China’s Cotton: A Growing Market Opportunity
1. Introduction: A market in transition

“We believe that the changes in the China cotton reserve policy gives the global cotton supply chain an opportunity to develop an enabling and supportive environment – economically, socially and environmentally, which will determine the future sustainability of the largest cotton producer in the world.”

Alison Ward, CEO, CottonConnect

China is extremely important to the global cotton industry. The world’s largest producer, importer and consumer of cotton, it holds around 58% of the world’s total stockpile of the raw material. Since China’s accession to the World Trade Organization in December 2001, its textile and apparel exports have grown by 50% and the nation has doubled its share of global exports in less than a decade, to around 25%.

The market is on the move and recent changes present new opportunities and challenges to both global and Chinese brands in the apparel sector.

In January 2014, the Government’s cotton reserve policy – which functions by purchasing, holding and selling cotton supplies – was withdrawn, resulting in a downward shift in prices. Between January and September 2014, prices dropped by around 27%.

Meanwhile, there are growing environmental concerns, not least China’s water challenges and an ever-thirsty cotton crop. A changing rural demographic is also bringing about a new era of uncertainty for farmers and the brands that are reliant on a sustainable source of cotton.

While these challenges are demanding, requiring new ways of working within the Chinese cotton value chain, the significant changes to the political, social and economic landscape present a number of opportunities for brands and retailers.

This report sets the context for cotton farming in China and presents these challenges and the opportunities in more detail. It concludes with recommendations for more brands to take action in order to help secure a more resilient supply of cotton in what is fast becoming a key market for brands either sourcing for their global markets, or building a fast-growing local market.

A need for a constant and reliable supply of water throughout the growing season means that China’s cotton-growing regions are defined by a heavy dependence on, and proximity to, water. The country’s three main cotton-growing areas are all focused in China’s most important river basins: the Yangtze delta; the Yellow River; and the Northwestern province of Xinjiang.

Of these regions, Xinjiang remains the most important, producing the best quality cotton. More than half of the country’s cotton comes from here, with large, government-owned or operated cotton farms still key players in the sector.

Home to the largest Muslim population in China (the Uighurs), the region is not without its social issues. Ongoing tensions between the Chinese and Muslim minority communities in the past few years has increased the need for higher-than-normal levels of security in urban areas. While this currently poses no direct risk to the cotton supply chain to date, brands and their supply chain partners sourcing from the region should maintain a watching brief.

1. Source: International Cotton Advisory Committee
2. Source: Global Trade Analysis Project
3. Source: China Cotton Association
2. Key challenges

2.1 A changing policy environment

China’s cotton market has been governed by two key policy instruments designed to support its industry: a cotton reserve price for farmers that guarantees them a price for their crop; and import quotas for spinners. The government took a decision in January 2014 to lift its reserve policy. For the first time, this exposes Chinese cotton farmers to real world prices, a change which brings both uncertainty and opportunity. A level of price support will remain, however, but this will only be available to farmers in the province of Xinjiang initially. The policy shift raises questions about how farmers will manage the transition and concerns that some will move out of cotton production altogether if financial support is not extended, or more sustainable livelihoods found. Policies set out in China’s 12th Five Year Plan (2011–2016), the country’s blueprint for economic development, have a heavy focus on greener development with a well-known policy to move towards a more ‘circular economy’. Concerns of water pollution in the sector are already proving sufficiently conducive to driving a stronger growth. The northwest province of Xinjiang has good climatic conditions for organic in particular, and there is clear potential for future expansion in line with a growing in global demand.

2.2 Continued focus on downstream environmental impacts

Identified as one of China’s top three polluting sectors, the textiles industry is one of nine industries singled out by the State Council required to move towards a more ‘circular economy’. Concerns of water pollution in the sector are already well known, but it is thought that China’s lack of clean water “poses an existential threat” to the US$1.7 trillion global fashion industry. While most brands and their supply chain partners are working hard to address these downstream concerns, understanding of the upstream farm-level issues is more limited and poses a potential risk for the future (see Section 3).

