



FAIR LABOR
ASSOCIATION

COTTON PROJECT REPORT 2008-2010

TRACING THE COTTON SUPPLY CHAIN



Yarn spinning mill in China

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Background on Cotton Production

Cotton has been, and is likely to remain, the premier natural fiber, making up 40 percent of all textile production. In 2008, global cotton production was approximately 25.7 million metric tons (MT). The top producers of cotton in 2008 were China (7.5 million MT or 29.2% of world production), India (5.4 million tons or 21.1% of world production) and the United States (4.1 million tons or 16.1% of world production). The three top producers combined accounted for more than 66 percent of global cotton production.

Production of raw cotton (in 1000 MT)							share 07/08
	2003/04	2004/05	2005/06	2006/07	Dec 2007/08	Jan 2007/08	
China	4,855	6,750	6,423	7,729	7,729	7,512	29,18%
India	3,048	4,137	4,148	4,746	5,225	5,443	21,14%
USA	3,975	5,062	5,201	4,700	4,134	4,144	16,10%
Pakistan	1,708	2,425	2,213	2,155	1,851	1,785	6,93%
Brazil	1,310	1,285	1,023	1,524	1,524	1,524	5,92%
Uzbekistan	893	1,132	1,208	1,165	1,197	1,197	4,65%
Turkey	893	904	773	849	718	718	2,79%
Other	4,073	4,896	4,634	3,709	3,478	3,423	13,29%
Total	20,754	26,590	25,624	26,578	25,857	25,747	

Source: Cotton Council

The United States and India accounted in 2008 for more than half of worldwide cotton exports (53%). Although the U.S. is the world’s leading exporter of raw cotton, the economic significance of cotton is minor when compared to a country like Uzbekistan, where the nation’s economy and wealth depend heavily on cotton (e.g., cotton counts for roughly 45 percent of all exports from Uzbekistan). China is the largest importer of cotton (importing 34% of global production) and also the largest consumer, accounting for 40 percent of the global annual volume of raw cotton consumption.

Exports of raw cotton (in 1000 MT)							share 07/08
	2003/04	2004/05	2005/06	2006/07	Dec 2007/08	Jan 2007/08	
USA	2,995	3,143	3,821	2,833	3,527	3,484	39,15%
India	152	144	751	1,045	1,154	1,263	14,19%
Uzbekistan	675	860	1,045	980	991	980	11,01%
Brazil	210	339	429	283	610	544	6,11%
Australia	470	435	628	464	305	305	3,43%
Greece	267	255	294	272	261	261	2,93%
Burkina	207	212	305	294	207	196	2,20%
Kazakhstan	114	136	192	189	189	189	2,12%
Turkmenistan	120	82	120	152	180	174	1,96%
Egypt	87	142	103	109	131	131	1,47%
Other	1,937	1,876	2,007	1,511	1,455	1,373	15,43%
Total	7,234	7,623	9,695	8,132	9,009	8,900	

Source: Cotton Council

Cotton is a labor, water, energy and chemicals intensive crop. About 200 million people work in the cotton industry worldwide (as compared to the 50 million who work in the textile industry). Production of one kilogram of cotton fiber requires 7,000 – 20,000 liters of water. In many locations, the high consumption of water associated with cotton production has led to sinking ground water levels and increasing salinity. The Aral Sea is the best known

example of the adverse effect of water extraction for irrigation. As a result inter alia of the annual water extractions for cotton production, the Aral Sea lost approximately 60 percent of its area and 80 percent of its volume in the period of 1960-2000.

Consumers are becoming more aware and concerned about the social, labor and environmental issues associated with cotton cultivation and harvesting. Apparel companies will be increasingly questioned on whether the cotton they use in their apparel production has violations of human rights, labor standards or environmental norms embedded in it. While the most visible case of these violations is the state-sanctioned use of child labor in the harvesting of cotton in Uzbekistan, several other processes in cotton production carry labor and environmental compliance risks, such as unsafe use of chemicals on farms, degradation of arable land and water resources, pollution resulting from ginning, spinning and weaving of cotton, and labor issues relating to child labor, forced labor, wages, hours of work, occupational safety and health, and freedom of association. Even if companies work on enforcing standards in their cut and sew facilities, the cotton used in the fabric they transform may already have violations of human and labor rights and environmental standards woven into it. Apparel companies that have been leaders in addressing labor standards issues in their supply chains therefore need to broaden their focus, increase their awareness of cotton-related concerns, and assess their upstream supply chains to make sure that they are not using cotton that is contaminated by labor or environmental abuses.

