

Understanding and Working within Cotton Supply Chains

As You Sow - Better Cotton Initiative Discussion

March 17, 2010

Liz Muller
liz muller, llc
www.lizmuller.com

Introduction

- Responsible brands must promote social equity and reduce environmental impacts associated with cotton production and processing.
- The Government of Uzbekistan facilitates environmental destruction and forced child labor in the country's cotton production
- The cotton supply chain is complex and involves several actors.
- Much of Uzbek cotton is used in Bangladesh and can be replaced by other sources.
- A brand's sustainable product strategy may include of a variety of sustainable cotton.

In Uzbekistan, cotton is cultivated under unjust labor and irresponsible environmental conditions

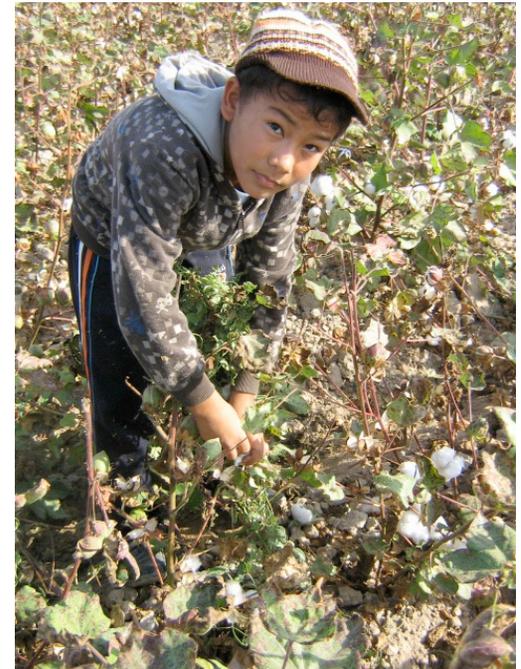
- Estimates of 200,000 – 2,000,000 children are forced to labor by the government of Uzbekistan in the country's cotton fields each year
- Government of Uzbekistan is responsible for systematic abuse of fundamental human rights:
 - Activists silenced, controlled and persecuted
 - Controlled movement of citizens
 - Suppressed demonstrations
 - Media suppression and manipulation
 - Torture and killing



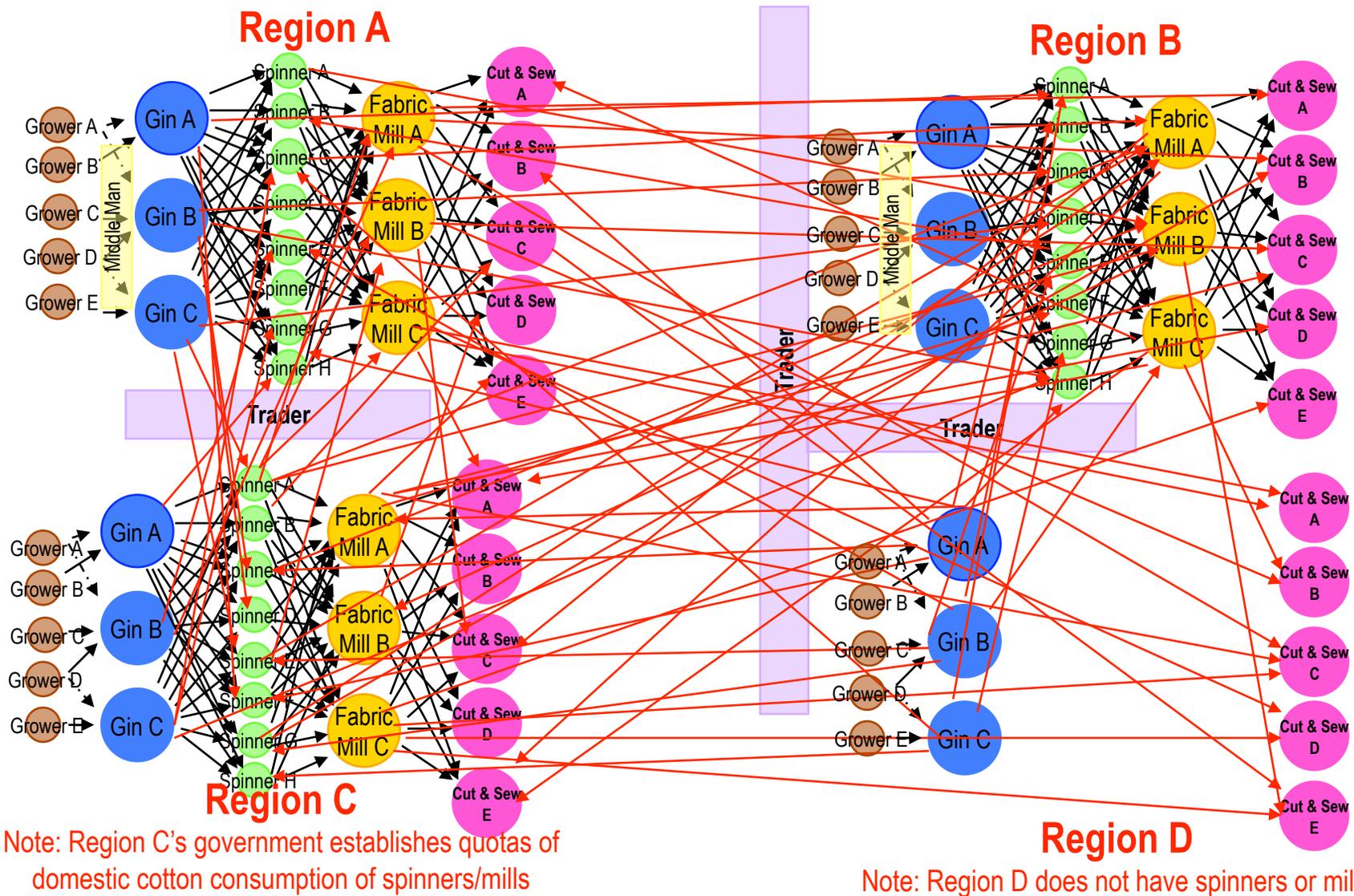
Cotton has been a major driver in the depletion of the Aral sea that is now approximately 5% of original size.

