

Cotton Outlook

Special Feature

March 2019



Cotton India 2019

Global opportunities and challenges



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Cotton India 2019 – Global opportunities and challenges

CAI's Cotton India 2019 conference takes place at an important moment for the global cotton market, and the current conditions do indeed offer both challenges and opportunities for stakeholders all the way along the supply chain. On one hand, the US-China trade war and negative signals regarding the macro-economic situation are causing significant concern; on the other, though, the pace of technological change is allowing for more and more efficiency, while the growth of the global population continues to push demand for all commodities including cotton.

In this context, the position of India is particularly interesting. Given its unique situation as a South Asian producing and consuming country with an export surplus, India is perfectly placed to take advantage of the current shifts in the pattern of world trade, especially between the US and China. In order to make the most of the opportunity, though, it will be necessary to maximise efficiency in the sector, especially by improving yields and minimising contamination.

These issues, amongst others, are addressed from different angles by our eminent contributors.

We are extremely grateful to Dr Srinivasan and Mr Dhuria for their thoughts on the current patterns of international trade, and for Mr Sambandam's fascinating discussion of the possibilities that technological innovations might provide for cotton producers in India. Thanks also to Dr P. Rani Alli of the Cotton Corporation of India for taking part in our interview and offering some very useful insights on the operations of the CCI. Cotlook is, of course, delighted to be supporting CAI in the organisation of this year's conference. CAI President Atul Ganatra's article on page 4 outlines the services the Association provides for the sector and its plans for the future. Finally, thanks, as ever, to Bill Kingdon, Managing Director of the International Cotton Association, for his contribution outlining the history of the relationship between ICA and CAI, and looking to their shared vision for the future. We hope readers will find this Special Feature thought-provoking and inspiring.



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CAI – Staying relevant through its actions and activities



Atul S. Ganatra
President
Cotton Association of India

The Cotton Association of India (CAI), formerly known as the East India Cotton Association, has endeavoured to keep pace with the times since its inception in 1921. Housed in a large and stately building replete with history, on four acres of land at Cotton Green in Mumbai, the CAI has carved a niche for itself in the contemporary world of cotton, without losing the principles on which it was founded.

With over 450 members representing all segments of the Indian cotton and textile industry, 17 Regional Cotton Associations and four Co-operative Marketing Societies representing all upcountry cotton-producing regions of the country affiliated to it, CAI is one of the oldest apex cotton bodies in India, if not the world. CAI represents all segments of the cotton economy – farmers, growers, ginners, traders, brokers, exporters and textile mills.

Since it ceased to be a cotton exchange, CAI has had to re-orient its role. Over the years, it has successfully navigated the journey from being a regulator to becoming a facilitator. If today CAI remains a key player in the Indian cotton sector, it is primarily through its commitment to and emphasis on serving the cotton economy in a better and more efficient manner. Over the years, CAI has acquired a reputation for doing yeoman service on behalf of the entire cotton sector across India, under the able leadership of its successive Presidents and Board Members.

CAI achieved a landmark step last year, by signing an historic MOU with the Bombay Stock Exchange (BSE), which is India's number one and the world's tenth largest stock exchange, to develop and launch a futures trading platform in cotton.

As a representative body of the entire cotton trade, CAI has always believed in promoting futures trading in cotton for the benefit of the cotton sector, and hopefully this BSE/CAI-developed contract will provide a much-needed futures trading platform for the entire cotton trade in India.

Making a foray into the digital world, CAI is soon going to launch a 'CAI Trader Mobile App' with three main categories. This will provide market data from BSE, MCX rates, and live data of USD/INR and ICE. The app will have calculators and convertors and will allow



users to convert easily from maund to candy to bale to USC/pound. This CAI app will provide national as well as international market data within 30 seconds.

Last year, CAI also decided to set up a Farmers' Training Centre at its historical Cotton Exchange Building at Cotton Green and has allotted a budget of Rs. 12.5 million to be spent over the next five years.

Various services offered by CAI

Cotton-testing laboratories: CAI has set up 12 cotton-testing laboratories across major cotton-growing regions of the country and is now in the process of upgrading these laboratories with the latest equipment and relocating them so that reliable and accurate test results can be provided to the cotton sector.