FLA Cotton Project

The FLA Cotton Project was established in response to concerns regarding labor rights surrounding cotton production, especially those raised by the campaign around Uzbek cotton and the use of child labor. As campaign groups and journalists posed questions to retailers and brands about whether Uzbek cotton was used in the production of their apparel, the FLA realized that it is in fact very hard to know where the cotton comes from and almost impossible to categorically deny that Uzbek cotton is used. There are no established data points through which the cotton used in a finished garment can be traced back to its origins.

The FLA also realized that full traceability of a product's components is likely to become a frequent demand faced by companies in all sectors and that companies will make tracing a standard element of their internal due diligence in the near future. In response to this context and the companies' desire to know the origin of the cotton they used, the FLA proposed an initial pilot exercise to transparently trace the cotton along an entire supply chain. This two-phase project set out to address three particular challenges facing the producers of cotton goods:

1. To identify the origin of the cotton used in their products
2. To trace that cotton along the entire supply chain, and
3. To identify and address labor rights risks in cotton production

Phase I: Mapping the cotton supply chain

For a given order in a cut and sew facility, the initial phase of the Cotton Project was to map the cotton supply chain by tracing the cotton goods from cut and sew to fabric mill, cotton gin and cotton production. Two supply chains (one organic and one conventional) were to be mapped in the pilot stage. One of the outcomes of the project would be a mapping tool that

could be used by companies to map their cotton supply chain and to identify risks. The final goal would be the full traceability of cotton with task and risk mapping.

Phase II: Monitoring working conditions

Once companies are able to trace their cotton (with the help of the FLA tracking tool), the next phase would be to monitor working conditions at different points in the supply chain. Internal discussion with relevant stakeholders will take place to develop a combined strategy for monitoring and remediation. It is anticipated that covering the entire supply chain will take several years, except in those instances where the violations of labor standards and remediation are well documented.

Tracing Methodology

The methodology used in this project consisted of a tracing (audit) approach developed by SGS, an international inspection, verification, testing and certification services company based in Geneva, Switzerland, that establishes the authenticity of each supplier by following a paper trail of transactions related to cotton in the supply chain. As part of the tracing exercise all relevant facilities were identified and visited in the country/countries of operation and visual inspection was conducted while at the same time establishing the next level in the supply chain. Interviews with senior management and other relevant staff were conducted on the origins of the cotton used. In addition, all documents were examined that were relevant to the origin of the cotton used to manufacture the fabric for the apparel product specified.

The audit approach was tested with a number of different apparel products nominated by FLA-affiliated companies. Three conventional cotton supply chains (starting with cut and sew factories in China, India and Korea) and one organic cotton supply chain in India (starting with a cut and sew facility in Honduras) were traced. Companies were asked to provide specific information (Annex 1) on their cut and sew facilities, textile mills, fabric purchase orders, incoming material records and other relevant production records. Auditors from SGS worked back up the supply chains from production information supplied by the companies. The more links in the chain that the companies could specify, the fewer the links the auditors needed to uncover and document. The goal in every case was to trace back to the level at which the yarn was spun because it is at that point that various cottons are mixed to produce yarn of a particular quality. After the yarn is spun, it is very challenging (if not impossible) to tell where the cotton originated.

Tracing Results

The four tracing activities combined took a total of thirty work-days. Tracing of one of the supply chains took sixty five percent of the total effort due to lack of management cooperation at the yarn spinning mill. The exercise resulted in a successful identification of the business string and corresponding documents up to cotton suppliers for all four supply chains. The Chinese and Indian mills used locally-grown cotton, whereas the Korean mill sourced cotton from the United States. The photographs illustrate different levels of the conventional cotton supply chain in China.



