

An Examination of Chinese Sustainable Cotton Development

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At the recent Tokyo Olympics, spectators saw Chinese athletes wearing domestic clothing brands such as Anta and Li-Ning. Twenty-two Chinese national teams were wearing Anta, while only four were wearing Nike. The ratio of people wearing Anta over Nike in the Olympics increased significantly from the 2016 Olympics in Rio de Janeiro, when there were only 10 Chinese national teams sported this popular domestic brand. Athletes from other countries also wore Chinese brands of sportswear. Mexico's national soccer team wore Li-Ning, while Chinese Sportswear maker PEAK sports sponsored seven countries' teams and even made a special series, Kiwis PEAK, for New Zealand's Olympic team. The growing use of Chinese brands reflects the powerhouse China has become in the global cotton industry – although controversies



and barriers Chinese cotton faces are much less noticed.

Fig 1: Mexico Soccer team in Li-Ning jerseys (Source: [nbcnews.com](https://www.nbcnews.com))

For the past two decades, China has been the largest cotton producer in the world. Chinese cotton accounted for 23.8% of world's total cotton exports in 2020, worth more than U.S. \$11 billion. Raw cotton exports made up 0.4% of China's total export revenue, and cotton-related products such as clothing and miscellaneous textiles were 2.9% of total exports. The cotton industry's continuous growth has maintained Chinese cotton's leading position in the export sector.

Boosted by cotton, Chinese textile exports increased dramatically by 170.9% from 2019 to 2020, becoming the fastest-growing sector among China's top 10 exports¹. Cotton production has brought tremendous economic growth to cotton planting regions such as Hebei, Shandong and Xinjiang provinces. Nearly 300 million people are involved in cotton production, close to the entire population of the United States. Lyu Jianchun, a cotton grower with Xinjiang Production and Construction Corp., told ChinaNews that he can make an annual revenue between 500,000 and 800,000 yuan (\$77,000-123,000) from his 162 acres of cotton farm². Cotton production has also boosted related industries such as the textile and clothing businesses.

China's cotton development has a mixed history. Chinese cotton suffers from low and unstable quality because of the lack of standards, according to Li Fuguang, the director of the Institute of Cotton Research at the Chinese Academy of Agricultural Sciences. In Xinjiang, there are more than 300 breeds of cotton, and it is difficult if not impossible to pass down planting standards to large groups of individual farmers, Li said during the 2020 China Cotton Industry Development Summit.³ By comparison Australia, a country well known for its high-quality export cotton, promotes and focuses on only one breed of cotton, so planting techniques and growing factors can be easily standardized and understood by farmers. Summarizing successful factors from Australia's model, Li notes that the key to better cotton is concentrating on fewer breeds and promoting better management.

Xinjiang cotton's problem is Chinese cotton's problem, because Xinjiang is responsible for more than 87% of China's total cotton production. Cotton planting has been shifting to Xinjiang, in China's northwest, continuously in the last decade (Figs. 2). Twenty years ago, Xinjiang did not dominate China's cotton harvest; factors such as weather, population and level of technology made regions along the Yellow River more suitable for cotton planting. Hebei and Shandong provinces, regions that are currently second and third for cotton production, benefitted from the rich geographical resources alongside the Yellow River. Even now, these regions still produce better cotton than Xinjiang, according to China Cotton Association Vice President Ni Jianlong.⁴

¹ <https://www.worldstopexports.com/cotton-exports-by-country/>

² <https://www.chinanews.com/gn/2021/06-09/9495585.shtml>

³ <http://www.china-cotton.org/app/html/2021/06/10/88399.html>

⁴ Retrieved from Ni's speech in 2020 China Cotton Industry Development Summit

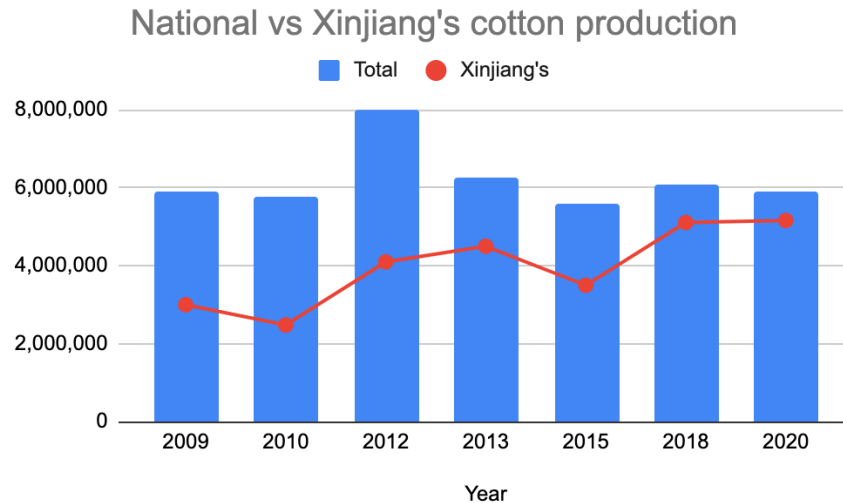


Fig 2 National vs Xinjiang's cotton production (tones)

