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The Market for Organic Cotton in Germany and the United States

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List of abbreviations

ave	average
b	billion
B2B	Business to Business
BCI	Better Cotton Initiative
C	Celsius
CBI	Centrum Bevordering Import (Netherlands)
¢	Cent
cm	centimeter
CFR	Code of Federal Regulations
C & F	Cost & Freight
CIF	Cost insurance freight
COAs	Certificates of Analysis
CPC	Customs Procedure Code
EC	European Council
EPA	Economic Partnership Agreements
Est	Estimated
EU	European Union
€	Euro
FAO	Food and Agricultural Organization
FDA	Food and Drug Organization
FOB	Free on board
GM	Genetically Modified
GOTS	Global Organic Textile Standard
GSP	General System of Preferences
HS	Harmonized Commodity Description and Coding System
IFOAM	International Federation of Organic Agriculture Movements
IISD	International Institute for Sustainable Development
IIED	International Institute for Environment Development
ISIC	International Standard Industrial Classification
ISO	International Organization for Standardization

ITC	International Trade Center
IVN	International Association of Natural Textile Industry
JCIBPC	Joint Cotton Industry Bale Packaging Committee
k	thousand
kg	kilogram
km	kilometer
kt	kilotons
LOHAS	Lifestyle of Healthy and Sustainability
m	meter
M	Middling
MFN	Most Favored Nation
mil	million
mt	metric ton
NAICS	North American Industry Classification System
OCS	Organic Cotton Standards
OTA	Organic Trade Association
SITC	Standard International Trade Classification
®	Registered Trademark
§	Section
T	Ton
TARIC	Integrated Tariff of the European Communities
UNCTAD	United Nations Conference on Trade and Development
US	United States
US$	United States Dollar
USDA	United States Department of Agriculture
USITC	United States International Trade Commission
WB	World Bank
WTO	World Trade Organization

Executive summary

This survey compares opportunities in the German and US markets for exporters of organic cotton. Organic cotton is grown without the use of chemicals and utilizes only natural methods. Government and industry guidelines stipulate how cotton must be grown to be considered organic.

Organic cotton production has increased in recent years to meet growing consumer demand. In 2012, India was the world's largest producer while China was the world's largest importer. Apparel companies are one of the primary buyers of the product and many of them have sustainability programs that will expand their use of organic cotton in the coming years.

While the climate in Germany is not conducive for growing cotton, Germany is the largest importer of the product in Europe. Local consumers and German based companies have demonstrated that there is an increasing demand for organically certified textiles. From the US perspective, a majority of its organic cotton is exported and local farmers are experiencing a demand that outpaces supply. Clearly, organic cotton is a growing market segment within the larger conventional cotton industry.

Products that are marketed as organic must meet high certification standards. Consumers in both the US and Germany rely on these standards to ensure the authenticity and integrity of their organic products. Consumer confidence is important because it enables the buyer to make a purchasing decision based on value, and it allows the seller to seek a premium price to offset higher direct costs.

Looking forward, as consumers place more value on sustainable products and organic standards improve to increase customer confidence, there appears to be an opportunity for exporters seeking to capitalize on a growing organic cotton segment.

1. Product description

International Classifications

This Export Opportunity Survey covers the market for organic cotton in the US and Germany. The international classifications for cotton are as follows:

- HS 520100: Cotton, not carded or combed
- SITC 26310: Cotton (other than linters), not carded or combed
- CPC 2 01921: Cotton, ginned, not carded or combed
- ISIC 0116: Growing of fiber crops
- TARIC 5201: Cotton, not carded or combed
- NAICS 111920: Cotton farming, field and seed production

It is important to note that these classifications do not differentiate between organic and non-organic cotton.

The Cotton Plant

The Gossypium genus, or more commonly known as the “cotton plant,” belongs to the mallow family (*Malvaceae*) of flowering plants. This plant is considered a shrub because of its multiple stems and shorter height. According to the Global Organic Cotton Community, vegetative growth is ensured when the following conditions are satisfied:

- Constant temperatures between 18°C and 30°C[1]
- Locations without frost for 175 to 225 days per year
- Locations with direct sunlight exposure
- Dryer weather conditions
- Soil that has sufficient water holding capacity.

Figure 1: Cotton (Cotton 2014)

Although cotton is capable of growing on almost every continent, it typically grows in subtropical and tropical areas between latitudes of 47° north and 30° south. A mature shrub can be between 0.25 m to 2.00 m in height. Upon reaching maturity, the plant produces soft fluffy fibers commonly called “cotton bolls." The bolls act as a protective housing for the plants seeds (Bremen Cotton Exchange).

Production, Usage, and Processing

During production, cotton is picked either by hand or by machine. The process of turning cotton fibers (or “lint”) into a final product requires several stages. After cotton is picked, it is pressed

[1] Equivalent to 64.4 and 86.0 degrees Fahrenheit

into large rectangular modules or into round bales. The bales are transported to a deseeding plant, called a “cotton gin”. The ginning process separates raw cotton fiber from cottonseed and waste by using large mechanical saws and blowers(Cotton Australia). On average 100 kg of cottonseed will yield 35 to 42 kg of fiber[2](UNCTAD, 2011). The white fluffy fiber is then pressed into cotton bales that weigh up to 227 kg and are covered by a cotton hull to minimize contamination risk. Upon completion, a sample is collected from each bale to classify the fibers’ quality. Since cotton is a commodity, it is bought and sold based on this classification. The primary determinants of quality are: purity of the ginning process, color, length, strength, and uniformity of the fibers (Global Organic Cotton Community).

It is estimated that 60% of cotton fiber is used as yarn and threads for the production of clothing. Furthermore cotton is used in the construction of home furnishings, cosmetics, and medicinal products (FAO, 2009). Other applications for cotton include the processing of raw linters into pure cellulose or the use of cotton seeds for animal feed and fertilizers (Bremen Cotton Exchange).

Cultivation and Origin

Cotton cultivation occurs on an annual basis. The most commonly used species is Gossypium hirsutum, which originates in Mexico and makes up 90% of the global use. Gossypium barbadense is of Peruvian origin and constitutes 5% of the world’s cotton cultivation (FAO, 2009).

As it pertains to the historical origin of cultivated cotton, two geographical areas are relevant. The first is Asia, specifically the region of Pakistan and India. The second is the Americas, specifically Mexico. The earliest remains of cotton capsules and textiles date back to 5800 BC (Bremen Cotton Exchange). The first known use for cotton is that of spun and woven textiles. Historical data suggests that in the first century, Arab traders brought the first cotton products to Europe. The invention of the spinning machine (1738) and the cotton gin (1793) paved the way for modern cotton manufacturing (Global Organic Cotton Community). Although alternatives such as flax fibers have been used throughout history, cotton has become the most utilized natural fiber in the global textile industry (FAO, 2009).

Organic Cotton

To be considered organic, cotton growing conditions must follow government and industry guidelines. This includes the elimination of conventional chemical-intensive farming methods that utilize growth regulators, fertilizers and pesticides. These practices must be replaced with natural and non-chemical alternatives such as crop rotation, i.e. cultivating cotton in turn with other crops. This improves soil fertility and water storage. Furthermore, the use of genetic-

[2] Equivalent to 220 lbs. of seed yielding 77 to 93 lbs. of fiber

engineering is prohibited for all organic farming (FAO, 1999; Soil Association, n.d.).
Organic cotton is processed by meeting the requirements of a sustainable cotton value chain. Organic farming is not only based on the absence of inorganic synthetic treatment, but also on careful planning of the farming system as a whole. Methods and products must have a low impact on the environment (Menezes). Certifications and standards play an essential part in validating the use of these sustainable materials and production procedures (Umweltinstitut München e.V., 2012).

Better Cotton Initiative

"The Better Cotton Initiative (BCI) is a multi-stakeholder initiative that brings together producers, ginners, mills, traders, manufacturers, retailers, brands and civil society organizations in a unique partnership to transform cotton to more sustainable production and to secure the future of the sector" (ICAC, 2011).

Organic cotton and the BCI complement each other and are similar to some extent. However, the following table will provide an overview on the similarities and differences regarding the two approaches:

Table 1: Overview on the major differences between Organic cotton and BCI (OCC, 2008)

Characteristics	**Organic Cotton**	**BCI**
Use of synthetic pesticides	No	Restricted
Use of synthetic fertilizers	No	Restricted
Use of genetically modified cotton seeds	No	Yes (if legal)
Requirements on water saving techniques	Recommended	Yes
Premium price paid to farmers	Yes	No
Minimum standards on working conditions	Depending on the specific Organic Standard	Yes (depends on farm system)
End product label	Yes	No (but possible)

Source: OCC, 2008

2. Production, foreign trade and consumption

Production

Organic Cotton

Organic cotton production is dependent on weather conditions, non-GM seed availability, and contamination from GM seeds. Social factors, such as political instability, are also responsible for variations in production (Textile Exchange, 2013). Recently there has been a reduction in demand due to the introduction of alternative initiatives (FIBl & IFOAM, 2014). One such example is the "Better Cotton Initiative" (BCI) which aims to improve the total output of conventional cotton. BCI is a less expensive alternative to the organic variety as it does not require certification costs and allows the use of pesticides (Textile Exchange, 2013).

In 2012, the total output of organic cotton was 138.813 metric tons of fiber. This was produced in 18 countries: India, Turkey, China, Tanzania, US, Mali, Peru, Uganda, Egypt, Burkina Faso, Benin, Kyrgyzstan, Nicaragua, Paraguay, Israel, Brazil, Senegal, Tajikistan (Textile Exchange, 2013). Table 2 provides an overview of how the top ten countries rank in terms of total organic cotton output.