Retailers have joined boycotts and support government efforts to affect change in Uzbekistan

- 18 Uzbek NGOs have been calling for a worldwide boycott of Uzbek cotton since 2005
- Over 50 companies have signed on to the Uzbek cotton boycott
- NGOs, companies, investors and others are engaging governments, United Nations, International Labor Organization (ILO)
- Stakeholders are meeting regularly w/ US State Department, US and Uzbek ambassadors, World Bank, ILO



The challenge many retailers face is how to implement a boycott of Uzbek cotton through the complex cotton supply chain



One can begin to think of the cotton supply chain as linked segments that transforms a commodity into a unique product

Cotton is a commodity
Origin is important

Cotton is in a unique product
Origin is NOT important



What are the different roles and functions of each supply chain actor?

Farmers: range from families to highly mechanized estates.

Buying agents: buy seed cotton from farmers and sell to gins.

Ginners: separate the lint from cotton seed.

Traders: buy cotton lint from gins, governments or other traders and sell to spinners.

Yarn spinners: blend different qualities of cotton lint to produce the correct yarn.

Fabric mills: weave or knit yarns into fabric specified by its customers.

Garment manufacturers: cut, sew, and/or embellish the fabric in order to produce the final garment.

Vertically integrated facilities: process cotton from spinning operations through to garment manufacturing.

Retailers: design and sell finished garments.

Consumers: purchase apparel based on quality, fit, fashion, and cost.

Cotton fiber basics

Intrinsic properties: grade, leaf/trash content, color, character and fiber length (staple)

Properties determined by mechanical testing: strength, elongation, uniformity, micronaire and maturity



Cotton fiber length (staple)

Staple	Length (mm)	Length (in)	Spinning count
Short	Less than 24	0.94 - 1	Coarse - <20
Medium	24 - 28	1.03 - 1.09	Medium - 20s - 34s
Long	28 - 34	1.09 - 1.38	Fine - 34s - 60s
Extra long	34 - 40	1.38 - 1.56	Superfine - 80s - 140s

Which products use which fiber category?

U. S. Cotton Fiber Chart

Typical Cotton Properties for Selected Fabrics

Fabric Woven	Yarn Count (Ne)	Upper Half Mean Length (in.)	Strength (g/tex)	Micronaire Reading	Maturity Ratio
Denim	4/1 to 20/1	0.92-1.10	24-30	3.0-5.0	0.80-0.90
Toweling	8/1 to 22/1	0.93-1.10	24-30	3.5-5.5	0.80-0.90
Twill	15/1 to 30/1	1.03-1.12	24-32	3.5-4.9	0.85-0.95
Corduroy	15/1 to 30/1	1.06-1.14	24-32	3.8-5.5	0.90-1.00
Velvets	20/1 to 40/1	1.06-1.16	24-32	3.7-4.9	0.90-1.00
Sheeting	20/1 to 60/1	1.07-1.16	24-32	3.8-4.6	0.90-1.00
Shirting	20/1 to 60/1	1.10-1.18	26-32	3.7-4.4	0.90-1.00
Rugs	3/1 to 6/1	0.95-1.08	24-30	5.0 & higher	0.80-1.00
Home Furnishings					
Sheer	15/1 to 60/1	1.06-1.16	24-32	3.5-4.9	0.90-1.00
Heavy	3/1 to 12/1	0.95-1.10	24-30	3.2-4.0	0.80-0.90
Knit (18-28 cut)					
Single	16/1 to 40/1	1.04-1.14	24-32	3.5-4.9	0.85-1.00
Double	20/1 to 60/1	1.06-1.16	24-32	3.4-4.6	0.90-1.00

Uzbek cotton's staple length range = 1.03 - 1.56

Shifting from Uzbek cotton to other sources may not result in price increases

Cotton lint of the staple length can be sourced from Brazil, Turkey, United States at a comparable price.