Looking back at the history of Xinjiang cotton's development, there were several key turning points. It started with China's development of its far west at the beginning of the millennium. From the end of the last century, Xinjiang has been investing in the economic success of its cotton growing. With government subsidies and experts from Xinjiang Production and Construction Corp., business developers in other provinces began to see Xinjiang's potential⁵. Once known as a "no-cotton zone,"⁶ Xinjiang, with government support, dramatically increased its cotton production from 2000 to 2013⁷.

After that, the process accelerated even more. In 2014, the Chinese government published what was known as the 2014 Central Document No.1, and started to enforce a "target price subsidy" policy exclusively for Xinjiang cotton. When cotton's market price was lower than the target price, the government would subsidize farmers; when it was higher than the target price, the subsidy would go to textile factories who purchased Xinjiang cotton.

While this policy ensured a stable income for Xinjiang cotton's farmers and customers, it inevitably made other regions' cotton less competitive. While cotton's price decreased due to the

⁵ https://news.stcn.com/sd/202108/t20210823_3577055.html

⁶ <http://cpc.people.com.cn/BIG5/n/2015/0827/c398213-27524764.html>

⁷ <http://cpc.people.com.cn/BIG5/n/2015/0827/c398213-27524764.html>

loosening of government control over the cotton market, cotton farmers in regions other than Xinjiang inevitably had their income cut significantly. Some towns had to shift their main local product from cotton to other plants. For example, in Hebei's Wei Town, despite the soil being naturally more suitable for growing cotton, the lack of competitiveness and lower profits forced the provincial government to alter its main product from cotton to pears.⁸ Although such a shift required digging deep for wells and learning new planting techniques, the government felt it had no choice.

From 2014, regions like Hebei that once provided ample cotton production shifted to other agriculture products, as more and more factories and farmers showed a preference for Xinjiang cotton. In 2020, to ensure business' survival during the coronavirus pandemic, another subsidy policy for nine provinces' cotton production was imposed.⁸ It gave these regions a fixed subsidy, the amount being determined according to Xinjiang's target cotton price, then reduced to 60%. Xinjiang cotton still enjoys its target price subsidy. One change was that from 2017, in order to ensure the subsidies could be used more efficiently, subsidies would not be given when the market price was higher than the target price.⁹ Agriculture support policies are now focusing on increasing Xinjiang cotton's quality and productivity instead of quantity.¹⁰ Overall, domestic policies are intentionally moving cotton production to the country's northwest (Figs. 3).