Table 2: Top 10 Producers of Organic Cotton in 2011/2012

Ranking	Country	Fiber Production (mt)	%
1	India	103.004	74,2%
2	Turkey	15.802	11,4%
3	China	8.106	5,8%
4	Tanzania	6.891	5,0%
5	United States	1.580	1,1%
6	Mali	860	0,6%
7	Peru	479	0,3%
8	Uganda	456	0,3%
9	Egypt	420	0,3%
10	Burkina Faso	370	0,3%

Sources: Textile Exchange Farm and Fiber Report (2013), Organic Trade Association (2014), UN Comtrade (2014), WB (2014)

India is the largest producer of organic cotton, accounting for approximately 74% of global production in 2012 (Textile Exchange, 2013). It is important to highlight that India also ranks first in terms of compliance with OCS and GOTS standards. These standards ensure the process integrity of organic cotton production from raw material to final output (Textile Exchange, 2014).

Turkey ranks second in volume of production, contributing approximately 11% of the global output of organic cotton (Emberson, 2014). Recently it has converted a majority of its production to non-GM seeds. As a result, Turkey has become a leader in organic production, but it has sacrificed a portion of its market share of conventional cotton (Emberson, 2014). Despite its potential, it has faced several challenges due to climate change, poor growing conditions, and issues with organic cotton seed supply (Textile Exchange, 2013).

China ranks third in volume of production, and accounts for nearly 6% of global output. However, its core business is concerned with conventional cotton. Conventional cotton production is approximately 200 times greater than that of organic (Emberson, 2014). A growing producer, China's global output has increased 27% in 2012 due to high demand from both local and international markets (Textile Exchange, 2013).

Table 3 and Figure 2 illustrate a key observation. Climate issues can create volatility in cotton production totals. Texas accounts for 90% of organic cotton production in the US (OTA, 2014). In 2011, Texas was beset by long drought conditions. As a result, total US output for organic cotton dropped nearly 50% from 2010 outputs despite a significant increase in seeds planted (OTA, 2014).

Table 3: US Organic Cotton Production (2008 - 2012)

Years	Planted km^2	% Change	Percent Harvested	Total mt
2008	8.593	0%	85%	1.530
2009	10.521	23%	89%	2.336
2010	11.827	12%	95%	2.891
2011	16.050	36%	38%	1.580
2012	14.787	-8%	67%	1.931

Source: Organic Trade Association, 2014

Conventional Cotton

The global production of conventional cotton in 2012 was approximately 27,7 mil mt (Cotton Incorporated, 2014), of which an estimated 0.5% were produced organically. Table 4 outlines the top ten producers of total cotton in that same year. Many of the market leaders in total cotton have a presence in the organic cotton segment as well.

Data for the US indicate that seasonal climate conditions affect the production of conventional cotton less than that of organic cotton. (Table 5)

Table 5: US Organic and Total Cotton Production % Change (2008-2012)				
Years	Organic Production (mt)	Organic % Change Annually	Total Production (mt)	Total % Change Annually
2008	1.530	-	2.789.725	-
2009	2.336	52,7%	2.653.061	-4,9%
2010	2.891	23,8%	3.941.007	48,5%
2011	1.580	-45,3%	3.390.084	-14,0%
2012	1.931	22,2%	3.769.208	11,2%

Source: Statista, 2014

Foreign trade

Since trade data for organic cotton are scarce, the tables in this section provide data for conventional cotton (HS code: 520100). The data for conventional cotton illustrates some international trends that pertain to all types of cotton, including organic.

World Exports

The US is both a major producer and exporter of cotton. As has been stated Germany is not a producer of cotton due to poor growing conditions for the crop. Given the disparity in basic production, it is logical that US exports far exceed Germany. Table 6 illustrates the magnitude of the differential between the two countries. For instance, in 2012 the US exported nearly 2,8 mil mt of conventional cotton. Germany exported 8.892 metric tons. The corresponding trade value was US$ 6,2 b and US$ 27 mil respectively.

Table 6: US / Germany Exports of Conventional Cotton (2008 - 2012)										
Country	2008		2009		2010		2011		2012	
	Trade Value (mil US $)	Qty (mt)	Trade Value (mil US $)	Qty (mt)	Trade Value (mil US $)	Qty (mt)	Trade Value (mil US $)	Qty (mt)	Trade Value (mil US $)	Qty (mt)
US	4.832	3.012.101	3.387	2.553.161	5.748	2.962.304	8.425	2.774.193	6.247	2.760.418
Germany	21	11.307	13	7.471	21	8.431	36	10.026	27	8.892

Source: UN Comtrade, 2014

Over a five year time period, from 2008 through 2012, the ranking of the top four exporters of conventional cotton have remained constant. They are the US, India, Australia, and Brazil. As

illustrated in Table 7, there is a relatively significant drop in export quantity and corresponding trade value between fourth ranked Brazil and fifth ranked Greece.

Table 7: Top 10 Exporting Countries of Conventional Cotton in 2012		
Exporter	**Trade Value (mil US $)**	**Qty (mt)**
US	6.246	2.760.418
India	3.647	1.918.283
Australia	2.717	1.219.209
Brazil	2.104	1.052.808
Greece	550	308.485
Malaysia	441	234.876
Pakistan	373	222.065
Côte d'Ivoire	222	115.594
Zimbabwe	215	132.371
Egypt	196	72.969

Source: UN Comtrade, 2014

In 2012, the total value of global exports was nearly US$ 18.5 b (UN Comtrade, 2014). The top four exporters accounted for approximately US$ 14.7 b of the total. This is nearly 80% of the global market. The US alone accounts for approximately one-third of the global market while Germany accounts for less than 1%.

World Imports

Imports are often influenced by government regulations with the purpose of protecting domestic economies. As occurred in Argentina, countries may choose to limit organic cotton imports while they increase production and pursue export opportunities to the global marketplace (Textile Exchange, 2013).

The US imports significantly less cotton than Germany. This is because the US has a robust domestic supply and importing is less necessary. Germany does not have this same opportunity given its inability to produce. Similar to the export analysis, Table 8 illustrates the import differential between the two countries.

Table 8: US / Germany Imports of Conventional Cotton (2008 - 2012)										
Country	2008		2009		2010		2011		2012	
	Trade Value (mil US $)	Qty (mt)	Trade Value (mil US $)	Qty (mt)	Trade Value (mil US $)	Qty (mt)	Trade Value (mil US $)	Qty (mt)	Trade Value (mil US $)	Qty (mt)
US	4,8	3.528	0,1	83	1,5	428	15,9	3.624	6,7	2.180
Germany	97,2	57.439	61,9	39.864	93,1	47.321	178,6	56.632	101,3	44.871

Source: UN Comtrade, 2014

It should be noted that although Germany does not produce, many of the world's largest importers are also large producers. Table 9 outlines the top ten importing countries.

Table 9: Top 10 Importing Countries of Conventional Cotton in 2012		
Exporter	**Trade Value (mil US $)**	**Qty (mt)**
China	11.804	5.134.684
Indonesia	1.333	610.774
Turkey	1.274	613.661
Viet Nam	860	409.435
Thailand	748	305.768
Rep. of Korea	687	269.845
Pakistan	564	242.697
Malaysia	546	249.886
India	470	228.862
Mexico	450	220.087

Source: UN Comtrade, 2014

Table 9 compares to the list of the top ten global producers. In 2012, China ranked first on both the conventional cotton importer and producer lists. China gets large quantities of cotton that are later used in the textile industry. China imports cotton primarily from the US, India, and Brazil. These countries alone account for nearly US$ 8 b in trade value.

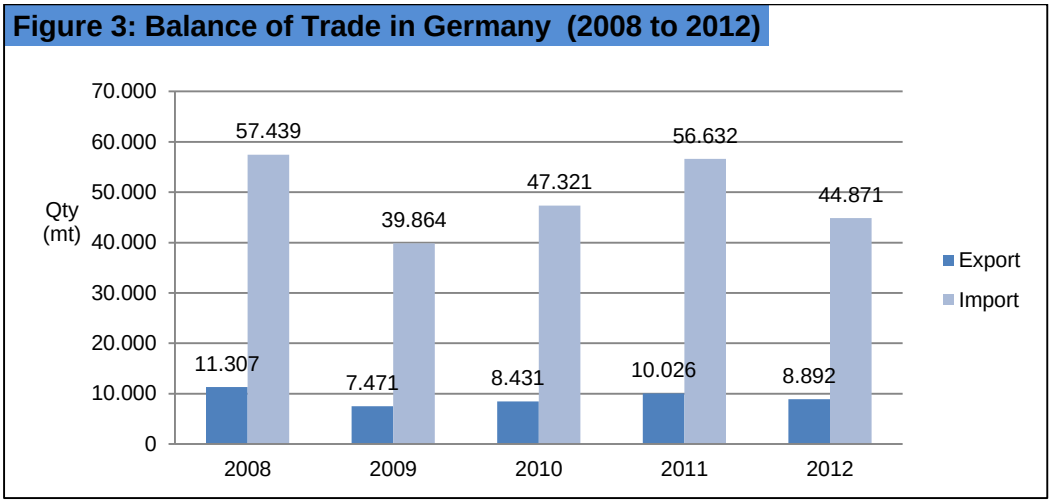
German and US trade

Germany

Trade information about organic cotton is scarce. The tables and data provided are based on conventional cotton. As the Bremer Baumwollbörse states, the most common way Germany imports organic cotton is by receiving rolls of fabric. In fact, German clothing firms, such as

Hugo Boss, work with fabrics imported by other countries rather than imported raw materials (Hugo Boss, 2012). Germany's importing cotton in processed form made it Europe's largest importer. In fact, Germany's trade with other nations is so substantial that it accounts for more than half of the EU's international trade (Economy Team, 2013). The total quantity of trade from 2008 to 2012 is outlined in Figure 3.

