

Paradigm Shift in Cotton Production Pattern of Developing Countries

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Contribution of Developing Countries in World Cotton Production & Trade

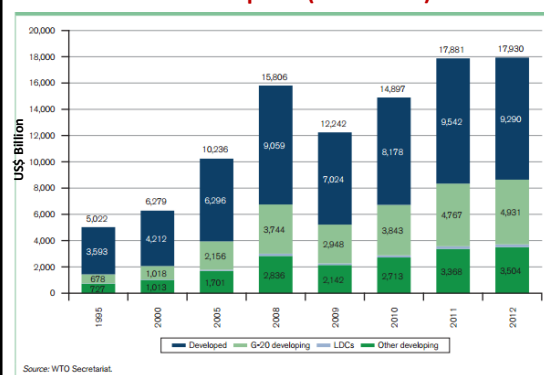
- Area : 70 percent
- Production : 80 percent
- Consumption : 96 percent
- Imports : 97 percent
- Exports : 52 percent

Share of Cotton in the GDP & Total Exports Earnings of the Developing Countries (2015-16)

Country	Production (tons)	Value of Cotton (Million US\$)	Cotton Share in GDP		Textile Share in Total Exports		
			GDP (Million US\$)	Share (%)	Total Exports (US\$ billions)	Textile Exports (US\$ billions)	Share (%)
USA	2,806,000	3,241	17,946,996	0.02	1504.00	21.50	1.43
Australia	579,000	669	1,339,539	0.05	192.00	4.80	2.50
Greece	218,000	252	195,212	0.13	28.29	1.37	4.84
Spain	56,000	65	1,199,057	0.01	278.12	18.04	6.49
Turkey	630,000	728	718,221	0.10	143.90	36.49	25.35
India	5,746,000	6,637	2,073,543	0.32	264.38	38.85	14.69
China	4,753,000	5,490	10,866,444	0.05	2282.00	112.00	4.91
Pakistan	1,614,000	1,864	269,971	0.69	22.09	13.48	61.02
Egypt	60,000	69	330,779	0.02	21.96	1.46	6.65
Burkina Faso	244,000	282	11,100	2.54	2.18	0.30	13.96
Mali	216,000	249	12,037	2.07	0.98	0.20	20.29
Brazil	1,348,000	1,557	1,774,725	0.09	191.10	2.07	1.08
Uzbekistan	832,000	961	66,733	1.44	6.13	1.10	17.91
Argentina	195,000	225	548,055	0.04	56.75	0.54	0.95

Basis of Calculation:
Price: US\$ 1.55 per kg and US\$ 1155 per ton
Production (ICAC World Cotton Statistics 2016)
GDP by Country (World Bank)
Textile Statistics: (<http://www.trademap.org/tradestat>)

Share in Exports (1995-2012)



Cotton Production & Trade in Developing Countries

Country	Area (000 ha)	Production (000 metric tons)	Yield (kg / ha)	Consumption (000 metric tons)	Imports (000 metric tons)	Exports (000 metric tons)
Turkey	424	630	1486	1450	880	50
India	11910	5746	482	5243	221	1275
China	3060	4753	1553	7730	959	28
Pakistan	2869	1614	528	2268	490	56
Egypt	105	60	574	130	71	35
Burkina Faso	663	244	368	4	0	262
Mali	573	216	377	3	0	186
Brazil	956	1348	1410	733	20	939
Uzbekistan	1298	832	641	338	1	544
Argentina	376	195	519	144	3	54
World	30490	21122	693	23827	7191	7400

Source: Cotton World Statistics 2016. International Cotton Advisory Committee, USA

Growth Pattern of Cotton Production in Developing Countries (000 metric tons)

Country	1960	1970	1980	1990	2000	2010	2015
Turkey	192	400	500	655	880	817	630
India	1012	909	1322	1989	2380	5865	5,746
China	1372	1995	2707	4508	4505	6400	4,753
Pakistan	306	543	714	1638	1816	1948	1,514
Egypt	480	509	529	296	210	133	60
Burkina Faso	1	8	23	77	116	141	244
Mali	12	20	41	115	102	103	216
Brazil	425	594	623	717	939	1,960	1,348
Uzbekistan	--	--	1671	1593	975	910	832
Argentina	122	84	84	258	167	295	195
World	10,154	11,740	13,831	18,951	19,527	25,657	21,122