⁸ http://www.moa.gov.cn/xw/qg/201805/t20180529_6147842.htm

⁹ http://www.moa.gov.cn/gk/zcjd/201906/t20190619_6317976.htm

¹⁰ <https://zfxgk.ndrc.gov.cn/web/iteminfo.jsp?id=16922>

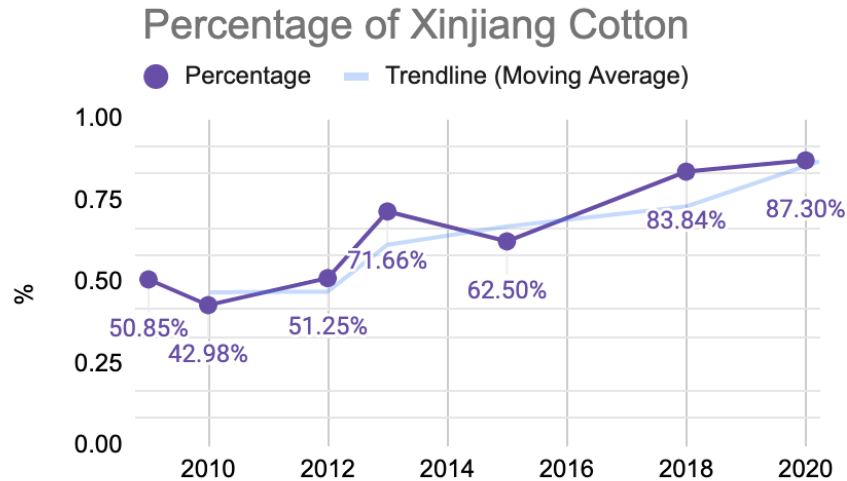


Fig 3: Xinjiang cotton's percentage over total production

Despite being a cornerstone of Chinese agriculture development, cotton was rarely in the public's attention until recently. Unlike edible agriculture products, cotton does not appear directly on consumers' daily consumption list. In 2021, a few Weibo¹¹ headlines brought the public's attention to cotton. This past summer, the Olympic games in Tokyo thrust several Chinese sports clothing brands into the limelight. Among China's 30 national sports teams, 22 of them were sponsored by Anta sportswear.¹² While athletes' astounding performances took audiences' breath away, the prominent logos on athletes' jerseys were also stirring Chinese audiences' pride for domestic sports brands. This awareness of local clothing brands was further boosted by successful advertising on Chinese social media. For example, media exposure of domestic sports brand Erke's charity work attracted customer loyalty to this almost-bankrupt brands. Like many other Chinese clothing brands, Erke, established 20 years ago, has been suffering from overcapacity, outdated designs, and lack of competitiveness against international giants such as Nike and Adidas. Yet despite losing 220 million yuan a year, its owner made a personal flood-

¹¹ Weibo is China's most popular social media platform.

¹² <https://www.163.com/dy/article/GHJP5DBE05299B1S.html>

relief donation of 50 million yuan to victims of Henan’s Flood in July. Netizens appreciated his generosity, and the brand’s sales skyrocketed 52 times.¹³



Fig 4: Consumers are queuing in front of an Erke’s store (Source: [worldjournal.net](https://www.worldjournal.net))

Local brands’ heartwarming efforts may not be enough to stir consumers’ attention to the fibers of each clothing brand, but the actions of the international non-profit group Better Cotton Initiative has pushed cotton to center stage once again. BCI is a Sweden-based certification body that set a standard for “better cotton.” Better cotton requires environmental and worker-friendly farming systems. BCI also conducts projects to promote sustainable cotton around the world with its partners, including regional cotton producer organizations such as ABRAPA¹⁴ in Brazil and

¹³ <https://www.forbes.com/sites/markfaithfull/2021/08/05/sales-soar-at-ailing-chinese-brand-erke-after-good-deed-goes-viral/?sh=15666708b136>

¹⁴ ABRAPA: Associação Brasileira dos Produtores de Algodão

APROCA¹⁵ in Mali, and different types of social enterprises such as Cotton Made in Africa. Besides its partners, BCI also has 2,160 members around the world, such as Fast Retailing from Japan, Ralph Lauren and Nike from the U.S., IKEA from Sweden and Burberry from Britain. In October 2020, BCI and members companies such as clothing retailer H&M and the brands Adidas and Nike announced that they would no longer use cotton produced in Xinjiang because of human rights issues in the province.

In defense of local products, Chinese netizens were furious with BCI and its members -- some of the most popular international brands in China -- and pushed for boycotts against BCI members such as H&M. Three months after the Swedish fast-fashion giant announced its stand against Xinjiang cotton this past March, H&M's quarterly sales in China plummeted 28% compared to the same period in 2020.¹⁶ Last year, industries across China were suffering from COVID-19, while in 2021, business was recovering quickly and customers were becoming more confident. Yet these factors that were favorable for increasing revenue were not enough to offset Chinese customers' anger. H&M closed several stores across the country, as well as its online store on TMall, the largest retail shopping website in China. Supporting BCI's position resulted in H&M's epic fall in its third-largest market.

On the other hand, Chinese brands such as Li-Ning seized opportunities and promoted its products as using Xinjiang cotton. Although BCI later retracted its statement about Xinjiang cotton, Chinese customers have been switching from Nike and Adidas to local brands like Li-Ning and Anta. In the Brand Z Most Valuable Global Brands top 100 ranking for 2020-2021, Chinese brands took more spots than European Union brands, and the average value of Chinese brands increased by 43%. Among them, Anta ranked in the top 10 in clothing. Half-year reports showed that in Greater China, Li-Ning and Anta's income both increased by more than 50%.¹⁷ Meanwhile, Nike sales increased by only 17% and Adidas dropped by 16%.¹⁸ Nike's slowdown

¹⁵ APROCA: Association des producteurs de coton africains

¹⁶ <https://www.wsj.com/articles/h-m-pays-price-of-upsetting-beijing-as-china-sales-drop-11625136844>

¹⁷ https://files.services/files/394/2021/0824/20210824151127_51778158_sc.pdf

¹⁸ <https://www.cnbc.com/2021/08/05/adidas-q2-sales-fall-in-china-as-consumers-boycott-international-brands.html>

and Adidas' decline in China are not in line with their global rise, implying that Chinese customers' passion for elite international brands is diminishing amid the rising domestic trend.