Daily spot rates: CAI verifies and records the daily spot rates of all major growths of Indian cotton, which indicate the price pattern of Indian cotton and are used as a benchmark in the case of disputes between traders.

Monthly crop estimates: Under the guidance of CAI's Crop Committee (comprising more than 20 members from all cotton-growing states, who share crop figures from their respective states), CAI maintains monthly crop estimates and arrives at supply and demand figures on a monthly basis. Since 2018, CAI has not only given state-wise arrivals, up-to-date monthly figures, monthly production and consumption figures, but also monthly break-downs of consumption and stock with mills, ginners, multinational corporations and CCI state-wise. CAI also produces a monthly balance sheet and yearly balance sheet for use by the trade.

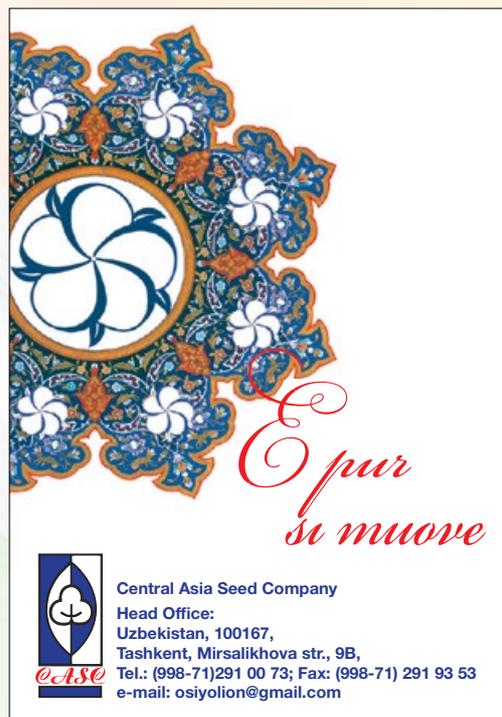
Cotton grade standards: CAI prepares and maintains its universally acclaimed grade standards in respect of the various types of cotton grown in India on a commercial scale. Cotton can be bought and sold on the basis of these standards.

Collection and dissemination of cotton information: CAI publishes the weekly 'Cotton Statistics & News' with information and data on all aspects of the cotton trade, including crop estimates, consumption, exports and imports, articles from experts and news of developments in Indian and world cotton. CAI also brings out the *Indian Cotton Annual*, a yearly publication which is a compendium of all Indian cotton statistics and events in the Indian cotton world.

Blind surveys: Since 1948, the Association has engaged surveyors to carry out quality arbitration. The Association also conducts surveys on foreign cotton. CAI follows a blind survey system, i.e. the names of buyers, sellers and appellants are not made known to the surveyors.

Certificates of Origin: CAI is authorised by the Directorate General of Foreign Trade (DGFT) to issue Certificates of Origin (non-preferential) for cotton.

Arbitration/Conciliation: The by-laws of CAI provide a procedure for resolving disputes relating to quality as well as other matters in respect



of cotton transactions made subject to CAI by-laws, by reference to arbitration/conciliation.

Representation/Co-ordination with government and statutory authorities on key cotton issues: From time to time, CAI makes representations to various government and other statutory authorities on important issues concerning the entire cotton value chain and co-ordinates with the Ministry of Textiles, Ministry of Agriculture and other government bodies.

Trade conferences: CAI organises two Cotton India conferences every year – one in Mumbai and the other at an upcountry location. These provide a forum for cotton farmers and other segments to deliberate important issues facing the cotton trade and textiles industry.

CAI is affiliated with various national as well as international cotton bodies. It is closely associated with the International Cotton Advisory Committee (ICAC). CAI is also a member of the Committee for International Co-operation between Cotton Associations (CICCA), Liverpool, and the International Textile Manufacturers Federation (ITMF), Zurich. CAI is affiliated with several reputed international cotton bodies including: AFCOT, Le Havre; American Cotton Shippers Association, Memphis; Bremer Baumwollbörse, Bremen; Centro Algodonero Nacional, Barcelona; China Cotton Association, Beijing; Gdynia Cotton Association, Gdynia; International Cotton Association, Liverpool; Japan Cotton Traders Association, Osaka; and Karachi Cotton Association, Karachi.