Source: ICAC Cotton World Statistics 2016

Factors Affecting Cotton Production and Trade

- Subsidies & Support Measures
- Technology Gap
- IPRs & Biosafety Regulations
- Farm Mechanization
- Competing Fibres
- Farm size & landholdings
- Less Competitiveness

Subsidies & Domestic Support

- Major factor for distorting world cotton production & trade.
- China, United States, Turkey, Greece, Spain major countries providing subsidies
- Subsidies / support:
 - direct support to production,
 - crop insurance programs,
 - minimum support price mechanisms
 - export subsidies
- ICAC estimated subsidies of US\$ 7.2 billion in 2015-16, down 30% from a record of \$10.7 billion in 2014-15.
- Subsidies averaged 18 cts/lb (24 percent of existing market price) down from 21 cts/lb in 2014/15 (29.4 percent of existing market price).

Assistance provided by Governments to the Cotton Sector

Country	2014-15			2015-16		
	Production (000 tons)	Ave Assistance per Pound Produced (US Cents)	Assistance to Production (US\$ Million)	Production (000 tons)	Ave Assistance per Pound Produced (US Cents)	Assistance to Production (US\$ Million)
China	6500	57	8220	4820	50	5289
USA	3553	11	861	2806	18	1103
Turkey	754	27	452	660	26	381
Greece	273	39	238	218	43	208
Spain	75	44	72	56	55	68
India	6460	4	631	5749	0	51
Burkina Faso	298	5	30	244	6	30
Mali	233	5	26	216	5	26
Cote D'Ivoire	193	3	14	177	4	14
Columbia	27	9	5	22	6	3
Senegal	9	10	2	12	8	2
Brazil	1563	3	102	1348	0	0
All Countries	19,937	21	10,653	14,980	18	7,175

Source: International Cotton Advisory Committee, 2016

Cotton Production Pattern in Different Countries

Country	1961		2015	
	Cotton Production (000 metric tons)	Share in World Production (%)	Cotton Production (000 metric tons)	Share in World Production (%)
Australia	2.6	0	579	2.74
China	800	5	4753	22.5
Greece	93.8	0	218	1.0
India	884	5	5746	27.0
Pakistan	324.1	2	1614	7.64
Turkey	212	1	630	2.98
West & Central Africa	116	1	1429	6.76
USA	3120	16	2806	13.30
Former Soviet Union	1528	8	1444	6.80
Sudan	116	1	28	0.13
Uganda	67	0	19	0.09

Source: i) FAOSTAT Agriculture Database (2003), ii) ICAC World Cotton Statistics 2016

Assistance Provided by Governments to the Cotton Sector

Year	World Production (000 tons)	Average Assistance Per Pound Produced (US Cents)	Assistance to Production (US\$ Million)
1997-98	20181	9	4108
1998-99	18810	14	5772
1999-00	19194	16	6588
2000-01	19527	11	4833
2001-02	21568	13	6446
2002-03	19573	12	4193
2003-04	21131	7	3270
2004-05	26998	10	6114
2005-06	25688	11	6008
2006-07	26844	9	6045
2007-08	26160	4	2292
2008-09	23574	11	5492
2009-10	22292	6	3155
2010-11	25657	3	1477
2011-12	27848	8	4866
2012-13	26785	12	7351
2013-14	26199	11	6513
2014-15	26118	19	10653
2015-16	21222	15	7175