The BCI incident not only affected consumers' tastes, it also alerted local brands that it is the right time to promote their raw materials. Fibers can be classified into four types: animal fibers, plant fibers, synthetic fibers and manmade cellulosic fibers made from cellulose. In 2020, the 32.7 million tons of plant fibers produced accounted for 29.9% of total fiber production. More than 80% of plant fiber production was cotton, making it the second most important fiber in terms of volume. As noted earlier, cotton production needs standards to ensure quality. Cotton with higher quality, such as the enhanced sustainability variety, is collectively named "preferred cotton." Besides BCI and other international counterparts,¹⁹ preferred cotton can also be recognized as organic, "Cotton made in Africa" (CmiA), or "Responsible Environment Enhanced Livelihoods" (REEL)²⁰ by Cotton Connect.

Certifications are issued by each organization, which has its own judging principles. However, having different names does not indicate that these organizations have different standards. Some organizations partner with others and share the same standards. For example, organizations CmiA, ABRAPA, and MyBMP all have the same standards as BCI. They are BCI's regional partners, implementing the Swedish organization's standards in Africa, Brazil and Australia, respectively. With its partners, BCI cotton makes up to 24% of all preferred cotton.

BCI's original statement in October said Xinjiang cotton was not compliant with BCI's standards because its growing process involved labor abuses, which violate one of the association's seven principles promoting "decent works." BCI uses seven principles when determining if a product qualifies as "better cotton," covering planting techniques, environmental protection and farmers' welfare,²¹ thus validating BCI-approved cotton.

¹⁹ Counterparts for BCI: ABRAPA, CmiA and myBMP

²⁰ Responsible Environment Enhanced Livelihoods

²¹ BCI's seven principles are: 1. minimize the harmful impact of crop protection practices; 2. promote water stewardship; 3. care for the health of the soil; 4. enhance biodiversity and use land responsibly; 5. care for and preserve fiber quality; 6. promote decent work; 7. operate an effective management system

Organic cotton, like BCI cotton, is also a type of preferred cotton. Similarly, organic cotton requires special planting methods that do not use pesticides or synthetic fertilizers. Seeds must also not be genetically engineered. Planting organically protects water and soil from pollution and nutrient loss, building a biologically diverse farming environment. Organizations such as Regenerative Organic Certification govern and issue certifications for organic cotton.

The environmental benefits for growing preferred cotton are tangible. In BCI's 2019 annual report, growing BCI-certified cotton reduced water usage by 10%, pesticide usage by 14% and synthetic fertilizer by 18%. Sustainability also increased farmers' profit by 25%.²² Similarly, planting REEL cotton reduced water usage by 12.5% and increased yield by 9.4% on average. Only 30% of cotton is rain-fed.²³ This suggests that the majority of cotton production relies on irrigation and creates pressure on planting regions' water situation. Although there are not enough statistics to reveal the cotton industry's current pesticide and insecticide usage, earlier trends from several countries evidently pointed to an increasing need for use of pesticide.²⁴ Using sustainable methods for irrigation and fertilization promoted biodiversity and kept soil fertility for future planting. Moreover, growing preferred cotton would address one of Chinese cotton's current problems. As noted above by Li Fuguang, Chinese cotton seeds are contaminated by hybrids and lack of effective management. By selecting organic seeds and prohibiting contamination, Chinese cotton could achieve higher and more stable quality.

The types of certification vary, but they all have the same social goal: grow and promote better cotton. Clothing brands determine which certification they would like to recognize. For example, BCI's partners would prefer its cotton suppliers be certified by BCI. According to Cotton Connect's (China) manager, the variance between different cotton certifications is necessary, because different brands might have different requirements for their raw materials. Therefore, even though BCI suspended activities in Xinjiang, this does not suggest that China would cease producing preferred cotton. Brands might switch to other certified preferred cotton. Additionally,

²² BCI FARMER RESULTS 2018-2019. <https://stories.bettercotton.org/bci-farmer-results--2018-2019/>

²³ <https://www.commonobjective.co/article/fibre-briefing-cotton>

²⁴ https://www.pan-uk.org/cottons_chemical_addiction_updated/

reports have suggested that some Chinese enterprises are planning to launch local cotton certification. Two years ago, Zhongnong Guoji, a private cotton supplier company, started to plan a Chinese sustainable cotton standard called Weilai Cotton (“Future Cotton”). Earlier this year, after the BCI brouhaha, this local certification plan was brought back on the Chinese textile industry’s agenda by the China Fashion Association and the Modern Seeds Development Fund.²⁵ The plan is still in progress. However, in an interview Cotton Connect expressed worries about this plan -- while it is possible to come up with a set of reasonable standards, executing such a plan with farmers and factories will not be easy because the large-scale practice would involve other factors, such as a third party for authentication.