2.3 Risks and rewards for foreign brands in China

Foreign brands are routinely in the public eye and regularly ‘scape-goated’ by government, media and consumers, demanding an increasingly proactive approach. In recent years, companies in a number of sectors – including fast food, pharmaceuticals, retail and mining – have fallen foul of China’s campaigns on food safety, corruption and pollution. Increasingly, the net has widened to include local brands and suppliers also. Both local and global retail and textile brands are now ranked annually by both foreign and Chinese NGOs, including the Institute of Environmental and Public Affairs (author of the ‘Corporate Information Transparency Index: Greening the Global Supply Chain’), and their performance in a number of areas – such as water use, pollution and transparency – is routinely under scrutiny. However, the spotlight also affords opportunities for brands to showcase their progressive practices and leadership in the sector, with examples of good practice in the sector downstream – both at mill level as well as consumer level – such as the launch of H&M’s Conscious Consumer range, the first pair of Levi’s jeans to be produced in China using recycled water, and the focus on greenery supply chains by the Esquel Group.

At a farm level, some brands are taking action. CottonConnect works closely with clients such as the C&A Foundation, Primark and Marks & Spencer on interventions aimed at improving productivity and reducing environmental impacts. Collectively, these efforts have reached nearly 4,000 farmers across 11,000 acres, producing 8,500 tonnes of cotton. Additionally, as an implementing partner of the Better Cotton Initiative (BCI), CottonConnect also works with BCI members on farms producing a total of 7,000 tonnes of cotton across 8,000 acres. All these brands recognise the critical importance of investing in the sustainable future of cotton in order to ensure security of supply.

“China is the world’s biggest cotton producer and can be a global leader in building sustainable cotton supply chains. But more needs to be done to build farmer capacity to realise this potential and link them to markets. Organisations like CottonConnect are critical in building the linkages that are necessary for change.”

Anita Chester, Head of Sustainable Raw Materials, C&A Foundation

“The long-term strategy is to source cotton sustainably. It makes good business sense for Mark’s to support the growth and development of sustainable cotton in China. We need good quality, sustainable supplies of cotton, and in order to obtain and achieve our goal we must invest in farmers today to ensure we have the cotton for tomorrow.”

Iain Summers, General Merchandising Manager, Product Innovation, Industrial Wear and Footwear, Mark’s

There is a niche, and growing, consumer interest in other sustainable cotton products such as organic in China, though market signals and cotton prices to date have not proved sufficiently conducive to driving a stronger growth. The northwest province of Xinjiang has good climatic conditions for organic in particular, and there is clear potential for future expansion in line with a growth in global demand.
3. Challenges for Farmers

3.1 Changing rural demographics in cotton farming

Cotton-growing is becoming an increasingly challenging business for farmers. A sector defined by low and falling incomes, traditionally high input costs, declining productivity and increasingly scarce water – it is little surprise that the next generation is opting to leave the countryside in search of jobs in urban areas. CottonConnect’s farm team estimate that the average age of a cotton farmer is now over 50 years old. Incentivizing the next generation of farmers will be key to the long-term viability of the sector.

The situation is compounded by recent changes in the reserve policy and, while a degree of protection will continue in Xinjiang, uncertainty over the future of cotton farming may lead to a further decline in production in many regions.

Decades of intensive farming and the use of chemical fertilizers and pesticides have taken their toll on China’s soils. To just maintain the same yields, farmers are using larger amounts of chemical fertilizers. Between 30% and 40% of all pesticides applied in China are applied to cotton, making it the most heavily treated agricultural crop.

While farmers battle to maintain yields through these means, the impacts of climate change are also at play. Agricultural experts have indicated that climate uncertainty can reduce yields by a further 20-30%.

Case study

Mr. Wang Jianjun, a cotton farmer in Shandong, tells us that with increased fertilizer use he has maintained a cotton yield of 1,350 kg/acre for the last few years, but this is still 150kg/acre lower than five years ago. He acknowledges that deteriorating soil quality is a key concern.

3.2 Over-used and polluted soils

Cognizant of the fact that it must support 20% of the world’s population with just 7% of the world’s water resources, the Chinese Government has made water efficiency and conservation a top priority. Responses include strict provincial water targets, quotas, water fees, and infrastructural investment of $1 trillion.