Source: International Cotton Advisory Committee, 2016

Trade Agreements & Compliance

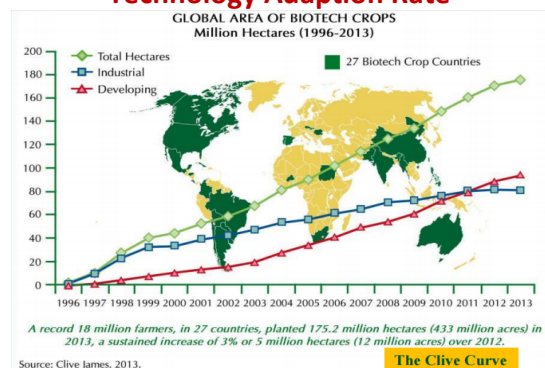
- General Agreement on Tariff & Trade
 - Agreement on Agriculture (AoA)
 - Agreement on Application of Sanitary & Phytosanitary Measures (SPS)
 - Agreement on Technical Barriers to Trade (TBT)
 - Agreement on Trade Related Investment Measures
 - Agreement on Anti-Dumping
 - Agreement on Customs Valuation
 - Agreement on Preshipment Inspection
 - European Trade
 - Agreement on Rules of Origin
 - Agreement on Import Licensing Procedures
 - Agreement on Subsidies and Countervailing Measures
 - Agreement on Safeguards
- General Agreement on Trade in Services
- Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)
- Agreement on Government Procurement
- Information Technology Agreement

Source: WTO

Trade Agreements & Compliance

- 75% of WTO members are Developing Countries
- Cotton production and trade increased in countries complying trade agreements and other rules.
- Developing countries need to comply Human development, gender issues, labour, SPS, IPRs, Child labour, and other laws for trading especially with Western & European countries.
- Developed countries (EU, USA etc) put sanctions or offers incentives for compliance on agreements.
- Countries like Pakistan has to comply more to achieve the status of GSP+ for trading with European Countries.

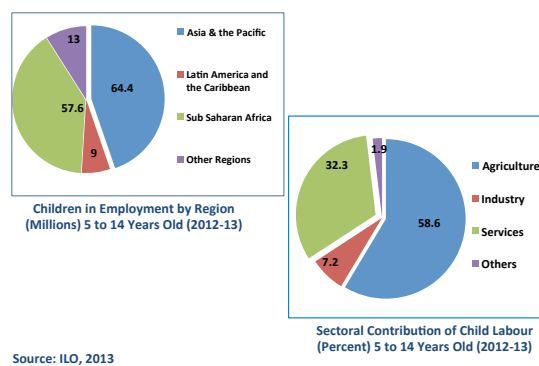
Technology Adaption Rate



Role of Intellectual Property Rights & Private Breeding

- Biotechnology applications is slow due to the non-existence of Biosafety regulations and Intellectual Property Rights in developing countries
- TRIPS-WTO has also put restricts on use of genetic material for developing countries
- Huge royalty fee
- Exploring potential of collaborative research in biotechnology
- Incent / reward mechanism for public sector researchers
- Funding for public sector research institutions / universities for biotechnological research

Issue of Child Labour



Farm Mechanization

- Farm mechanization adds 20-40% yield increment
- 100% mechanical farming operations in developed countries whereas its negligible in developing countries.
- Developing countries fuel-deficient, lack of workshops and implements repair & maintenance facilities.
- Influx of farm labour to urban areas is making shortage of labour for farm operations in villages and adding cost as well.
- Development of cotton plant suitable for machine picking.
- Small cotton pickers manufacturing by developing countries

Competing Fibres

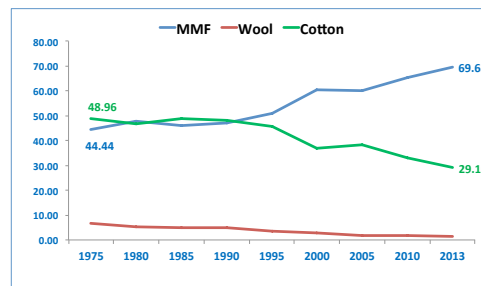
- Global demand for fibres has increased more rapidly than the population during the last 25 years.
- Population rose by 37 percent to 7.3 billion people while the total fibres production increased by 124 percent to 88 million tons.
- Besides population, rising incomes, more affordable fibre, textiles and apparel products as well as changing attitudes to traditional textile products resulted in the high growth of fibre volumes.
- High cotton prices (US\$ 3.56 per kg in USA) have also encouraged substitution with polyester fibre (US\$ 1.99 per kg in China).