Using certified preferred cotton reflects a textile brand’s commitment to sustainable development and it is important for brand building. Preferred cotton accounted for 30% of global market share in 2020. Compared to the previous year, global preferred cotton production increased by 24% despite the pressures of the coronavirus pandemic and an overall decrease in cotton production volume. However China, the world’s major cotton producer, does not adhere to this trend. Textile Exchange’s annual organic cotton market report also suggests that after BCI suspended activities (including certifying and carrying out cotton projects) in Xinjiang in 2020, there was a decline in local organic cotton production.²⁶ Specifically, there was a 40% fall in the number of

²⁵ <https://www.ecotextile.com/2021041627655/materials-production-news/china-to-launch-own-better-cotton-initiative.html>

²⁶ https://textileexchange.org/wp-content/uploads/2021/06/Textile-Exchange_Organic-Cotton-Market-Report_2021.pdf

organic cotton farmers, a 26% fall in production volume and a 19% fall in planting area.



(according to Textile Exchange's organic cotton market report)

Fig 5: REEL program in Hebei, China (Source: cottonconnect.org)

So why does China's preferred cotton industry have a distinctive development? Is there a lack of awareness of sustainable development?

In 2016, China's National Plan on Implementation of the 2030 Agenda for Sustainable Development recognized the importance of sustainable development, and made a guide for following its principles. The guide urges local governments and relevant institutions to create a nurturing environment for the industry's sustainable transformation, such as taxation reform, system modernization and public education.²⁷ In 2017, the Ministry of Foreign Affairs published

²⁷ <http://www.gov.cn/xinwen/2016-10/13/5118514/files/44cb945589874551a85d49841b568f18.pdf>

an outline to track and summarize the transformation process. It pointed out that there has been significant decrease in carbon emission and pollution. On the other hand, several problems remain as consumers were not aware of green consumption, and factories lacked sustainable techniques. For the next step, China would further implement green transformation, especially in traditional industries, by upgrading production to be more sustainable and energy efficient, according to the outline. The government should also promote sustainable products through government procurement, the outline said. Legal and environmental institutions would work together to propel new environmentally friendly laws. Moreover, there would be more education for the public to change people's consumption habits. Besides the sustainable development agenda, Xi announced at the United Nations last year that China would reach carbon neutrality in 2060. This goal was later added into China's 14th five-year plan that goes from 2021 to 2025.

China's welcoming attitude toward sustainable development however is hardly reflected by its cotton industry.

The increasing awareness for sustainable materials makes different parties in the cotton industry more noticeable. Bodies like BCI, CmiA and ROC decide the standard for preferred cotton. Among these certification bodies, clothing factories and cotton farmers, there exists another constituency with a social purpose that fosters cooperation and communications. This social-purpose-driven groups are often called non-governmental organizations, despite variations of the definition of NGOs.

To understand the complexity of the role of NGOs in such areas as sustainable cotton, it is helpful to examine how NGOs in China function. To run an international NGO in China, several procedures need to be followed. Besides administrative steps such as identity checks, criminal record checks and opening bank accounts, the hardest step is to register under a government department -- getting the document of approval. According to the Organizations in charge of operations for Overseas Nongovernmental Organizations (2017), NGOs must be registered under a corresponding government department according to its scope of operations. (For example, the U.S.-based NGO Environmental Defense Fund is registered under the Chinese Ministry of Environmental Protection.) The NGO would provide its background information and range of

work to a corresponding department. The tricky part is that there does not exist a set of criteria that determine whether or not the NGO would be accepted to operate in China. Each application is treated as an individual case. If approved, the corresponding department would be in charge of all the NGO's activities. If the NGO gets into trouble, the department in charge would be partially responsible. Therefore, organizations with the autonomy to determine whether or not to accept an NGO's registration scrutinize applications closely. Departments may require expert assessments while reviewing applications. Because of the absence of written standards, this process leaves much room for uncertainty, and it is difficult for NGOs that have little social capital or networks to gain the trust of registration departments.