It is noteworthy that CAI has succeeded in remaining relevant over so many decades, purely by virtue of its commitment to serving the cotton economy through the services it offers. CAI has also taken on itself the Herculean task of supplementing the efforts of the government in increasing the productivity of cotton in India, which as everybody knows, is much below the world average productivity mark.

Interview with CCI



Dr P. Alli Rani
Chairman-cum-Managing Director
Cotton Corporation of India Ltd.

Cotton Outlook: Perhaps the most significant change for your organisation this season has been the much higher Minimum Support Price (MSP) announced for seed cotton in June 2018. How is this likely to affect CCI's operations during the season? Do you anticipate a long-term trend for the MSP?

Dr P. Alli Rani: In accordance with the guidelines issued by the Indian government, CCI undertakes MSP operations in the event that prices for Fair Average Quality (FAQ) kapas (seed cotton) fall below the MSP level. The Corporation procures FAQ-grade kapas from cotton farmers in various Agricultural Produce Market Committee (AMPC) market yards at MSP rates.

In the 2018/19 cotton season, the government of India increased the MSP for cotton by Rs. 1,130 per quintal (28 percent) over the previous year. However, since October 2018, the beginning of the Indian season, prices for FAQ-grade kapas have been ruling above the level of the MSP, except in some centres in southern and central states where they are about equal with the MSP. CCI began its MSP operations on October 10, 2018, and by late January 2019 had procured about 500,000 bales from total arrivals of around 14.2 million bales across the country, mainly in the states of Telangana, Andhra Pradesh, Karnataka, Gujarat, Madhya Pradesh and Maharashtra.

C.O.: Another important change for the industry has been the introduction of new procedures (electronic registration of sellers, online banking, etc.) for farmers transacting with CCI. Can you tell us a bit more about these developments?

P.A.R.: In the current cotton season, for the first time, CCI started the registration of farmers via its own e-portal so that the benefits of the MSP reach only bona fide cotton farmers across the country. A further new initiative has been the implementation of an online payment system, and 100 percent of payments are now released to cotton farmers directly into their bank accounts.

To empower cotton farmers, CCI has launched the mobile app 'Cott-Ally' through which producers can get all the requisite information in their local languages. The information and services available include MSP rates, details of procurement centres, cotton-related news, chatting with CCI, registering grievances and tracking payments.

In places where the state government does not provide a system for the electronic generation of *takpatti* (purchase bills), CCI performs this function too, using information provided by the farmers and AMPCs. This system ensures the proper identification of cotton farmers. In addition, the Corporation has provided laptops along with web-

cams and printers to all its procurement centres for use in the generation of electronic receipts featuring farmers' photos on the takpatti.

Thus, the introduction of modern equipment and technology to MSP operations has made the process more reliable for both the farmers and CCI.

C.O.: We understand that the scale of CCI engagement varies considerably in the various cotton-producing states. If that is so, what explains these regional disparities?

P.A.R.: The volume of purchases under the MSP programme in any state depends on many factors, including the local supply and demand position, going rates for by-products (e.g. cotton seed), availability of seed crusher plants and ginning/pressing units, and the costs of transportation and logistics at all stages of the production chain from the buying of cotton from farmers to the processing and warehousing of lint cotton bales, as well as the level of industrial development in the form of spinning/textile mills etc.

C.O.: In addition to its responsibility to support market prices, CCI also undertakes some commercial operations. Can you tell us some more about the nature and scale of this part of your business?

P.A.R.: CCI undertakes viable commercial operations in centres/states that typically see less MSP activity during the cotton season. These commercial operations ensure the strategic utilization of infrastructure on one hand and also allow for the recovery of some of CCI's overheads (indirect expenses), which means that the cost of the MSP programme to the government is reduced. The commercial operation also ensures competitive prices to cotton farmers, as CCI has a presence at all APMCs, and guarantees the supply of quality cotton to domestic mills including MSMEs (micro, small and medium enterprises).

This mechanism creates a win-win opportunity for all stakeholders: farmers achieve a competitive price, costs to central government are reduced, and mills benefit from a secure supply of good quality cotton. These commercial operations are carried out at CCI's own cost and risk.

C.O.: We know that issues of fibre quality are of paramount importance to mill consumers of raw cotton in all parts of the world. In an Indian context, how do these issues affect CCI operations? For instance, how does CCI check the quality of the cotton they purchase? Does CCI apply different quality parameters for cotton purchased under the MSP scheme and for the commercial programme?