Figure 3: Balance of Trade in Germany (2008 to 2012)



Source: UN Comtrade, 2014

Import trade accounts for a higher percentage of the trade balance in Germany compared to export. This is significant since Germany does not produce. The overall quantity of imported cotton to Germany between 2008 and 2012 was 172,692 mt at a value of US$ 372 mil. These figures can be derived from Table 10. The table also helps illustrate that the US, Uzbekistan, and Israel are the top three exporters of cotton into Germany. They account for 13%, 9%, and 9% of the supply respectively. Germany is relatively well diversified in terms of having multiple countries supplying significant amounts of cotton.

Table 10: Major Exports to Germany (2008 - 2012)

Exporter	2008			2009			2010			2011			2012			Total	
	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Qty (mt)
US	9,3	2,12	4.400	6,9	2,21	3.121	5,8	2,69	2.155	31,4	3,37	9.323	13,3	3,29	4.054	66,8	23.053
Uzbekistan	15,4	1,61	9.582	6,0	1,44	4.173	12,7	1,87	6.772	10,0	3,54	2.831	2,7	2,25	1.198	46,8	24.555
Israel	7,9	2,06	3.850	7,5	2,03	3.702	3,7	2,31	1.616	9,4	3,47	2.702	17,8	3,59	4.968	46,4	16.837
Kazakhstan	16,5	1,63	10.165	6,6	1,45	4.555	12,0	1,76	6.804	7,4	3,65	2.016	2,7	2,24	1.198	45,2	24.738
Greece	8,1	1,52	5.347	4,4	1,26	3.488	8,6	2,38	3.599	13,5	2,88	4.685	6,9	1,80	3.813	41,4	20.932
Turkey	1,5	1,78	866	4,7	1,39	3.408	7,4	1,91	3.879	9,9	2,84	3.479	11,3	1,71	6.589	34,8	18.222
Chad	4,8	1,50	3.177	3,4	1,32	2.582	3,2	1,92	1.668	11,7	2,78	4.193	3,1	2,00	1.574	26,2	13.195
India	3,0	1,63	1.858	2,8	1,27	2.203	4,8	1,59	2.990	8,8	2,53	3.455	5,9	1,56	3.770	25,2	14.276
Sudan	5,3	1,62	3.294	2,1	1,73	1.242	2,3	1,89	1.214	11,1	3,84	2.886	1,1	2,63	427	22,0	9.063
Pakistan	0,9	2,42	352	1,7	1,94	860	1,9	2,01	970	7,0	3,33	2.092	6,0	1,69	3.545	17,4	7.819
Total	**72,8**	**1,70**	**42.9**	**46,2**	**1,57**	**29.3**	**62,4**	**1,97**	**31.7**	**120**	**3,19**	**37.7**	**70,8**	**2,27**	**31.1**	**372**	**172.7**

Source: UN Comtrade, 2014

It is interesting to observe price developments for exporting countries. There is a tendency towards price increase, with some countries' prices doubling, as for the US. Unlike the others, India experienced a reduction of price from 2008 to 2012. Some other countries, such as Greece, experienced a price increased followed by a strong price decrease. This is ascribable to the strong economic crisis that hit the country during the observed period. As a general trend, all the countries experienced a price decrease from 2011 to 2012.

Table 11 outlines German exports over the same five-year period. The total export quantity is relatively small compared to import, it is measured at 39,944 mt and US$ 104 mil over the five-year period. The Czech Republic, Switzerland, and Austria account for nearly 80% of the export trade value during that timeframe. Germany is not a cotton producing country; therefore, all exports from Germany are defined as re-exports from other countries (Spiesecke, 2014).

Table 11: Major Imports from Germany (2008 - 2012)																	
Importer	2008			2009			2010			2011			2012			Total	
	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Qty (mt)
Czech Republic	8,2	$1,80	4.5	5,2	$1,54	3.4	7,7	$2,39	3.2	10,0	$3,85	2.6	4,8	$2,80	1.7	35,9	15.4
Switzerland	0,0	$14,29	1	0,5	$2,56	212	1,1	$2,39	447	10,5	$3,73	2.8	11,3	$3,98	2.8	23,4	6.3
Austria	4,4	$1,81	2.4	4,2	$2,39	1.760	2,2	$2,69	800	5,9	$3,71	1.6	4,3	$3,70	1.2	21,0	7.7
Italy	1,0	$1,80	534	0,8	$1,90	409	1,6	$2,64	591	1,9	$4,36	429	1,4	$2,34	589	6,6	2.5
Bangladesh	1,3	$1,95	647	-	-	-	0,4	$3,45	105	0,6	$5,45	103	2,1	$2,31	887	4,2	1.7
China	1,5	$2,81	544	-	-	-	0,7	$3,32	208	1,1	$3,79	277	-	-	-	3,3	1.0
Vietnam	1,2	$1,06	1.1	0,7	$0,97	669	0,6	$1,07	572	0,5	$1,49	310	0,2	$1,15	176	3,1	2.8
Poland	0,1	$1,45	89	0,2	$1,47	151	0,7	$3,29	224	1,3	$4,53	290	0,2	$2,35	92	2,6	846
Slovenia	0,3	$1,74	198	0,4	$1,86	218	0,6	$2,14	264	0,6	$4,18	137	0,2	$2,07	115	2,1	931
Thailand	-	-	-	0,3	$2,81	100	1,3	$3,60	354	0,3	$5,33	56	-	-	-	1,9	510
Total	**18,0**	**$1,78**	**10.1**	**12,3**	**$1,78**	**6.9**	**16,7**	**$2,46**	**6.8**	**32,5**	**$3,78**	**8.6**	**24,5**	**$3,23**	**7.6**	**104,0**	**39.9**

Source: UN Comtrade, 2014

The United States

For the purpose of comparison, major import and export tables are created for the US in the same way they were produced for Germany. The data in the table is based on HS Code 520100, which does not differentiate between organic and non-organic cotton.

Table 12 illustrates how little cotton the US imports from other countries. Over a five year period from 2008 through 2012 the US imported a total of 9,810 mt which accounted for US$ 29 mil of trade value. For the sake of comparison, the import activity in the US (9,810 mt) was over 17 times less than the import activity in Germany (172,692 mt) during the same time frame. Of the top ten major exporters to the US, Egypt and Turkey account for nearly 80% of the supply during that timeframe.

Table 12: Major Exports to the US (2008 - 2012)

Exporter	2008			2009			2010			2011			2012			Total	
	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (mt)	Trade Value (mil US$)	Qty (mt)
Egypt		-		-	-	-	1,3	3,54	380	8,8	5,80	1.519	4,3	3,11	1.386	14,5	3.284
Turkey	4,5	1,36	3.266	-	-	-	-	-	-	1,6	3,20	494	2,0	3,06	649	8,0	4.409
Brazil	0,0	1,36	3	-	-	-	0,1	3,17	20	5,5	3,46	1.592	-	-	-	5,6	1.615
India	0,1	1,36	80	-	-	-	0,0	0,61	9	-	-	-	0,3	2,80	101	0,4	190
Indonesia	0,2	1,36	151	-	-	-	-	-	-	-	-	-	-	-	-	0,2	151
Pakistan	-	-	-	-	-	-	-	-	-	0,0	0,63	19	0,2	3,63	44	0,2	63
Finland	-	-	-	0,1	3,34	21	-	-	-	-	-	-	-	-	-	0,1	21
Australia	-	-	-	-	-	-	0,1	2,60	20	-	-	-	-	-	-	0,1	20
United Kingdom	0,0	1,36	26	-	-	-	-	-	-	-	-	-	-	-	-	0,0	26
China	-	-	-	0,0	0,86	31	0,0	2,77	0	0,0	7,50	0	0,0	11,37	0	0,0	32
Total	**4,8**	**1,36**	**3.526**	**0,1**	**1,86**	**52**	**1,5**	**3,42**	**428**	**15,9**	**4,39**	**3.624**	**6,7**	**3,09**	**2.180**	**29,0**	**9.810**

Source: UN Comtrade, 2014

Table 13: Major Imports from the US (2008 - 2012)

Importer	2008			2009			2010			2011			2012			Total	
	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Qty (k mt)
China	1.632	$1,60	1.018	826	$1,35	610	2.064	$1,95	1.058	2.562	$2,85	897	3.422	$2,29	1.492	10.506	5.074
Turkey	537	$1,54	347	487	$1,22	398	862	$1,87	460	1.180	$2,91	405	589	$2,08	284	3.656	1.895
Mexico	476	$1,60	298	397	$1,36	293	609	$1,93	316	780	$3,11	251	398	$2,05	194	2.661	1.352
Indonesia	455	$1,65	276	235	$1,26	186	294	$1,94	152	530	$3,34	159	194	$2,47	79	1.708	851
Thailand	272	$1,55	176	165	$1,28	129	256	$1,92	133	403	$3,38	119	177	$2,45	72	1.274	629
Viet Nam	193	$1,54	125	171	$1,16	147	253	$1,87	135	369	$2,72	136	248	$1,96	127	1.234	670
Rep.of Korea	125	$1,69	74	85	$1,33	64	158	$1,99	79	394	$3,52	112	163	$2,59	63	924	392
Pakistan	160	$1,73	92	187	$1,22	153	147	$2,10	70	258	$3,14	82	124	$2,29	54	875	451
Bangladesh	101	$1,63	62	123	$1,38	89	163	$2,04	80	329	$3,74	88	85	$2,28	37	802	356
Other Asia	131	$1,51	87	103	$1,19	86	190	$1,88	101	175	$2,84	62	156	$1,88	83	754	418
Total	**4.081**	**$1,60**	**2.555**	**2.781**	**$1,29**	**2.156**	**4.997**	**$1,93**	**2.583**	**6.979**	**$3,02**	**2.311**	**5.555**	**$2,24**	**2.484**	**24.393**	**12.089**

Source: UN Comtrade, 2014

Table 13 outlines how much cotton the US exports globally. For instance the US imported 9,810 mt of cotton during the 2008 - 2012 timeframe. It was during that time the US exported 12,089,000 mt with a trade value of US$ 28.6 b (UN Comtrade, 2014). Of that amount, the primary export destination was China sourcing 36.7% of that supply. China was followed by Turkey receiving 12.8%, Mexico 9.3%, and a number of different Asian countries which constitute the remaining 41.2%.

