.642					
AConP	**0.637**	0.311	0.544				
	0.048	0.382	0.104				
AAreaP	0.072	-0.192	**0.773**	**0.599**			
	0.853	0.621	0.015	0.088			
AExpP	**0.953**	**0.642**	0.376	**0.740**	0.216		
	0.000	0.045	0.285	0.015	0.577		
AImpP	**0.856**	**0.992**	-0.097	0.396	-0.147	**0.695**	
	0.002	0.000	0.790	0.257	0.707	0.026	
Years	**0.739**	0.514	0.460	**0.912**	0.472	**0.761**	0.581
	0.015	0.128	0.181	0.000	0.199	0.011	0.078

Cell Contents: Pearson correlation

P-Value



Correlations: C21, C22, AProP, AConP, AAreaP, AExpP, AImpP, Years

	C21	C22	AProP	AConP	AAreaP	AExpP	AImpP
C22	0.000						
	1.000						
AProP	0.781	-0.526					
	0.013	0.145					
AConP	0.821	0.346	0.544				
	0.007	0.362	0.104				
AAreaP	0.900	-0.200	0.773	0.599			
	0.001	0.606	0.015	0.088			

```
AExpP    0.500   0.762   0.376   0.740   0.216
         0.171   0.017   0.285   0.015   0.577

AImpP   -0.081   0.908  -0.097   0.396  -0.147   0.695
         0.835   0.001   0.790   0.257   0.707   0.026

Years    0.697   0.519   0.460   0.912   0.472   0.761   0.581
         0.037   0.152   0.181   0.000   0.199   0.011   0.078

Cell Contents: Pearson correlation
               P-Value
```

Principal Component Analysis: AProP, AConP, AAreaP, AExpP, AImpP

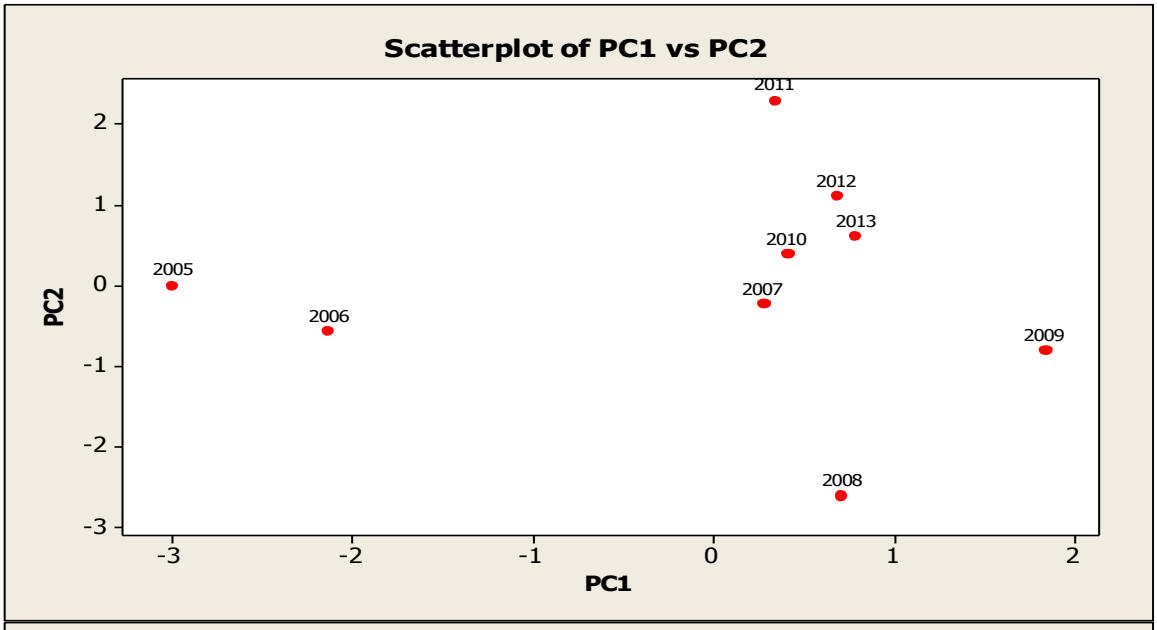
```
Eigenanalysis of the Correlation Matrix
9 cases used, 1 cases contain missing values

Eigenvalue  2.3506  1.8432  0.3816  0.3220  0.1027
Proportion   0.470   0.369   0.076   0.064   0.021
Cumulative   0.470   0.839   0.915   0.979   1.000


Variable     PC1     PC2     PC3     PC4     PC5
AProP      0.510  -0.388   0.170  -0.447   0.601
AConP      0.535   0.255  -0.497   0.570   0.276
AAreaP     0.587  -0.147   0.511   0.233  -0.564
AExpP      0.326   0.562  -0.268  -0.639  -0.314
AImpP     -0.053   0.669   0.625   0.111   0.382
```