As highlighted by CottonConnect’s recent report ‘More Crop Per Drop’, cotton is one of the world’s thirstiest crops. And Chinese cotton production – which requires an average 3,000 to 5,000 cubic metres of water per hectare – occurs in some of the country’s most water-scarce regions. A look at China Water Risk’s (CWR) map (FIG. 3) of water scarcity across the country, reveals that most of China’s cotton is grown in what CWR defines as the ‘Dry 11’ and ‘Deficit 6’ provinces.

In Hebei, one of China’s most important cotton-growing belts, farmers have to dig deeper every year to get the water they need. Three years ago they dug to 80 metres. This year, some are now digging to 120 metres.

Growing Challenges

Of the estimated 2,600 litres of water it can take to produce a single cotton t-shirt, anywhere between 40% and 60% of that water used takes place in the cotton fields. Given water inefficiencies in some cotton-growing areas, particularly in China, this number is a conservative one.

In the country’s most important cotton-growing region, Xinjiang, farmers have two water sources: the Tarim River and groundwater, with snowmelt offering a welcome, if not predictable, additional source of water. But the water table is shrinking fast: water accessible at 30 metres in previous years is now only found at 80 metres, and flood irrigation is needed at least twice a year to deal with the twin challenges of dealing with both cotton pests and a highly alkaline and saline soil to make it viable for cotton-growing.

“...The overuse of fertilizer and pesticides in most cotton growing areas is still quite prevalent, leading to degradation of the soil and pest resistance. In addition, the mulching plastic film, widely used, has caused soil pollution – another big challenge. For Better Cotton projects, we have been working very hard with our implementing partners to address this issue and improve the situation.”

Sherry Wu, Better Cotton Initiative, China
Labour accounts for more than two thirds of total farming costs – and these costs are rising fast. Minimum wages have increased at a rate of more than 10% per year in the past five years\(^\text{11}\). On average it takes 132 worker days per year to manage one acre of cotton\(^\text{12}\). This trend, combined with downward pressure on cotton prices, is a growing concern for farmers. While large-scale mechanised farms exist in Xinjiang, about 85% of smallholder cotton farms in China are still dependent on labour for harvesting\(^\text{13}\).

As an indication of how more attractive urban prospects are to rural workers, the minimum wage for workers in Beijing has more than doubled since 2008 [FIG. 4], resulting in labour leaving the fields for the cities.

**FIG. 4 – Rising minimum wages, Beijing, 2008–2014**

<table>
<thead>
<tr>
<th>Year</th>
<th>Minimum Salary (RMB/month)</th>
</tr>
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<tbody>
<tr>
<td>2008</td>
<td>730</td>
</tr>
<tr>
<td>2009</td>
<td>800</td>
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<tr>
<td>2009</td>
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<tr>
<td>2013</td>
<td>1,560</td>
</tr>
<tr>
<td>2014</td>
<td>1,660</td>
</tr>
</tbody>
</table>

100 RMB = approx $16.3

Source: Human Resources and Social Security Bureau, China

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**3.4 Rising labour costs**

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**3.5 Absence of financial literacy and access to rural credit**

Without a keen understanding of farm economics and profit and loss accounts, most farmers are unable to address key drivers of profitability. Growing input costs and the difficulty of accessing credit and loans exacerbates an already precarious economic livelihood.

As more farmers leave for the city, land is rented to those remaining, increasing both the size of the farms and the capital costs required to support them.

**The finance challenge**

More than 90% of cotton farmers in Xinjiang need to take a loan for cotton production in the spring before sowing\(^\text{14}\). Farmers pay back their loans and interest to local banks or credit cooperatives after they sell their cotton. Poor harvests and smaller profit margins can mean these loans may increasingly become a burden.

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**3.6 Impact of Migration**

There are an estimated 60 million children and young adults (under 18) in China that have been left behind in rural communities by parents seeking work elsewhere\(^\text{15}\). Cotton communities are no exception, where migrant worker parents often leave their children unaccompanied. Without access to education or parental supervision they become vulnerable to exploitation and represent a growing economic and social burden on rural communities.

**Fig. 5 – Children affected by migration, 2000, 2005 and 2010**

Source: Duan Chengrong et al., estimation based on the 2000 and 2010 Population Censuses, and the 2005 One Per cent Population Sample Survey conducted by the National Bureau of Statistics

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"One of the costs of China’s remarkable economic development, which is only now beginning to be understood, is the huge number of children who are not growing up with their parents. Many of these are in rural agricultural communities. We don’t yet know the full extent of the issue in cotton growing communities, but it is certainly one that deserves looking at more closely."