Table 13: Major Imports from the US (2008 - 2012)

Importer	2008			2009			2010			2011			2012			Total	
	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Calc Price US$/kg	Qty (k mt)	Trade Value (mil US$)	Qty (k mt)
China	1.632	$1,60	1.018	826	$1,35	610	2.064	$1,95	1.058	2.562	$2,85	897	3.422	$2,29	1.492	10.506	5.074
Turkey	537	$1,54	347	487	$1,22	398	862	$1,87	460	1.180	$2,91	405	589	$2,08	284	3.656	1.895
Mexico	476	$1,60	298	397	$1,36	293	609	$1,93	316	780	$3,11	251	398	$2,05	194	2.661	1.352
Indonesia	455	$1,65	276	235	$1,26	186	294	$1,94	152	530	$3,34	159	194	$2,47	79	1.708	851
Thailand	272	$1,55	176	165	$1,28	129	256	$1,92	133	403	$3,38	119	177	$2,45	72	1.274	629
Viet Nam	193	$1,54	125	171	$1,16	147	253	$1,87	135	369	$2,72	136	248	$1,96	127	1.234	670
Rep.of Korea	125	$1,69	74	85	$1,33	64	158	$1,99	79	394	$3,52	112	163	$2,59	63	924	392
Pakistan	160	$1,73	92	187	$1,22	153	147	$2,10	70	258	$3,14	82	124	$2,29	54	875	451
Bangladesh	101	$1,63	62	123	$1,38	89	163	$2,04	80	329	$3,74	88	85	$2,28	37	802	356
Other Asia	131	$1,51	87	103	$1,19	86	190	$1,88	101	175	$2,84	62	156	$1,88	83	754	418
Total	**4.081**	**$1,60**	**2.555**	**2.781**	**$1,29**	**2.156**	**4.997**	**$1,93**	**2.583**	**6.979**	**$3,02**	**2.311**	**5.555**	**$2,24**	**2.484**	**24.393**	**12.089**

Source: UN Comtrade, 2014

Apparent consumption

Organic Cotton

Analysis of apparent consumption requires production, import, and export data. Although production data is available for organic cotton, import and export data is not. Therefore the focus will shift to conventional cotton.

Conventional Cotton

Table 14 outlines apparent consumption of conventional cotton for both Germany and the US during the timeframe of 2008 and 2012. Germany has no production, so apparent consumption only accounts for the difference between import and export. Consumption peaked in 2011 at 46,606 mt, driven by a three-year increase in imports. During this timeframe consumption was relatively steady, ranging between 32,000 and 47,000 mt. The longest trend was three years of growth from 2009 to 2011, followed by a decline in 2012.

Unlike Germany, the US is a significant producer of cotton. Therefore apparent consumption becomes a function of US exports minus US production and imports. These factors are illustrated in Table 14. Between 2009 and 2010 US production increased nearly 50% from 2.65 mil mt to 3.94 mil mt. Consumption increased nearly 10 times its original amount during this same two year timeframe (99,983 mt in 2009 to 979,131 mt in 2010). In 2011 the drought in Texas reduced US production. During that timeframe there was a marginal increase in imports to compensate (428 mt in 2010 to 3,624 mt in 2011), however consumption ultimately dropped approximately 37% before rebounding over 1 mil mt in 2012.

Table 14: US/Germany Estimated Consumption of Conventional Cotton (2008-2012)

	US					Germany				
Year	Production (mt)	Import (mt)	Export (mt)	Apparent Consumption (mt)	Per capita consumption (kg)[3]	Production (mt)	Import (mt)	Export (mt)	Apparent Consumption (mt)	Per capita consumption (kg)
2008	2.789.725	3.528	3.012.101	-218.848	-0,720	0	57.439	11.307	46.131	0,562
2009	2.653.061	83	2.553.161	99.983	0,326	0	39.864	7.471	32.393	0,396
2010	3.941.007	428	2.962.304	979.131	3,165	0	47.321	8.431	38.890	0,476
2011	3.390.084	3.624	2.774.193	619.515	1,988	0	56.632	10.026	46.606	0,570
2012	3.769.208	2.180	2.760.418	1.010.970	3,221	0	44.871	8.892	35.979	0,447

Source: Statista (2014), UN Comtrade (2014), WB (n.d.)

[3] 1 mt =1000 kg

3. Market characteristics

In the early 1990s, organic cotton was marketed and used for its ecological characteristics (International Trade Centre, 2007). In recent years, the demand for clothing made of organic cotton has continued to increase. As production has increased, major apparel companies like Nike and H&M have expanded their organic cotton usage (Textile Exchange, 2014). Companies such as these have continued to grow their sustainability programs, and environmental awareness among consumers has become more widespread. Organic cotton has benefited from the increased awareness, and as a result, manufacturer demand for organic cotton has increased.

Germany

Germany is the most populous European country and has the largest market for organic products. Many German consumers consider it a company's ethical and social responsibility to provide such products. As a result, awareness of sustainable and organic commodities is an important consideration for consumers as it supports the continued growth of a green market in Germany (Shen, Richards, & Liu, 2013).

Consumer Preferences

Germany imports organic cotton primarily from Turkey, Kazakhstan, and the US (UN, 2013). Transparency in the supply chain is important. German retailers and consumers want confidence in the origin, plant conditions, and quality of the finished product.

Market Segments

The primary markets for organic cotton can be divided into the following segments:

- Lifestyle of Health and Sustainability (LOHAS) consumers
- Women between ages of 28 and 47
- Parents of newborn children
- Businesses interested in having a sustainable supply chain

The LOHAS segment represents between 5% and 30% of the German population. This segment seeks ecological products and typically has a higher income. The yearly gross income is about 32,000 € on average and these consumers are focused on higher value which includes an emphasis on social causes and sustainability (SevenOneMedia, 2009). Market research indicates that well-educated women between 28 and 47 years of age prefer clothing made out of organic cotton. This group is willing to pay a premium for organic fashion (Steinbach, 2010).

There is also a segment of parents seeking ecological clothing and organic foods. Many parents desire hypoallergenic products for their families to avoid skin irritation and allergy related issues. There are retailers who cater to these parents and offer 100% organic cotton baby wear clothing (ITC, 2007).

An increasing number of German based companies have taken an interest in introducing organic cotton in their product lines (e.g. Tchibo, C&A, Otto group). Their desire is to strengthen their sustainability reputation with consumers by using more organic cotton in the coming years.

Conditions of Acceptance

Germans prefer to have evidence that an ecological product is produced organically and that the company is not "green washing" (i.e. deceptively market its products as environmentally friendly). It is common to have seals of approval on product labels verifying that a product has the characteristics desired by green-minded consumers. Notwithstanding, ecological and social products cannot always be recognized reliably because the number of German test labels has expanded, i.e. there are many unofficial, company-dependent labels not being verified by an official agency (Organic-Market.info, 2010).

Competition

Goods made with organic cotton are priced higher than those made with conventional cotton, due in part, to the higher cost of production and lower yield. Nevertheless, major German textile and clothing companies are interested in converting their production lines to higher-value items, such as organic. Furthermore, discounters are trying to establish an organic food and clothing market for their customers, which makes ecological products more available to everyone.

Demand Trends

There is clearly a positive trend concerning the entire eco-textile industry in Germany (Umweltbundesamt Deutschland, 2013). Many German based companies are expected to establish organic product lines in the coming years. In 2011, C&A (known for lower prices) was the second largest organic cotton user, selling 110 million garments a year. In 2011, the company began a decade-long project to convert all of its clothing products to 100% organic cotton (Textile Exchange, 2012; C&A, 2014). In 2013, Tchibo was sixth in the top ten users by volume. Swedish-based H&M remains the largest user of organic cotton and most of its stores are located in Germany. It also has a goal to convert a large percentage of its products to organic cotton by the year 2020 (H&M, 2013).

The United States

US-based apparel companies are some of the fastest growing and largest users of organic cotton (Textile Exchange, 2013). In 2013, four of the top 10 organic cotton users by growth were US-based apparel companies (Textile Exchange, 2013). As consumers become increasingly aware of organic options and sustainable practices by corporations grow, the organic cotton market will continue to experience changes and growth.

Consumer Preferences

Consumers are willing to pay a premium price for high quality organic cotton apparel (Ellis, McCracken, & Skuza, 2012). Businesses need suppliers that can consistently meet the increase in demand (Textile Exchange, 2013).

Market Segments

US organic cotton consumption represents approximately 41% of global production and trade (International Trade Centre, 2007). Apparel companies are the largest users of organic cotton and represent the most significant market segment for organic cotton producers (Textile Exchange, 2013). Consumers seeking organic cotton apparel tend to be young and high-income earners (Shen, Richards, & Liu, 2013). The LOHAS in the US describe an estimated $290 billion US marketplace for goods and services focused on health and represent approximately 13-19% of the adults in the US (LOHAS, 2010).