What is more, the Chinese organization in charge determines the registered NGO's area of activity: if an NGO aims to carry out activities in a certain province, then a provincial department must be in charge; if its activity scope is nationwide, it needs to register under a national department. Getting approval by a national department is even harder, because there are more concerns for such a department's integrity, and would not welcome any foreign organization creating any risk that could affect what the department views as national security. An NGO's misconduct would undermine the department's accountability. Therefore, foreign NGOs need to exert more effort to convince departments that they would be a trustworthy partner and not get into any trouble. In addition, some persuasive factors including personal connections or affiliations are hard for overseas NGOs to acquire.

Getting the approval letter is the biggest hurdle, but not the only challenge for an overseas NGO. Successful applicants must also register at the provincial Public Security Unit in where it intends to register an office. This means the NGO's activities will be monitored by the PSU. One reason for registering NGOs with public security is that PSUs manage identity, passports, visas, and foreigners' activities. They have deep experience in managing and assisting foreigners' activities, and are able to provide services that make facilitate NGOs conducting their business. Of course this also allows close monitoring of NGO activity; if any NGO is seen to be threatening national security, the PSU will take action to counter the threat and maintain social order. This enforcement is efficient in maintaining national safety from the Chinese point of view, but it also can hinder foreign NGOs. Under the close watch of the organization in charge

of operation and the registered public security office, foreign NGOs are rather cautious about their activities. Even if the overseas NGO is only hosting an occasional event, it still has to go through this strict process.

“We work like an NGO, but we are registered as a private company in China,” a manager at Cotton Connect said. “Our mission is to promote sustainable cotton-to-cotton suppliers, so we work with some international foundations, clothing brands and cotton farmers. We do not have any political stand, and we rarely interact with the government.”

As a company, Cotton Connect has more autonomy. Currently their main job is communicating partner brands’ requirements to local cotton farmers. The partners, mostly international clothing brands, lay out their requirements for preferred cotton. Cotton Connect then works with local cotton farmers’ cooperatives, holding training sessions, inviting experts to teach planting techniques and explaining benefits for growing sustainable cotton. Before 2020, their main sites were Xinjiang, Hebei and Shandong provinces. But in 2021, after BCI suspended activities in Xinjiang, Cotton Connect, as a BCI partner, narrowed its working regions to Hebei and Shandong.

There are two ways of training. The more efficient is “training of trainers.” Cotton Connect holds lectures for local experts or cooperation organization managers. Since the audience already understands cotton-planting technical terms and has a certain knowledge of sustainability, the training normally goes smoothly. Another mode of training is “farmers training”. As its name implies, this training requires experts from Cotton Connect to talk directly to local farmers. Most farmers have been planting conventional cotton for their entire lives, and it is difficult to convince them that shifting to a more expensive and time-consuming method is in fact beneficial. To tackle farmers’ unwillingness, Cotton Connect will have to change its methods of training to appeal to farmers’ mindsets.

Cotton Connect is not alone in China. In 2015, the global lead producer of sustainable cotton, C&A Foundation, started an organic cotton-related initiative in Hubei province. Later in 2017, C&A, together with Cotton Connect, initiated an experimental site in Cangzhou, Hebei,

Shandong. In the past few years, besides holding training for farmers, Cotton Connect cooperated with other NGOs and conducted events that invited different parties in the sustainable cotton industry to share their perspectives. In 2019, during the Intertextile Shanghai Apparel and Fabrics Exhibition week, Cotton Connect and Textile Exchange co-hosted the first regional Organic Cotton Round Table meeting in China.

Investment is usually project-focused. For example, funding from BCI passes to REEL, which is a three-year agricultural project that aims to educate farmers about sustainable cotton. Funding mainly comes from direct investment from partners, such as Laudes Foundation (formerly C&A Foundation), Textile Exchange and BCI. According to Cotton Connect, these organizations are the only ones that promote sustainable cotton in China. There is not much company in this lonely industry.

There are several challenges facing production of organic cotton. One is that international and domestic organic standards are different. International designations for organic cotton are "Global Organic Textile Standards" and "Organic Content Standards," while the domestic standard is called "CHN Organic Certification (GB/T 19630)". According to the domestic standard, certified textile must be 100% made by organic materials, while the GOTS only requires 95% organic materials. If brands require an international certification (they usually do), they have to identify a specific supplier for the brand. Insufficient communication between various stakeholders adds up to the level of difficulty. Wei Xiong, the CEO of an organic cotton production company, told Textile China Online that the domestic examination for organic cotton is less credible.²⁸ More effort should be devoted to training and supervision for domestic certification bodies. The underlying uncertainty struck the preferred cotton market harder than conventional cotton because the majority of its order relies on international brands. The pandemic posed extra challenges for the small market because many foreign brands cancelled their orders, shaking farmers' confidence in growing organic cotton. To resolve this challenge, textile producers should extend the supply chain to farmers to foster efficient communication and promote collaboration. Man Yick Chung from Esquel Group pointed out during the regional