Textile mill in China



Ginning mill in China

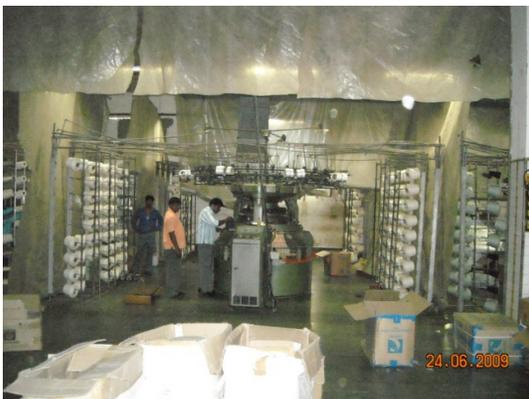
Using the same tracing method, the organic cotton supply chain was traced and the organic cotton certification verified. The results confirm that the raw cotton used in the production of yarn imported by the Honduran facility is one hundred percent organic in nature and is sourced from various regions of India. The pictures below show the separation and processing of the organic cotton from the conventional cotton at the Indian spinning mill.



Store room for organic cotton at the spinning mill in India



Processing of organic cotton at the spinning mill in India



Segregated spinning area for organic cotton in India



Separate storage area for spun organic fabric in India

Tracing Challenges

Although the methodology can be used to trace cotton, it proved to be a cumbersome process. Below are some of the challenges that were encountered during the tracing.

- Tracing and identification of documents in the cotton supply chain is a challenge, as the information concerned is often confidential. Whereas information in the first business string (cut and sew facility to spinning mill) is easily available, there is more resistance to disclose documents further up the supply chain (spinning mill to farm level). The main reason for this lack of transparency at the spinning mill level (or other levels) is competition between the parties. All suppliers fear losing business if the final provider or the receipt of the cotton goods is known to all, giving the parties the opportunity to deal directly with each other for future orders. In addition, there are suppliers who claim to be producers but are in fact only traders (intermediaries).
- Subcontracting is a common practice that makes the tracing complicated. Subcontracting often appears when it is difficult for a supplier to reach the delivery target or when a cheaper subcontracting possibility (tolling) is identified. Since this subcontracting practice is typically hidden from the next buyer, details of the actual work performance are not disclosed for fear of being traced.
- During the tracing exercise some dubious practices regarding the quality of cotton were also identified. In the yarn manufacturing industry, there is scientific know-how in producing the best and cheapest possible yarns by mixing raw cotton of different qualities. Some producers in our tracing exercise however used other cotton qualities to produce the yarn (primarily to cut costs). Consequently, two final garments may look the same (yarn, count) but react very differently in washing performance, for example.
- Management of most enterprises was open and willing to cooperate and identify the origin of the cotton up to the point when the exercise clashed with commercial interests. The least cooperation was received from yarn manufacturers, who have a quasi monopoly on yarns of certain qualities and who have the most to lose from greater transparency.
- Production documentation available varied depending on the levels of the business string. For example, good traceability exists in the garment manufacturing industry (knitting and cut and sew facilities). In most factories, there is a good record keeping system of the material sourced, material used and material left over. Factory control over manufacturing activity and suppliers' management is also quite good. However, the situation is not the same at the spinning mills. Citing the issue of trade secrets in yarn manufacturing, the management of spinning mills was largely uncooperative and unwilling to disclose relevant paperwork. In addition, it was difficult to find records on the actual spinning process and therefore difficult to know whether good cotton quality was used or mixed with cotton of lower quality. Information on how bale-openers are fed is not (clearly) documented. Additionally, no records exist for the process of carding-up to the ring or open-end spinning process adjustments. It is also common at the spinning mill level to purchase cotton yarn from other producers and sell it as being their own production. It was confirmed in the tracing exercise that other mills were involved in the declared yarn production of spinning mills. This could be traced more easily if proper records were kept.

- Another challenge faced in this type of tracing is the language barrier as most documents were only available in local languages. This requires additional resources and raises the cost of the exercise.
- In the case of a vertically integrated producer – from cotton purchase to the final garment – it was quite a challenge for the quality manager to gather all the relevant documents from diverse departments as they work as separate units with different interests.

Key Learnings

Following the above discussion, we conclude that tracing the origin of a material through the retroactive auditing of records is possible, but it is not the optimum method. This tracing methodology is a long and complicated exercise. It would be far more effective, both in terms of time and money and of risk management, to intervene at an earlier point and require a certain amount of documentation from the yarn supplier before confirming or placing an order. Companies could do this themselves or have the textile mill or cut-and-sew facility secure that documentation. This would allow retailers and brands to ensure that the cotton comes from acceptable sources before the production cycle begins.