Conditions of Acceptance

Consumers in the US market expect regulations and accreditations that ensure they are purchasing authentic organic cotton apparel (OTA, 2014). Consumers of organic cotton apparel have expressed interest in purchasing sustainable apparel, but organic cotton apparel still represents an extremely small percentage of the marketplace (Shen, Richards, & Liu, 2013).

Competition

As in the German market, conventional cotton is the major competitor to organic cotton in the US market. According to industry experts, organic cotton continues to represent less than 1% of the overall cotton market. Organic cotton has traditionally carried a premium price compared to conventional cotton. In the US, price sensitivity has carried more weight than sustainable and ethical production practices (Shen, Richards, & Liu, 2013). Another major competitor to the growth of organic cotton is the BCI. Many cotton farmers switch production to organic methods when conventional cotton prices are low, but switch back to conventional cotton production when prices are higher. The farmer can produce conventional cotton cheaper than organic cotton. By implementing BCI principles, the farmer intends to satisfy the minimum sustainability requirements of the customer without switching to 100% organic methods.

Demand Trends

As consumer trust in the organic process increases, so does demand for organic cotton products (Textile Exchange, 2014). In a survey issued by the Textile Exchange in 2013, manufacturers reported a 30% increase in the sales of organic cotton items. In the same survey, 46% said they have growth targets for organic cotton consumption in the coming years. Global sales and demand are growing for organic cotton apparel, and according to a study from Washington State University, consumers are willing to pay approximately a 25% premium for organic apparel (Ellis, McCracken, & Skuza, 2012).

4. Market access

Tariffs

Germany

A consistent standard applies to all EU countries, including Germany, for tariffs (EU, 2012). The EU requires no import duties on cotton that is not carded or combed and originates from a MFN (European Commission, 2014). Import duties on countries, which are not MFN, depend on the individual trade agreement. There are essentially no further trade agreements with higher tariffs countries, because the tariff with a MFN is zero (European Commission, 2014).

The United States

There are twelve 8-digit HS codes for cotton in the current US tariff schedule. Four codes (5201.00.14, 5201.00.24, 5201.00.34, 5201.00.60) have quantitative import limitations in the current 12-month period (USITC, 2014). Three codes have no general rate of duty and the remaining nine codes have general and specific special rates of duty. The general rate of duty differs from 1.5¢/kg to 31.4¢/kg. Specific information can be found in Table 15.

Table 15: US Import Tariffs for Cotton 2014

HS Code	Article Description	Rates of Duty	
		General	Special*
Having a staple length under 28.575mm (1-1/8 inches)			
5201.00.05	(all three 8-digit HS codes are free with no special rate of duty)	Free	
5201.00.12	(all three 8-digit HS codes are free with no special rate of duty)	Free	
5201.00.14	(all three 8-digit HS codes are free with no special rate of duty)	Free	
5201.00.18	Other	31.4¢/kg	
Having a staple length of 28.575mm (1-1/8 inches) or more but under 34.925mm (1-3/8 inches)			
5201.00.22	Described in general note 15 of the tariff schedule and entered pursuant to its provisions	4.4¢/kg	
Other, harse or rough, having a staple length of 29.36875mm (1-5/32 inches) or more and white in color (except cotton of persished staple, grabbots and cotton pickings)			
5201.00.24	Described in additional U.S. note 6 to this chapter and entered pursuant to its provisions	4.4¢/kg	
5201.00.28	Other	31.4¢/kg	

5201.00.34	Described in additional U.S. note 7 to this chapter and entered pursuant to its provisions	4.4¢/kg	
5201.00.38	Other	31.4¢/kg	
Having a staple length of 34.925mm (1-3/8 inches) or more:			
5201.00.55	Described in general note 15 of the tariff schedule and entered pursuant to its provisions	1.5¢/kg	
5201.00.60	Described in additional U.S. note 8 to this chapter and entered pursuant to its provisions	1.5¢/kg	
5201.00.80	Other	31.4¢/kg	

Source: WTO (n.d.), MACMAP (n.d.)
*See Harmonized Tariff Schedule of the United States (2014)(Rev.1) for specific special rates of duty for each 8-digit HS code

Standards and regulations

Germany

Council Regulation (EC) No 834/2007 provides guidelines on all stages of production, preparation, and distribution of organic products. It defines organic production as "…use of the production method compliant with rules established in this Regulation, at all stages of production, preparation, and distribution." Using GMOs are prohibited in the production of organic products. The principles specific to farming include how the soil will be maintained, recycling of wastes, consideration of surrounding environments, and the maintenance of plants (Organic Cotton Community, 2014).

The United States

The USDA requires all products that exhibit its organic seal to be certified to its organic standards. Within the USDA, the National Organic Program oversees regulations and production standards for suppliers. Certification can be done by any entity that is accredited through the USDA. A list of US and international certifying agents may be obtained from the USDA. No product can claim in labeling or promotion that it is organic without this certification (USDA, 2014).

There is a mutual recognition of the organic standards between the EU and the US since 2012 (European Commission, 2012).

Non-tariff barriers

Germany

On June 23, 2014 the Council of the EU established Council Regulation (EU) No 692/2014. This regulation prohibits the import of goods originating in Crimea or Sevastopol unless there is a trade contract that concluded prior to June 25, 2014 (EU, 2014).

The United States

The US is allowed to use a special import quota. As stated in §9037 of Title 7 in the US code, the Secretary can announce a quota for four weeks if the price of US cotton is higher than the world market price. The quota is set at the average per week consumption over the previous three-month period (USDA, 2014).

5. Prices

Organic cotton is a growing segment within the overall cotton market. This growth is due to the appeal it has with socially responsible buyers who see the value in organic products. However organic cotton price is subject to many of the same factors that drive supply and demand in conventional cotton trade. Such factors include variation in seasonal weather conditions, inflation, emerging market suppliers, and government intervention. These have led to price volatility in the marketplace since 2008.

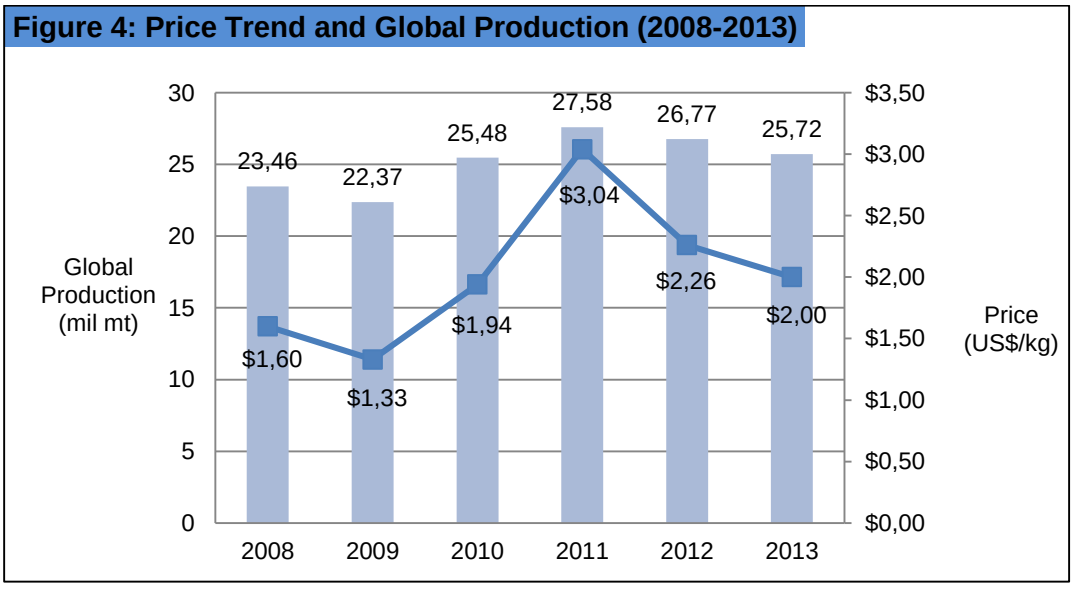
Producer pricing

India, China, the US, Pakistan, and Brazil were the five largest cotton producers in 2012. As a result of their large market share, fluctuations in their supply could create equally significant fluctuations in pricing.

For instance, weather conditions and climate change can have a negative impact on regional production. This could lower supply and cause prices to increase. In the past ten years, organic cotton farmers have encountered flooding in Pakistan, monsoons in India and China, and drought conditions in the US (The Week, 2011).

Weather is just one of many factors that influence pricing. Emerging markets such as China and India have increased their production. Figure 4 suggests that the increases in global production that began in 2009 peaked in 2011. This corresponds with a significant increase in annual average price. This price level was unsustainable, and in 2012 and 2013 both prices and production decreased.