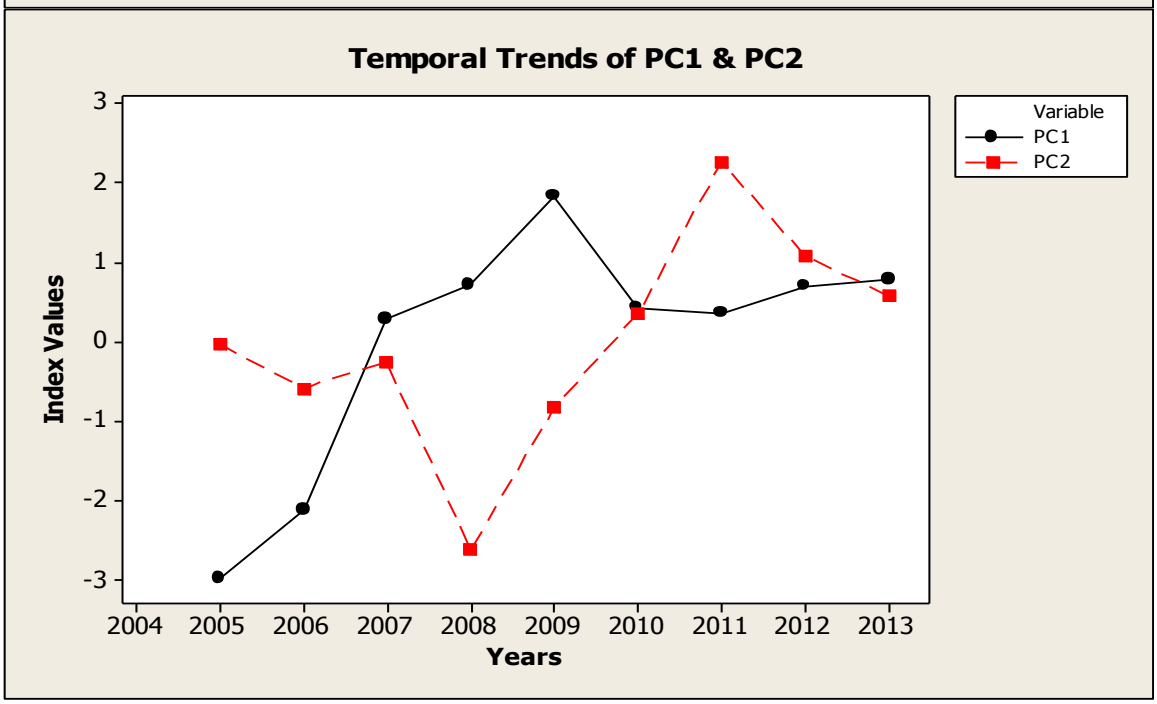
Here PC1=0.510 AProP + 0.535 AConP + 0.587 AAreaP + 0.326 AExpP – 0.053 AImpP

Is the Asia's Production and Consumption Index, where as

PC2= -0.388 AProP + 0.255 AConP - 0.147 AAreaP + 0.562 AExpP + 0.669 AImpP

Is the Asia's Trade Index





7. Conclusion

Cotton Production and consumption is highly concentrated in Asia, especially China, India, Pakistan, Bangladesh and Uzbekistan. The tendency and volume of concentration is increasing every year as against the world as the cotton production and consumption is decreasing in rest of the world. This phenomenon has shifted the paradigm of cotton and textiles trade with Asia as its center place, especially China, India, Pakistan, Bangladesh and Uzbekistan. This paradigm shift has brought extensive trade and investment in Asia and has the potential to fetch more cotton and textiles trade in coming years as the developed world has already lost competitiveness, especially in cotton and textiles production and trade. Asian countries are heavily debt ridden and need to sustain growth, self-reliance with primary focus on export of cotton and textiles market that can be tapped. Exports are primary tool which run engine of any economy. Regional think tanks must understand that being an agrarian economy and having already developed textile and apparel industry to get back our economic revival we need to focus more intensively on our Cotton industry and need to do more efforts to create value from the root of the chain i.e. creating value for farmer, who can trickle down its impact towards alleviating poverty and shall lead spillover effects and generate economies of scale for the complete chain be it ginner, spinner, weaver, garment manufacturer, fashion designer, exporter or retailer.

8. Recommendations

It is imperative to create value in exports and generate regional export base some initiatives like:

- Growth of cotton Farmer by way of better price realization & also enable them to withstand the ambiguous & price fluctuation of cotton both in domestic and international market in one hand and to strengthen the whole value chain of the cotton and textile industry across the region.
- Modernizing our Farming

- Adding value to Fiber produced
- Strengthening of cotton textiles and Fashion Industry
- Having Export Intensive and Pro-export Policies to generate foreign exchange
- Entrepreneurship Development Centre at regional level.
- Incentives on export of any valued product must be preferred and privileged.
- City of Export Excellence in every country with strengthened coordination among them.
- However, a significant need is felt to make this sector internationally competitive by way of value addition and technology up gradation at all level ie from yarn to fabric and garment.
- A policy framework is required with the objective of continuing the leadership in the textile industry with a vision of enhancing the sustainable growth of farmers by way of Value Addition and to strengthen the value chain for the overall growth of Cotton Textile and apparel industries in one hand and Man-made Filament Textile Industry on the other.
- It is necessary to provide support for entire value chain i.e. Farming, Ginning, Spinning, Weaving, Dyeing & Processing, Knitting, Apparel, Garmenting and Technical Textiles either for new investment and expansion or for technology up gradation to become internationally competitive and generate much needed foreign exchange to create a self-reliant and self-sustainable region.

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