Recommendations

Despite the challenges and complications encountered, the tracing exercise led to interesting learning and some recommendations that can be useful to retailers and brands. The tracing exercise demonstrated that there is a need for more transparency and better control in the cotton supply chain. Based on the tracing exercise, we can make the following recommendations (not exhaustive):

- During the purchasing process, companies should reserve their right to independently and confidentially nominate a third party (inspection agent or independent auditor) to verify through documentation the origin of goods from raw fibers to the final product.
- As yarn producers are the key actors and the most obscure points in the business string in terms of paperwork, emphasis should be placed on this level in the supply chain to disclose information openly. The companies should insist during purchasing that the yarn manufacturer (including subcontractors) has traceability from raw cotton to final yarn and that it is documented in case of audit by an independent party at the request of the companies.
- There should also be an obligation for the yarn supplier to prove the origin of the cotton by maintaining and making available corresponding documents.
- Brands should be able to trace back the origin of the cotton before placing orders. In this regard, paperwork should be available at every level of the supply chain and every link should ensure this as a business requirement for the next manufacturing string. These documents should be accessible to an independent party at the request of purchasers.
- Business relations among parties in some instances are confidential and disclosure can be seen as harmful to business. There may be unwillingness to share information, as this

might affect competitiveness between the different producers. Consequently, inspection agents should be able to conduct verification but might keep the audit results confidential between parties.

Next Steps

One of the outcomes of the FLA Cotton Project has been the development of a tracking tool that will enable companies to trace the origins of various components of a product and identify risks at each level of the supply chain upfront as opposed to retroactively. Details of the Product Tracking Tool can be found in the next section. A checklist of documents that the companies can verify at the time of tracing complements the Product Tracking Tool. The FLA staff will run initial training sessions on the use of the Product Tracking Tool and help the companies and suppliers to analyze findings. With this approach, which is less resource intensive and more sustainable, it may be possible to make larger inroads toward the final goal of fully tracing cotton or any other raw material.

Once companies are able to trace their cotton sources with the help of the tracking tool, the next step will be to monitor working conditions in-depth at different points in the supply chain. This can be done with the help of other FLA tools. To initiate this next phase of the project, extensive discussions with relevant stakeholders would need to take place to develop a combined strategy for monitoring and remediation.

Tools for Affiliates

Product Tracking Tool

The FLA has developed a Product Tracking Tool that enables companies to map the origins of all components of a product before the final product commences production. The tool also alerts the companies about the labor risks embedded at various levels of the supply chain that need to be mitigated with appropriate preventive action. Some common risks at each level are already identified in the tool and additional ones can be filled in at the time of using this tool. The tool is accompanied by a comprehensive guidance material to aid the user. The tool collects information on 74 data points covering 11 stages of garment production. Once the data is entered the companies will have a supply chain map along with the potential risks that need to be avoided, managed, monitored or remedied. For in-depth analysis of risks identified at every level, additional FLA tools are available. In case an order has already started production, a series of documents at each level of the supply chain can be reviewed to establish the origins of the raw materials. A list of such documents specific to cotton tracing is provided in the tool.

Checklist for Companies

In order to help companies trace cotton, a checklist has been developed for buyers to use in conducting due diligence. The key information can be gathered by requesting the paperwork mentioned in the list (this list refers only to knitted textiles).

Cooperation from all actors in the supply chain is imperative to ensure proper functioning of this checklist and the product tracking tool. This cooperation could be advanced through consultation with the key actors in order to persuade them of the merits of this system of verification, but it will also depend heavily on the determination of the companies in requiring such documentation from their suppliers. Therefore, a similar approach should be employed as in other FLA monitoring programs, namely that the buyer should require that its suppliers complete certain documentation, provide relevant information and submit to potential audits as part of the contract between buyer and supplier. This requirement would cascade down the supply chain – for example, cut-and-sew facilities would require it of their textile suppliers, who would in turn require it of their yarn suppliers. As a first step towards the implementation of this system, the FLA will conduct webinars for companies that want to train their internal staff in the use of the checklist and the tracing tool. Once those checks have been made, a company could always decide to have an auditor conduct verification, but that should ideally occur at the moment the yarn is spun, not subsequently.

FLA Affiliates can access these tools on the FLA Training Portal.