²⁸ <https://www.ctn1986.com/index.php?c=content&a=show&id=20393>

Organic Cotton Round Table that to connect demand and supply, enterprises should first convince cotton farmers of the profitability of growing sustainable products, then find customers who are willing to pay a reasonable price. Esquel Group made a successful attempt in promoting sustainable cotton. It supplied high-quality cotton (conventional and organic) to domestic and international brands, such as Muji in Japan, Lacoste in French, Li-Ning in China and Calvin Klein in America. Unlike the majority of textile companies, Esquel owns and manages an organic cotton supply chain in Xinjiang, bridging the knowledge gap between farmers and brands. The company makes higher profit from its organic products, then it is able to transfer the premiums to its organic cotton suppliers, and incentivize more farmers with higher income.

Another challenge on the supply side is the difficulty in preventing organic cotton from GMO contamination. As noted earlier, cotton has low quality because of bad management and hybridization between different breeds. This is a problem faced by both conventional and preferred cotton. In 2016, Cotton Connect conducted an organic cotton seed project, selecting six non-GMO breeds for the experiment. The result showed that only one breed passed the non-GMO test after harvesting. This suggests that non-GMO seeds are easily contaminated during the planting process. Dong Helin, a researcher from the China Cotton Research Institute, pointed out at the Organic Cotton Round Table that in his experience, it is almost impossible to purchase organic cotton seeds from the seed market. Obtaining qualified seeds requires seed experts and institutions to work together and deliberately propagate seeds in labs. On the bright side, current Chinese policy does not permit GMO long-staple cotton, so one solution is to plant organic long-staple cotton because there is a lower chance of cotton mixing. (Long-staple cotton is smoother and softer compared to short-staple cotton, which is normally used in making sheets).

The most frequently cited challenge, however, is on the consumption side. The responsibility of educating consumers should be borne by both the government and textile brands. Social enterprises such as Cotton Connect aim to bridge the gap between farmers and textile brands. As driven by their partners' requirements, they focus on the supply side of sustainable cotton. Yet a depressed market is the root of the problems faced by sustainable cotton. Currently, the majority of Chinese sustainable cotton is exported to international markets because of the lack of domestic demand. Consumers are not willing to spend more on the more expensive organic textile

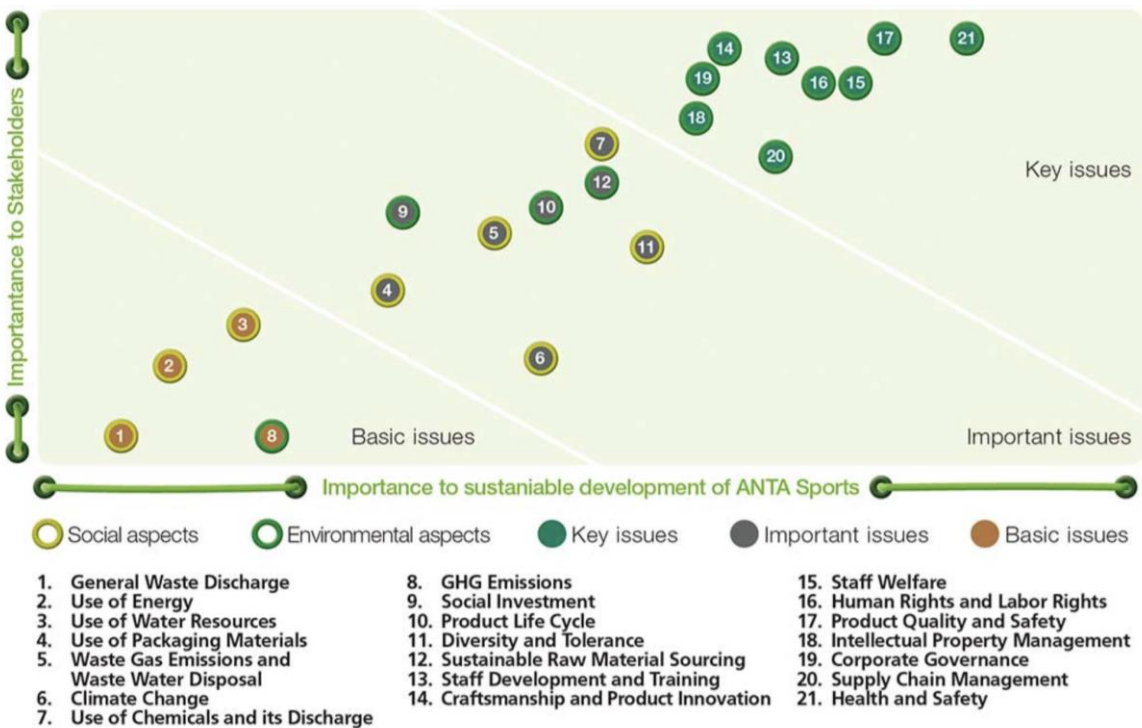
products, so the market reflects sustainable cotton's higher price and lower demand. Switching from conventional to sustainable cotton is a huge commitment for farmers. The planting cost increases mainly from using clean water and organic fertilizers, and protecting the seeds from GMO contamination. Farmers are unwilling to switch from their currently profitable cotton to the labor-intensive, less-profitable sustainable cotton. During a three-year organic cotton project for example, Cotton Connect observed farmers' resilience in growing organic cotton, and seed experts' resilience in preserving organic seed. They chose cotton farmers who were suffering from low productivity, invited them to grow organic cotton, and helped them increase soil fertility. But halfway through the project, the Xinjiang farmers quit because they lacked motivation in maintaining the organic planting process.