Pia Macrae, Director, Save the Children China
4. Impact for brands and supply chain partners sourcing cotton from China

The challenges presented by developments in the Chinese cotton sector have a range of implications for brands, retailers and textile companies along the supply chain that are reliant on a sustainable supply of cotton.

4.1 At a strategic level

Need to understand the complexity of the Chinese market
The increasing availability of good quality cotton at more competitive prices is good for buyers but poses significant challenges to farmers’ economic viability in the mid- to long-term. Set against a backdrop of growing socio-economic and environmental challenges at farm community level, this shift brings greater responsibility to brands and their supply chain partners in helping farmers to make the transition to more sustainable cotton futures.

Transparency is key in an increasingly volatile business environment
Brands will increasingly need to be proactive in addressing social and environmental issues in the supply chain and communicate what they are doing in a transparent manner.

Time to collaborate to scale action
The scale and reach of socio-economic and environmental challenges in China demands that the supply chain works more effectively together – including brands, suppliers, competitors and the government, to scale up their efforts. Organisations such as CottonConnect can help brands to make these connections and identify new ways of collaborating.

4.2 At a farm level

Better understand the risk to natural resources
Organisations with a dependency (whether direct or indirect) on land or water in China, will need to show support for government policies and priorities and community needs. Water scarcity, the over-use of pesticides, polluted soils and disruptive weather patterns will continue to take their toll on Chinese cotton farmers. Business will need to understand the scale of the risks and extent of needs in their sourcing communities and take responsibility for helping to build a more sustainable infrastructure for cotton farming.

Provide agricultural training to improve yield and farmer livelihoods and create new interventions to sustain longer-term growth
The changes in China’s cotton reserve policy have created a vital opportunity – and necessity – for brands and their suppliers who wish to safeguard the quality of their cotton supply from China. Specifically, there is a need for investment in farm-level activities, training and other financial support mechanisms to sustain the viability and growth of China’s cotton-growing communities.

Need to address declining and ageing farmer population
Long-term security of cotton supply is at risk if broader interventions are not made to incentivize a next generation of farmers to stay and manage cotton farms. Learnings and inspiration can be drawn from other commodity crops facing similar challenges, such as coffee and cocoa. Crop diversification, community entrepreneurship and financial training can all play a role.

“In the last few years, farmers have become increasingly concerned about falling cotton prices, higher labour costs, lower productivity and uncertain incomes from cotton. We have to think about broader and longer-term interventions if we are really to provide farming communities with the knowledge and services they need to ensure future prosperity for their families and the cotton supply chain.”

Frank Wei, General Manager, China, CottonConnect
5. Key opportunities for brands and retailers

The Chinese cotton industry has reached a pivotal point. And while the challenges it faces are significant and numerous, there is a growing need – and opportunity – for international and leading Chinese brands to support the cotton sector in this time of transition by showing leadership, collaborating with others and investing to help build a more sustainable cotton industry for the future.

At a strategic level

1. More competitive cotton prices in China
   The change in reserve pricing policy means Chinese cotton prices are falling in line with international prices, after sustaining a 30% premium for many years. This, coupled with China’s reputation for good quality cotton, represents an attractive prospect for brands sourcing in the region.

2. High quality cotton with strong downstream infrastructure
   China has long held a dominant position as the centre for textile manufacturing. While higher labour costs in China have seen a shift to cheaper South East Asian markets in recent years, China’s scale, experience and connectedness with global markets means it still retains an edge on quality and efficiency. A cheaper, better quality cotton both sourced and processed in China could create greater efficiencies for global brands sourcing from, and selling to, the China market.

3. Greater sustainability becoming a licence to operate
   Environmental sustainability in China has become inseparable from economic growth. Its 12th Five Year Plan sets out expectations for cleaner, greener growth, greener and more productive agriculture, better water protection and rural regeneration. A clear opportunity exists for brands to demonstrate leadership and safeguard their licence to operate in China.