Figure 4: Price Trend and Global Production (2008-2013)



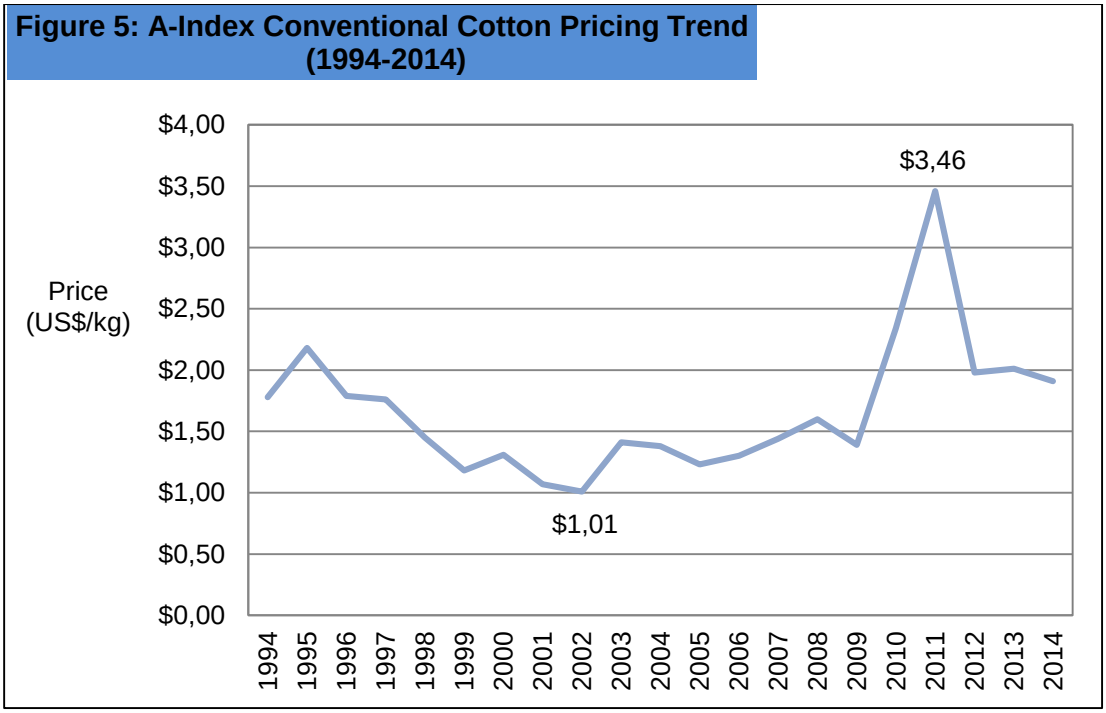
Source: Statista (2014), UN Comtrade (2014)

Wholesale pricing

Wholesale cotton is sold in a variety of ways. One of the more common methods is to sell it in raw form for spinning purposes. The minimum order quantity is 100 mt. Customers have options to purchase both 100% organic or conventional raw cotton. Based on observations for wholesale prices at Alibaba.com organic cotton currently trades for approximately US$ 2.00 - US$ 2.70 per kg while conventional cotton is approximately US$ 1.98 – US$ 2.15 per kg (Alibaba, 2014).

Figure 5 provides history of conventional cotton pricing over the last twenty years. The A-Index on the National Cotton Council website provides data on averages of five different internationally traded quotes for cotton at a given point in time. From 1994 through 2009, cotton pricing fluctuated between US$ 1.00 and US$ 2.00 per kg. However, in 2010 the industry began experiencing unusual increases in prices, reaching its highest mark of US$ 3.46 per kg before settling back under US$ 2.00 per kg in 2014.

Figure 5: A-Index Conventional Cotton Pricing Trend (1994-2014)



Source: Statista (2014), UN Comtrade (2014)

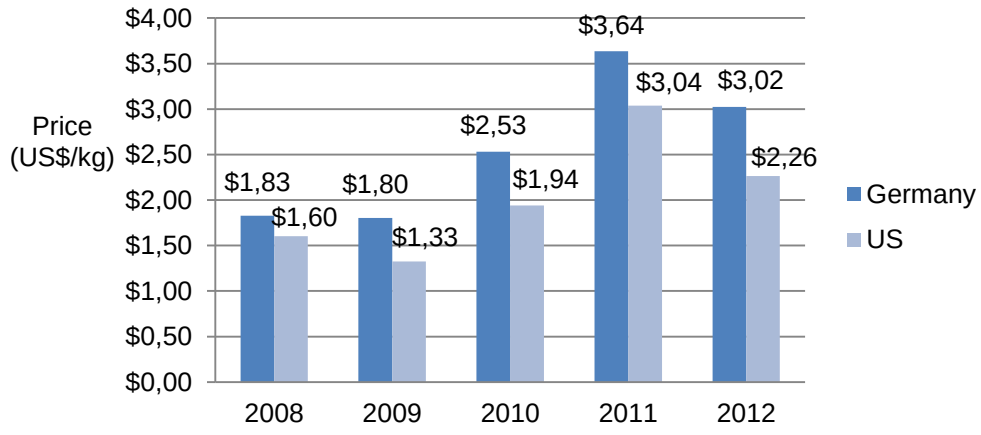
Many factors contributed to the pricing volatility between 2010 and 2012. Producers observed a sharp increase in price that coincided with a forecast for higher consumer demand. As a result more suppliers began to saturate the marketplace. Mid-level producing regions such as West Africa and Turkey/Greece increased their supply by 17% and 27% respectively (Cummans,

2011). At a wholesale level, when speculated demand failed to materialize in countries such as China and India, the market began to cool off and prices fell in 2012 (Cummans, 2011).

It should be noted that government intervention also has an impact on pricing. In the past five years, India has implemented export quotas that have prevented them from meeting demand opportunities in key export regions such as China. Another tactic is government subsidies. The US currently subsidizes cotton producers, which affords them a price advantage not currently available to farmers in regions such as West Africa. Government policy has the potential to hinder natural market reactions when increasing demand is met with unpredictable supply due to the weather or some other reason.

Although pricing in the past five years has been relatively volatile, Figure 6 illustrates that German and US pricing have followed the same global trend as shown in Figure 5. The individual prices mentioned in Figure 5 are per year averages based on annual trade value and quantity of trade for each country. Between 2008 and 2012, the US price per kg was consistently lower than the German equivalent.

Figure 6: US and German Wholesale Pricing for Cotton (2008-2012)



Source: UN Comtrade, 2014

Retail pricing

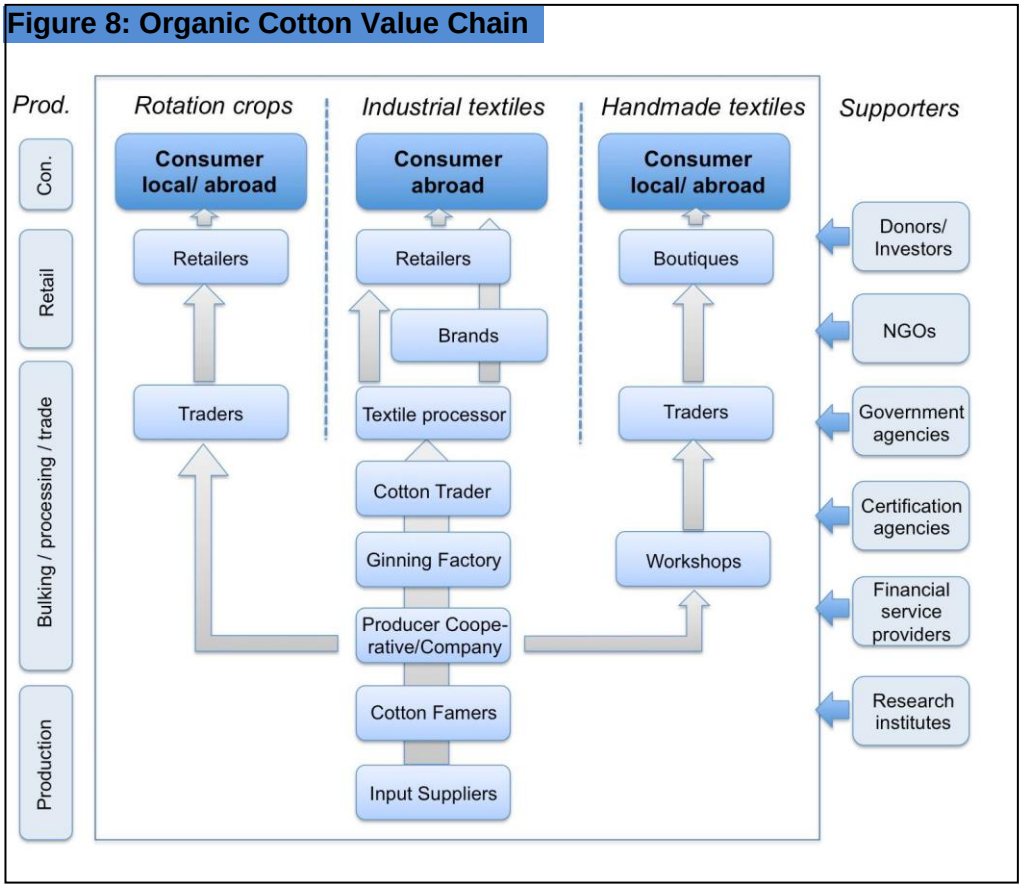
Raw cotton is used in many different applications from clothing to household and industrial products. These products have a wide range of prices. However, at the retail level, high prices drive the use of cotton substitutes. Cotton is the primary raw material used by the textile industry. Nevertheless, there are alternatives such as wool and polyester. High prices cause

retailers to seek out these alternatives. High prices cause new suppliers to enter the marketplace. Prior to 2011, some farmers chose to switch their fields to more lucrative crops when cotton prices dropped as low US$ 1.78 per kg (Antoshak, 2011).

Value chain

The value chain for organic cotton starts at the producer level with farms located in many different countries. After harvesting, the cotton is refined in a process called ginning before the fiber is packaged in bales, strapped to a pallet, and typically trucked directly to the domestic customer or to a centralized shipping location for export (FOB). It is at this point the price structure is initiated with the average per annual pricing found in Figure 5. Beyond the trade price agreed upon in the quote, there is the additional cost of insurance and freight to transport the cotton internationally. The estimated price structure in value chain varies as CIF fees are country dependent and retail applications for cotton are numerous.