P.A.R.: Fibre quality is of paramount importance and therefore CCI procures only Fair Average Quality-grade kapas, whether under MSP or commercial operations.

To ensure the most remunerative price for cotton farmers, CCI has provided digitalised moisture meters, Micronaire testers and portable ginning machines to

all its procurement centres. In this way, farmers will receive the right price for their produce based on an on-the-spot, scientific assessment of its quality.

Moreover, in order to supply good quality cotton to the textile industry, CCI has prescribed the quality norms for the first time since its inception. Ginning and pressing factories are obliged to produce a better quality of cotton as per parameters fixed for the percentages of lint realization (ginning outturn), shortages and trash content and for the quality of bale packaging.

C.O.: What changes do you foresee for the Indian market over the next few years, and how do you anticipate that CCI's operations might develop in response?

P.A.R.: The general fluctuations in cotton prices during the season are influenced by many factors, including the rate of yarn off-take, international price trends, demand from major importing countries, especially China and other east Asian countries, prices in the futures market, unsold stocks at the domestic and international level, trade restrictions, etc. Besides this, world stocks, which were around 23 million tonnes at the end of the 2014/15 season, have now fallen to around 18 million tonnes, while consumption is increasing in comparison to production in all the major producing countries including India. Thus, considering the worldwide demand and supply position, we expect that the price of cotton will remain above the present level of Rs. 42,500 to Rs. 44,500 per candy for varieties with a staple length of between 27.5 mm and 32.0 mm, which make up 75 percent of Indian cotton production.

It has been the intention of CCI to make its purchase and sales processes more transparent. In order to reach out to and achieve direct interaction with the buyer mills and to render the sales system more transparent and market-driven, CCI is undertaking to sell 100 percent of its lint cotton bales and cotton seed through an e-auction system. These online sales will take place throughout the season to avoid any hoarding or speculation. This system provides a secure bidding environment for all the participating mills. Textile mills and MSME units that wish to take part in the auctions can register with CCI and bid for any quantity as per their requirements.

With all the above efforts, CCI is likely to increase its share in the Indian cotton market in the coming years and thus play a larger role in improving the standard of Indian cotton in the world market.



Robotics – Challenges and opportunities for small-scale cotton farmers



Manohar Sambandam
 Founding Partner and CEO
 Green Robot Machinery

Introduction

Cotton, grown on about 36 million hectares across the globe, has the largest acreage in the world for a cash crop. Known as white gold by farmers, it is primarily a rain-fed crop. Eighty-three percent of Indian farmers own less than two hectares of land, and each individual plot of farmland is usually significantly smaller than a hectare, typically less than 0.4 hectares.

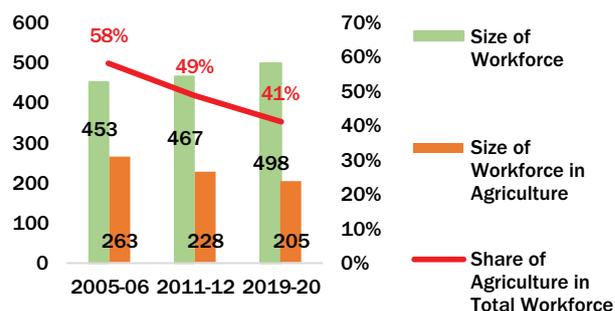
With the exception of land preparation, all tasks in cotton farming in India, including seeding, weeding, harvesting and the application of fertilisers and pesticides, are performed manually. Tasks such as pruning, topping or thinning – those with the greatest potential to increase crop yield – are hardly ever attempted, due to a lack of farm labour available at the right time. Farming, which was once a family occupation, with plenty of adequate farm hands, is becoming increasingly challenging due to the numbers of people migrating to cities and towns in search of better economic opportunities.

Labour challenges

In India, for various economic reasons, landless labourers who make up the majority of primary farm workers are tending to leave rural villages and

migrate to cities in search of better opportunities. The agricultural economy in India accounts for only 14 percent of GDP but supports more than 40 percent of the population. The economic divide between those who depend on farming for their living and others is very stark and it is understandable that farm labourers wish to move away from hard, low-paying farm jobs. The chart below, which shows the movement of farm labour since 2005/06 to its projected position in 2019/20, demonstrates very clearly that farm labour is getting scarcer and that farms dependent on human labour are likely to suffer in the future.