However, transportation time and cost, among other considerations, must be taken into account.

Spinners also consider contamination levels when sourcing cotton lint.



Bangladesh receives 50 percent of Uzbekistan's cotton for its growing garment industry

2006 Bangladesh cotton imports (in tonnes)

- **Uzbekistan - 309,138**
- India - 45,438
- USA - 26,946
- Turkmenistan - 20,004
- Pakistan - 19,985

Bangladesh's garment exports

- 30 percent to the US
- 61 percent to Europe



Companies can gain more visibility deeper in their cotton supply chain through critical ownership transfer documents



1. Goods consigned from (Exporter's business name, address, country) Uzbekistan			Reference No. GENERALIZED SYSTEM OF PREFERENCES CERTIFICATE OF ORIGIN (Combined declaration and certificate) FORM A Uzbekistan		
2. Goods consigned to (Consignee's name, address, country)			Issued in Uzbekistan (country) See the instructions that follow.		
3. Means of transport and route (as far as known)			4. For official use		
5. Item number	6. Marks and numbers of packages	7. Number and kind of packages: description of goods	8. Origin criterion (See the instructions that follow.)	9. Gross weight or other quantity	10. Number and date of invoices
11. Certification It is hereby certified, on the basis of control carried out, that the declaration by the exporter is correct. Place and date, signature and stamp of certifying authority			12. Declaration by the exporter The undersigned hereby declares that the above details and statements are correct: that all the goods were produced in Uzbekistan (country) and that they comply with the origin requirements specified for those goods in the Generalized System of Preferences for goods exported to (importing country) Place and date, signature of authorized signatory		

What should supply chain teams be asking of their vendors? Mills? Spinners?

- ✓ Identify product line that is likely to contain Uzbek grade cotton
 - focus efforts on these supply chains / sourcing & production teams
- ✓ Build relationships/partnerships with fabric mills and spinners
 - determine primary suppliers of yarn / cotton
 - promote alternative sources
- ✓ Identify and audit spinners that do not use Uzbek cotton
 - promote to mills
 - perform due diligence / authenticate documentation
- ✓ Build relationships/partnerships with traders
 - facilitate trade of non-Uzbek cotton
 - participate in spinner / supply chain audits

Brands should incorporate ban of Uzbek cotton into existing systems / specifications

Fabric Technical Submission

Product Details

Date	
Fabric supplier	
Fabric quality	
Description	
Composition	
Country of origin	
Garment supplier	
Care ref code	
Physical perf. code	
Color perf. code	

Summary of Performance

Physical and color fast test results	
--------------------------------------	--

Fabric Wearer Trial

No. of wearers	
----------------	--

Finished Fabric Construction

Weight	Width		Ends		Picks	
Gauge						
Count						
Cotton fiber countries of origin						

Color Fasteners

Color tested							
Test	Change	A	C	N	P	A	W
C4A Detergent							
C5 dry cleaning							
C6 Water @ 37°							

Physical Performance

Thermal stability	L		W	
Warp over weft	Before		After	
Weft over warp	Before		After	
Ironing				

Timeline for ridding a supply chain of Uzbek cotton

1 - 3 years

- Train Sourcing, Production and Design teams on ban and supporting policies
- Identify strategic mills
- Identify key product lines
- Inform mills of Uzbek ban
- Incorporate Country of Origin into fabric spec sheets
- Work with mills to identify and inform key spinners of ban
- Join SMI

3 - 5 years

- Continues to work with mills to identify and inform key spinners of ban
- Audit strategic mills and their suppliers
- Expand program to all mills and their spinners
- Partner with traders to facilitate ban expansion
- Support efforts to improve conditions in Uzbekistan

5 - 10 years

- Audit all mills and their suppliers
- Partner with traders to facilitate ban expansion
- Support efforts to improve conditions in Uzbekistan

Sample of existing sustainable cotton initiatives

Global Initiatives

Better Cotton Initiative
Fairtrade / Transfair
Organic
Cotton made in Africa

Other efforts

Better Management Practices (Australia)
Field to Market (US)
Sustainable Cotton Project (US)
Conservation Cotton Initiative (Africa)

Conclusion

- Uzbek cotton is produced under poor labor and environmental conditions
- Uzbek cotton is of medium to long staple much of which is exported to Bangladesh spinners.
- Brands can partner with key suppliers to replace Uzbek cotton with alternate sources.
- Brands' sustainable cotton strategy may include of a variety of sustainable cotton efforts.
- Brands can provide resources to sourcing departments to promote sustainable cotton production and support their bans on Uzbek cotton.

Questions and discussion

Liz Muller

liz muller, llc

www.lizmuller.com

liz@lizmuller.com

+1.415.924.2335