Figure 8: Organic Cotton Value Chain



Source: The Organic Business Guide, 2010

6. Distribution channels

Transparency and accountability are important to textile companies when managing the relationships with their suppliers. German and American consumers interested in sustainable products place importance on the authenticity of those products. Managing the supply chain closely can help ensure transparency, accountability and authenticity objectives are met.

Cotton is considered a commodity. The supply chain has six to seven stakeholders, which add complexity to the management of the whole chain – especially if the supply chain includes international participants (Environmental Justice Foundation, 2009). Strong relationships between key stakeholders in the supply chain allow to better understand and manage the needs of its producers. A direct relationship between producers and consumers also guarantees relevance and viability in the long term (ITC, 2007). The time required to build and develop these relationships is a barrier to entry for prospective exporters.

To ensure the quality management of the organic cotton product, standards and regulations have to be maintained and followed throughout the supply chain. In the US, textile mills that buy raw cotton generally purchase it from two types of suppliers (Cotton Council, 2014):

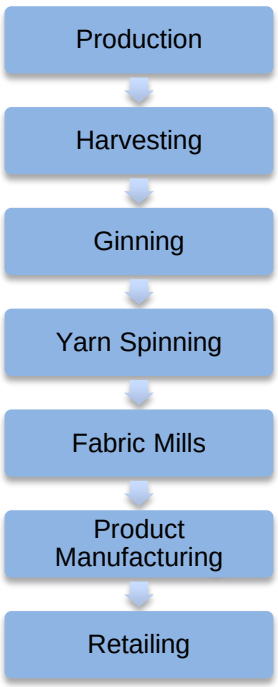
- US Cotton Merchants (members of the American Cotton Shippers Association[4]; private firms buying cotton in the United States and selling it to overseas mills)
- US Marketing Cooperatives (members of AMCOT[5]; producer-owned organizations).

According to the Textile Exchange 2013 Organic Cotton Report, apparel companies have increased their use of organic cotton. Clothing companies like H&M and Nike list their sustainability initiatives on their corporate websites.

[4] An organization comprised of merchants, primary buyers and mill service agents handling over 80% of the US cotton sold in domestic and foreign markets (American Cotton Shippers Association, 2014)

[5] A trade association representing the combined interests of America's cooperative cotton grower members (AMCOT, 2014)

Figure 8: Supply Chain of Cotton



Source: Environmental Justice Foundation, 2009

In general, cotton is produced through contract farming, defined as growers who have a contract to produce organic cotton for a specific buyer) (Blackburn, 2009).

Grown cotton is then harvested, ginned, spun, and converted into marketable product. Once complete, it is shipped to warehouses where it is sampled to establish its fiber characteristics. At the retail-level, cotton can be maintained in-store for extended periods, usually without suffering any deterioration (Ecom Agroindustrial Corporation Ltd., 2014).

As a natural fiber, cotton requires strict handling and procedures to ensure it is not damaged or contaminated. Bales of cotton are purchased by spinning mills that blend various qualities of cotton and spin its fibers into cotton yarn. The process from yarn to finished good can be completed either in one integrated fabric mill or in many different mills that each perform different steps in the fabrication process (Ecom Agroindustrial Corporation Ltd., 2014).

Clothing and textiles made of organic cotton are finally sold through these retail outlets:

- Locations in high-end fashion streets
- Supermarkets
- Natural and health food stores
- Specialty boutiques
- Mail orders (especially in Germany) (ITC, 2007).

Since the quality is grown into the cotton itself, it is difficult to add at any other level of the value chain. Ginners thus play an important role in determining cotton quality, because with the help of agents, they interface between the farmers and the market (US AID, 2008). Due to the risk inherent in all transactions, this requires a great deal of confidence for all parties involved: producers, textile mills and merchants.

7. Commercial practices

Within the cotton industry, trade is usually conducted under a standardized set of terms and conditions and the majority of cotton trade is taking place under ICA (International Cotton Association Ltd.) bylaws and rules. International trade generally involves a bill of landing and additional documentation. Based on internationally accepted standards, cotton is usually sold in lots, varying in size according to its origin and shipped in 40 foot containers (ITC, 2007).

Germany

There are many organic cotton importers in Germany as the market is substantial and growing. Import transactions are initiated in many forms. The most common way is via an intermediary, an agent or a broker who is acting on behalf of the supplier. Both agents and brokers declare the name of buyer and seller. Agents hold knowledge of their markets, practices and pay attention to the individual needs in terms of quality and support of the individual buyer. To the seller, they provide clear understanding of the market and sales potentials. Agents are mostly appointed by the seller (the principal) and receive a commission. Broker also receive a commission but do not act as a representative of either party. Agents or brokers, who do not declare the name of the buyer, operate as traders and take the cotton over in their name (ITC, 2007).

Import orders can be placed over the phone, fax, or email. Given the advent of B2B online commerce, orders can also be processed entirely online. Web entities such as the Germany Business Hub[6] and Fabrics2Fashion[7] connect producers, manufactures, wholesalers, and B2B buyers of organic cotton. Many import transactions in Germany are conducted directly between sellers and buyers. They adhere to 30/60/90-day account terms. In some cases a payment against document is required (Export.gov, 2014). Contractual orders in Germany usually include Incoterms®, which specify precise delivery terms and shipment methods.

Contracts define exact payment terms, consequences of default, warranties, and matters of jurisdiction (Haacke, 2011). The most popular method of payment is electronic funds transfer. This method is fast, cost effective, secure, and transparent. Payments in advance of the actual shipment are atypical in Germany (Export.gov, 2014).

[6] More information can be found here: www.germanybusinesshub.com

[7] More information can be found here: http://fabrics.fibre2fashion.com/

The United States

The import process in the US is similar to that of Germany. Contact is usually initiated via an agent or a broker. Agents and brokers follow the same definition and hold the same tasks as it is in the case described above for Germany. Orders can be placed over the phone, fax, or email. Orders can also be placed online, and the US adheres to 30/60/90-day account terms. Again, there are several methods to settle trade payments in the US, including cash in advance, letter of credit, and collection or draft. As non-food item, organic cotton is exempt from organic food import regulations (ITC, 2007).

8. Packaging and labeling

Packaging

Both conventional and organic cotton are packaged in standard units called bales. After ginning, the cotton material is dried, cleaned, and packed into bags for transportation to the customer. A bale is comprised of the bag in which the cotton is packed, straps to give the bag shape and rigidity, and shrink wrapped to provide an extra layer of protection from weather conditions (Estur, 2007).

Bags are made of polyethylene, polypropylene, burlap, or woven cotton material. Strapping is made of steel or plastic. While steel is stronger than plastic, plastic is lighter and less expensive. Packaging suppliers have modified their products to improve performance while decreasing material usage and overall shipping weight per bale[8] (Estur, 2007).

International organizations are working to create a standard bale size to improve package quality and reduce transportation costs. In 2001, the JCIBPC (Joint Cotton Industry Bale Packaging Committee) published dimensional standards and best practices for packaging cotton bales in the US (JCIBPC, 2001). These standards align with the international standard on dimensions and density for two different ISO-compliant bale sizes (Estur, 2007).

Specification 1

- Length: 1060 mm
- Width: 530 mm
- Height: 780-950 mm
- Density: 360-450 kg/m^3

Specification 2

- Length: 1400 mm
- Width: 530 mm
- Height: 700-900 mm
- Density: 360-450 kg/m^3

The weight of bales vary due to moisture content. In the US, bale weight is approximately 226.8 kg (JCIBPC, 2001).

[8] See ISO-1986 (E).6

Labeling

There is also an international standard for labeling conventional bales of cotton[9]. This standard is applicable for both EU and US related export. It requires that each label include a bale number, a lot number, barcode, and gin number. Furthermore the standard specifies that none of the markings on the labels are allowed to penetrate the shrink wrap or bag, and inadvertently bleed into the cotton (Estur, 2007).

There are labeling standards for organic cotton to assure its authenticity upon delivery to the buyer. In addition to the standard bale and lot identification number, each label must clearly indicate the bale is “organic cotton” and reference the field certificates that validate the contents are 100% organic.

The value of organic cotton products at the retail level can command a premium, which compensates the seller for higher materials and manufacturing costs. Textile producers use labels or tags to communicate their products are organic.

Not all organic standards are identical. GOTS is working to establish an international certification that would assure buyers their goods were made from 100% organic cotton. To establish this standard, GOTS must work with organizations such as the USDA and the IVN (International Association of Natural Textile Industry), which currently maintains the standards for labeling organic products in the US and Germany respectively.

The EU and US have a mutual acceptance on the labels of organic cotton since 2012 (European Commission, 2012).

[9] Which is defined at ISO 8115-3:1995(E)

9. Sales promotion

Organic cotton suppliers use various methods to promote their product and services. Trade fairs, exhibitions, trade magazines, special portals, industry conferences, and joining associations are important ways for suppliers to connect with manufacturers in the US and Germany. It has been well documented that conventional cotton farmers outnumber organic farmers. For this reason, networking becomes an important tactic to share best practices and promote sustainability programs.