At a farm-level

1. Support for farmer finance and literacy
   While most brand efforts currently focus on the textile processing and at factory-level, the real opportunity to demonstrate leadership comes upstream, helping farmers tackle real and practical challenges. Brands and their suppliers should be conducting a needs-assessment of priority cotton communities that can inform the subsequent development of financial interventions. For example, modules for financial training (profit and loss accounting, etc) or micro-finance tools such as loans or crop insurance protection to better support and protect farmers from the uncertainties of the market.

2. Support for effective water management
   Brands should be seeking to understand and address water issues at a farming-community level as a priority. This might include: mapping water footprints at farm level; developing training or educational programmes focused on behaviour change; or, engaging with existing or new watershed management community projects in priority sourcing regions.

3. Encouraging rural entrepreneurship in cotton communities
   An opportunity exists to support ‘left behind’ children and young adults affected by cotton migration. Brands could partner with a leading youth-focused NGO whose activities in cotton regions such as Xinjiang include centres focused on developing vocational skills, career development and personal finances for young people affected by rural migration. A tailored programme could work to support the next generation of entrepreneurs in the cotton sector.

China’s organic experts suggest that there is a small but growing middle class consumer interest in China and neighbouring markets such as South Korea and Japan focused on the purity, quality and safety of organic cotton. This combined with a growing awareness of environmental challenges and a desire for healthier lifestyles, signals an opportunity for a future market in organic apparel in the region.
Conclusion

There is a significant window of opportunity for business to take leadership in building sustainable cotton interventions in China by identifying key stakeholders and partners and leveraging technical, financial and political support for the sector. Growing challenges, at both farm and market level, demand that companies sourcing from and selling to the Chinese market fully understand the impact of these challenges on their supply chains and future prospects.

CottonConnect believes that the greatest opportunities lie at the farm community level, where the degree of support for an enabling and supportive environment – economically, socially and environmentally – will determine the future sustainability and viability of the largest cotton market in the world.

Case study: Training leads to better yields – and better profits

As a result of training via CottonConnect’s REEL Cotton Program, Mr. Zhang Jinlin spent 40% less on pesticides than in the previous growing season (from CNY 100/mu to CNY 60/mu), and less time on pesticide spraying too. Mr. Zhang, based in Zhang Jiguong Village, north-east of Shanghai, also managed one of the highest yields in his village, at 300 kg/mu, with dealers offering him better rates for his cotton (CNY 8.6/kilo while other farmers received just CNY 7.8-8.0/kilo).

Case study: Learning to farm more efficiently

In 2013, Mr. Lu Linchuan’s village of Ka Er Ka Ti was selected as a pilot location for CottonConnect’s REEL Cotton Program and Mr. Lu signed up. Thanks to the education and training he received, he learned that pesticides not only kill pests, but also the pests’ enemies, such as ladybugs. Today, he has changed his approach, no longer opting to use pesticides unless he absolutely has to – saving CNY 50 on pesticides, plus fuel and his own time. “The CottonConnect training is very helpful,” he says. “I learned how to efficiently apply fertilizers, irrigate and control pests. If the cotton yield increases when I use less fertilizers and pesticides, I will treat you to a big dinner!”

Opportunity for leadership on sustainable cotton-sourcing in China

“Our partnership with CottonConnect provides us with invaluable insight into the cotton supply chain and the challenges faced by smallholder farmers in China. Furthermore, the programme is demonstrating how these challenges can be overcome, through effective support and training. We believe that working together with agricultural experts, smallholders and other brands is critical if we are to secure a more sustainable supply of cotton for the future”

Katharine Stewart, Director of Ethical Trade, Primark
CottonConnect works with brands and retailers to transform the way they source cotton.

We connect retailers to the supply chain and to cotton farmers, creating relationships, transparency and efficiency, delivering business value, reducing costs and building security of supply.

We help farmers farm better by supporting them with business skills, access to finance, knowledge and expertise in farming practices – which are better for the farmer and for the environment.

We share best practice – farmer education, farmers groups to share knowledge, and support knowledge of farming techniques, helping them to farm safely and sustainably.

In the last four years, we have worked with 130,000 farmers and increased the land under sustainable cultivation by almost 300,000 acres.

By working with CottonConnect companies can know where their cotton supply is, how it is produced, and how much it has access to – all of which reduces risks and creates opportunities in the face of increasing competition.

Get in touch to find out more about CottonConnect’s services

www.cottonconnect.org