World Fibre Production (000 tons)

Fibre	1975	1980	1985	1990	1995	2000	2005	2010	2013
MMF	10.64	14.19	16.340	18.52	22.2	31.04	38.20	49.60	60.30
Wool	1.58	1.60	1.74	1.93	1.49	1.4	1.10	1.30	1.10
Cotton	11.72	13.84	17.38	19.00	19.96	19.00	24.44	25.10	25.20
All Fibres	23.94	29.63	35.46	39.45	43.65	51.44	63.70	76.00	86.60

Source: Indus Trievereinigung Chemiefaser E.V. (IVC), Germany (www.ivc-ev.de)

Percent Contribution of Fibres in Total Production (Percent)

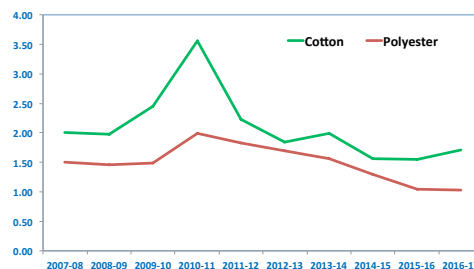


Price comparison of Cotlook (A-Index) with Polyester Fibre in Various Countries

Year	Cotlook Cotton Price (A-Index)		Polyester Fibre Prices					
			USA		China		Pakistan	
	(Cents/lb)	US\$ / Kg	(Cents/lb)	US\$ / Kg	(Cents/lb)	US\$ / Kg	(Cents/lb)	US\$ / Kg
2010-11	161.85	3.56	97.85	2.17	90.56	1.99	89.20	1.96
2011-12	101.23	2.23	121.08	2.67	83.14	1.83	85.00	1.87
2012-13	87.93	1.85	117.84	2.60	77.30	1.70	79.55	1.75
2013-14	90.66	1.99	113.58	2.50	70.89	1.56	74.80	1.65
2014-15	70.93	1.56	99.25	2.19	58.64	1.29	61.17	1.35
2015-16	70.39	1.55	92.33	2.04	47.19	1.04	49.67	1.09
2016-17	77.90	1.71	--	--	46.95	1.03	--	--

Source: Cotton World Statistics 2016, International Cotton Advisory Committee, USA

Price Comparison Cotton Vs Polyester (\$ per Kg)



Farm Size in Cotton Producing Countries

LARGE FARM SIZE		SMALL FARM SIZE	
Country	Average Farm Size (ha)	Country	Average Farm Size (ha)
Argentina	150-200	Bangladesh	0.25
Australia	1800	Cameron	0.92
Brazil	3300	China	0.30
Greece	5.3	Egypt	0.40
Spain	10.9	India	1.0
Turkey	8-10	Kazakhstan	3-10
USA	346-584	Kenya	0.4
		Mali	2.92
		Pakistan	4.0
		Sudan	3.5
		Tanzania	2.0

Source: Cotton Production Practices, 2014. International Cotton Advisory Committee, USA

Yield Difference between Large Landholdings & Small Landholdings Countries

Sr No.	Country	Average Farm Size (ha)	Lint Yield (Kg / ha)
1.	Australia	1800.0	2144
2.	USA	515.0	939
3.	Spain	10.9	885
4.	China	0.30	1553
5.	Pakistan	4.0	653
6.	India	1.0	485
7.	Brazil	3300.0	1410
8.	Turkey	8-10	1486

Way Forward

Subsidies & Domestic Support

- Formation of Regional Blocks (Africa, Asia, Arab, North America) to defend cotton disputes at the global trading bodies.
- Developing countries be allowed to adjust their tariff levels in accordance with the level of production and trade affecting subsidies in the exporting country.
- Duty free and quota free access to all developed countries.
- Value-added products instead trading raw produce.
- Educate/train the exporters for fulfilling the trade standards in developed countries.
- Developed countries must check on over-production of agricultural products to curb dumping and influencing price level.

IPRs, Biosafety and Research

- Re-designing IPRs for benefiting researchers
- Biosafety Standards with strict implementation
- Check on huge royalty fee
- Promote incentives, awards/prizes for researchers in public sector
- Generous funding for public sector research institutions & universities for biotechnological research.

Farm Mechanization

- Strengthen the public sector farm machinery research and manufacturing institutions.
- Strengthening the capacity of the private sector to supply farm power and agricultural mechanization services.
- Evolution of cotton varieties suitable for mechanical picking.
- Facilitate on import of advanced farm machinery in developing countries.

Small Landholdings

- Promote cooperative farming at grass root level for obtaining optimal yields.
- Assistance from public and private sector for provision of inputs at affordable prices

Thanks

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