To incentivize farmers to grow higher-cost sustainable cotton, social enterprises and NGOs need to educate and to facilitate the growing process. However, with tightening policies regarding foreign NGO organizations, and BCI's rejecting the majority of Chinese cotton, the few organizations in the industry are slowing down launching new initiatives in China. Hong Lee, the organization's former chief China representative, whose current title is assurance specialist, said in an email that Textile Exchange does not have "any specific plans regarding the sustainable cotton market in China at this moment". Lakshmi Poti, the senior project manager of Laudes Foundation also indicated in an email conversation that the group "have not planned for a landscape initiative in China" in its 2020-20205 strategy, despite its rich experience working with Chinese farmers. Cotton Connect's working sites are focusing on only two provinces, Textile Exchange is not planning any projects in China, and the Laudes Foundation is turning to India. International social enterprises and NGOs struggle to keep their sustainability business in China thriving. Scaling organic cotton production is a daunting task in China.

Textile companies play an important role in promoting sustainable cotton, with some help from social enterprises like Cotton Connect. Companies are increasingly switching to more sustainable ways of production. Li-Ning and its supplier, Esquel Group, are branding their goods as high-quality local products. Another leader in sustainable clothing is the brand Anta. As the largest domestic clothing brand, Anta is building up its sustainability profile from different aspects (Fig 6). Preferred cotton is one tip of the textile industry's sustainability iceberg. According to Heike

Hess, president of International Association of Natural Textiles, merely using organic cotton does not make the brand green -- there are other factors, such as water management, carbon emissions and fair trade that also influence a product's sustainability.

Anta conducted a market study in 2020 among six constituencies: customers, media, suppliers, distributors, investors and staff. The result showed that in the textile industry, only the media considers the environmental impact from obtaining raw material as a top concern. Customers and suppliers are paying more attention to product quality, with less concern about the production process. Even when companies focus on their raw materials, growing preferred cotton might not be their first option. Anta's perspective is that it is giving priority to other issues like supply chain management, health and safety, and product quality. The motivation stems from the government's tightening regulations, consumers' awareness and green groups' pressure. To meet these expectations, companies would need to make efforts to upgrade their production line. Changing their product or bargaining with cotton suppliers takes a longer time and requires more effort. It would involve several teams if a company were to develop a new series of expensive



organic cotton products.

Fig 6: ANTA Sports 2020 materiality matrix (Source: ir.anta.com)

Interestingly, Anta has been using organic cotton in some of its products since 2018, with little publicity. Organic cotton seems a less-than-effective selling point that domestic brands seldom use. Even though Li-Ning proudly announced that all of its cotton is supplied by Esquel Group -- the leading company in producing organic cotton textiles -- Li-Ning highlighted only the material's origin, Xinjiang, to speak to its patriotic audience. Although Chinese brands can play a crucial role in promoting preferred cotton, they prefer to build up brand loyalty through advocating other aspects of their products.

The potential for Chinese organic cotton remains uncertain. Brands, consumers and the government are not giving it priority, while social enterprises and NGOs that hope to bring a change in the market are largely restricted by the political environment. Companies specializing in organic cotton production are less visible, and some are uncomfortable with the attention that sustainability efforts bring. When calling Purest Cotton, a Beijing-based organic cotton company, for an interview, a representative seemed shocked, calling such an inquiry "extremely presumptuous," and refused to comment on China's organic cotton development. Such attitudes will continue to impede the progress of renewable production until all parties embrace the mission of sustainability in China's cotton industry.

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