Trade fairs and exhibitions

Germany

Munich Fabric Start
Thomas-Wimmer-Ring 17
80539 Munich
Telephone: +49 894 52 24 70
Fax: +49 894 522 47 22
E-Mail: cg@munichfabricstart.com

Biofach 2015 Into Organic
Nürnberg Messe
Messezentrum
90471 Nürnberg
Telephone: +49 911 860 689 96
Fax: +49 911 860 686 45
E-Mail: info@biofach.de

Techtextil
Frankfurt Messe
Ludwig-Erhard-Anlage 1
60327 Frankfurt am Main
Telephone: +49 697 575 0
Fax: +49 697 575 65 41
E-Mail: techtextil@messefrankfurt.com

Heimtextil
Frankfurt Messe
Ludwig-Erhard-Anlage 1
60327 Frankfurt am Main
Telephone: +49 697 575 58 85
Fax: +49 697 575 65 41
E-mail: heimtextil@messefrankfurt.com

The United States

Techtextil North America
George R. Brown Convention Center
1001 Avenida De Las Americas
Houston, Texas 77010
Telephone: +1 770 984 8016, ext. 2424.
Fax: +1 770 984 80 23
E-mail: kristy.meade@usa.messefrankfurt.com

Textile Sustainability Conference
Portland Marriott Downtown Waterfront
1401 Southwest Naito Parkway
Portland, Oregon 97201
Telephone: +1 806 428 3475
E-Mail: Conference@textileexchange.org

Sourcing at Magic
Las Vegas Convention Center
3150 Paradise Road
Las Vegas, Nevada 89109
Telephone: +1 310 857 7647
E-mail: akarapetyan@magiconline.com

Associations

Germany

Bremer Baumwollbörse
Wacht Street 17-24
28195 Bremen
Telephone: +49 421 339 70 0
Fax: +49 421 339 70 33
E-Mail: info@baumwollboerse.de

Confederation of the German Textile and Fashion Industry
Reinhardt Street. 12 – 14
10117 Berlin
Telephone: +49 307 262 20 0
Fax + 49 307 262 20 44
E-Mail: info@textil-mode.de

The United States

International Cotton Advisory Committee (ICAC)
1629 K Street, N.W., Suite 702
Washington DC 20006-1636
Telephone: +1 202 463 6660
Fax: +1 202 463 69 50
E-mail: secretariat@icac.org

Texas Organic Cotton Marketing Cooperative
2514 82nd Street, Suite D
Lubbock, Texas 79423
Telephone: +1 806 748 8336
E-Mail: Info@texasorganic.com

Organic Trade Association
28 Vernon St, Suite 413
Brattleboro, Vermont 05301
Telephone: +1 802 275 3800
Fax: +1 802 275 3801

Textile Exchange
822 Baldridge Street
O'Donnell, Texas 79351
Telephone: +1 806 428 3411
Fax: +1 806 428 3475

Trade magazines

American Association of Textile Chemists and Colorists (AATCC) Review
1 Davis Drive
Research Triangle Park, North Carolina 27709
Telephone: +1 919 549 8141
Fax: +1 919 549 8933
E-mail: shawc@aatcc.org

International Fiber Journal
6000 Fairview Road, Suite 1200
Charlotte, North Carolina 28210
Telephone: +1 704 552 3708
Fax: +1 704 552 3705
E-mail: ifj@ifj.com

Textile World
2100 RiverEdge Parkway, Suite 1200
Atlanta, Georgia 30328
Telephone**:** +1 770 955 5656
Fax**:** +1 770 952 0669

10. Market prospects

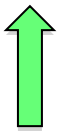
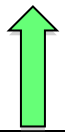
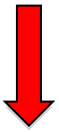
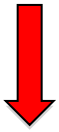
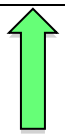
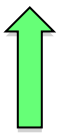
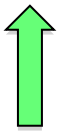
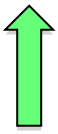
Process standardization, alternative crops, environmental factors, and transparency in the supply chain are realities of a competitive industry. Furthermore, low cost solutions such as conventional cotton and BCI pose a threat to organic cotton's share of the marketplace.

Despite these issues, the demand for organic cotton continues to grow. Sustainability initiatives, investments in non-GM seed supply, and the creation of new business models are increasing overall demand and enhancing the future outlook for this fiber (Textile Exchange, 2013).

Several respondents of the Textile Exchange Survey have reported a plan to expand organic cotton use in the coming years (Textile Exchange, 2013). Developed countries are also planning to increase the number of organic cotton producers in African countries thanks to investments in Ethiopia, Kenya, Madagascar, Mozambique, and Zambia (Textile Exchange, 2013).

German companies such as C&A, Puma and Tchibo are main users of organic cotton (Textile Exchange, 2013). C&A was the largest organic cotton retailer in the world in 2012 and has a commitment of 100% organic cotton use in its private labels by 2020 (C&A, 2014). Tchibo expanded its sustainable cotton use to over 40% in 2013 (Textile Exchange, 2013). The same consumption trends apply to the US, where apparel companies are the fastest growing users of organic cotton. American textile companies and retailers such as Williams-Sonoma and Target are significant buyers of organic cotton (Textile Exchange, 2014). In its 2013 Corporate Responsibility Report, Williams-Sonoma reported increasing the use of organic cotton in its textiles to 13% (Williams-Sonoma, Inc., 2013). Target is also focused on increasing its sustainable products that carry the Target brand name (Textile Exchange, 2013). Therefore, organic cotton's consumption will be increasingly continued by apparel companies and cotton retailers.

Given market segment growth, there is opportunity for an exporter to add value to a supply chain through achieving organic certification. As organic labeling laws become more stringent, a trade-off takes place. While this stringency comes at an added cost to the producer, certifying the integrity of the product creates added value for the buyer. This creates an opportunity to enhance profit margin against growing consumer demand. Therefore, it is recommended that prospective exporters focus on obtaining the global certifications required by German and US law. Taking these steps will enable a price premium to maximize profits, against substandard competitive alternatives.

Figure 9: Market Prospects			
Chapter	Attractiveness		Explanation based on analysis in report
	Germany	USA	
2			Due to the lack of production in Germany due to climate reasons, the attractiveness for this specific sector is going to increase. This is especially due to the action of governments and organizations. The US is going to be generally unchanged due to the increasing threat of alternatives to organic cotton and other social, economic and climate issues.
3			Increasingly attractive due to increasing interest and demand for green and sustainable products from both consumers and companies. The German market is slightly more attractive.
4			Remains the same because there are no recent changes in tariff or non-tariff barriers. The standards are not changing either in the near future.
5			Less attractive as pricing is currently low and has a historical tendency to be volatile due to government involvement and unpredictable weather conditions.
6			Overall neutral because there is decreasing attractiveness due to increasing rules and standards and high complexity; but increasing attractiveness due to strong and direct relationships with both consumers and producers.
7			Outlook appears increasingly attractive given the industry standards that streamline the export of organic cotton and the added protection gained by internationally accepted standards and practices put into place by global cotton associations.
8			Increasingly attractive due to recent technology advances which have improved packaging quality while simultaneously reducing the cost.
9			Increasingly attractive due to annual exhibitions and conferences. Moreover, there are many associations, which release annual reports about organic cotton. Generally, organic textile is going to be more popular and people will pay more attention.

Annex

Annex 1: Selected potential importers

The following is a list of potential (major) importers of organic cotton in both the US and Germany.

Germany

C & A MODE GMBH & CO. KG
Wanheimer Road 70
40468 DÜsseldorf
Germany
Phone: +49 211 353637
E-Mail: service@CundA.de

ADIDAS AG
Adi-Dassler-Strasse 1
91074 Herzogenaurach
Germany
Phone: +49 913 2840
E-Mail: office@adidas-ep.com

OTTO GMBH & CO KG
Werner-Otto-Straße 1-7
22179 Hamburg
Germany
Phone: +49 406 4618630
E-Mail: ulrike.abratis@otto.de

HESS NATUR
Marie-Curie-Str. 7
35510 Butzbach
Germany
Phone: +49 603 3971466

The United States

NIKE USA INC.
Consumer Services
One Bowerman Drive
Beaverton, Oregon 97005-6453
United States
Phone: +1 800 344 6453

GREENSOURCE
1020 SW 34th Street
Renton, Washington 98057
United States
Phone: +1 800 220 3643
E-Mail: directhelp@greensource.com

POTTERY BARN
3250 Van Ness Avenue
San Francisco, California 94109
United States
Phone: +1 415 421 7900
E-Mail:customerservice@potterybarn.com

TARGET
1000 Nicollet Mall
Minneapolis, Minnesota 55402
United States
Phone +1 800 440 0680

Annex 2: Useful websites

The following are useful websites for additional information needed by exporters to the US and Germany. These websites cover information regarding export and import regulations, fees, and practices.

Government

www.ams.usda.gov/cotton	USDA, Agricultural Marketing Service Cotton Program
www.ers.usda.gov	USDA, Economic Research Service
www.fas.usda.gov	USDA, Foreign Agricultural Service
www.otexa.ita.doc.gov	Office of Textiles and Apparel (Department of Commerce)
www.usda.gov/nass	National Agricultural Statistics Services (USA)
export.gov/germany	U.S. Commercial Service
www.europa.eu.int	EU
ec.europa.eu/taxation_customs	European Commission - Taxation and Customs Union
www.zoll.de	German Customs Administration
http://www.bmel.de/	Ministry of Food and Agriculture

www.gtai.de	Germany Trade & Invest

International Organizations

www.fao.org	Food and Agriculture Organization of the United Nations
www.icac.org	International Cotton Advisory Committee
www.iso.org	International Organization for Standardization
www.intracen.org	International Trade Centre UNCTAD/WTO
www.itmf.org	International Textile Manufacturers Federation
www.cicca.info	Committee for International Co-operation Between Cotton Associations

Cotton Associations

www.acsa-cotton.org	American Cotton Shippers Association
www.baumwollboerse.de	Bremen Cotton Exchange
www.ccga.org	California Cotton Growers and Ginners Associations
www.cotton.org	National Cotton Council of America

Annex 3: Industry Contacts (Interviewees)

BREMER BAUMWOLLBÖRSE
(Bremen Cotton Exchange)
Wachtstrasse 17-24
28195 Bremen
Germany
Phone: +49 421 339700
E-Mail: info@baumwollboerse.de
http://www.baumwollboerse.de/

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