Employment in Agriculture (Million)

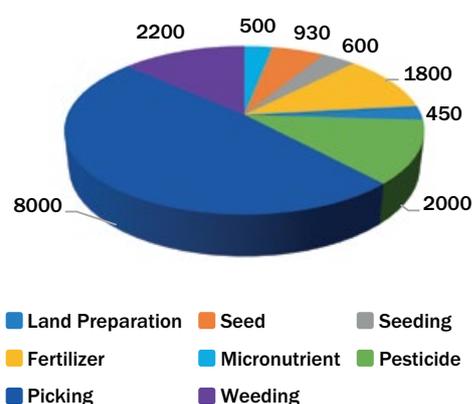


Source: Planning Commission, Economic Intelligence Unit, KPMG Analysis

Cost of production

In India, cotton farming is completely manual except for the processes involved in land preparation. The cost of cotton production varies widely across the country, most notably between rain-fed and irrigated conditions, and picking represents almost 50 percent of the total cost of production. On a farm that typically yields 1,000 kgs lint cotton, the cost of production works out to be Rs. 16,000, of which around Rs. 8,000 is spent on manual harvesting. The more critical factor is the number of work days required for cotton farming. Typically, 60 work days are required for a farm yielding 1,000 kgs of seed cotton per acre, and this figure must rise if the cotton yield per acre is to be higher. The government is on a path to improve the average lint yield, which is currently 532 kgs/hectare, to bring it up to the global average of 1,000 kgs/hectare, but this challenge is fraught with difficulties, one of which is the shortage of labour.

Cost of Production/acre in rupees assuming 1000kg Seed Cotton yield - 2015 data



Smart mechanisation of cotton farming is imperative, due to the factors already discussed: peak labour demand, low productivity and the rising costs of cotton cultivation. Smart mechanisation will help improve productivity and farm economics, and minimise drudgery. Smart mechanisation can also assist in raising yields towards the desired goal by helping farmers carry out tasks such as weeding, the timely spraying of fertiliser and pesticides, and topping. The development of cotton harvesting in India and some African nations is particularly challenging because of the small plots of land that are cultivated, but fortunately robotics technology is providing a helping hand.

Prevalent solutions

Harvesting machines from John Deere and CNHI, though very effective in the West, where farms are large (typically measuring in the hundreds of hectares), have not yet been effective for smallholdings such as in India. Even more critical than the size of the plot is the multi-bloom nature of cotton plants. In India, and many other parts of the world, the breed of cotton grown

blooms multiple times during the growing phase and multiple hand-pickings are carried out. In synchronous bloom breeds, where all the bolls are forced to bloom simultaneously, the number of bolls per plant can be fewer than 40 bolls compared to the 100 or more bolls in the case of the regular multi-bloom cotton. Indian farmers prefer the regular, non-synchronous breeds because of the reduced risk to yields and the lower upfront costs incurred on the production side. Typically, for regular, multi-bloom cotton, picking is carried out three to four times during the season. Therefore, even if one round fails due to pests or a shortage of rain, the next cycle can still deliver an income, which would not be the case for synchronous-blooming plants.

Labour in work days per acre

Seeding	10
Weeding	20
Picking	20
Fertilizer/pesticide	5
Miscellaneous	5
Total	60

John Deere and CNHI harvesting machines use a mechanism in which plants are destroyed after picking, and hence they are not suitable for the multi-bloom breeds. Moreover, for the machines to be fully effective, precision seeding (where the rows are planted in straight lines) is required, which is not easy to achieve on farms that are seeded by hand. Smaller land lots are another problem for these large machines.

There are, of course, hand-held harvesting machines which help to minimise drudgery and improve the picking rate. But these have not found favour with farmers because of the increased cost and their relative inefficiency. Variations of these hand-held picking tools were devised by a company called Sickle Innovation in India, but due to their low productivity rate they have not found many users. There are also vacuum-based back-pack pickers, but these have not been found to be very effective either and do not reduce the labour requirement which is a fundamental challenge during the peak harvesting season.

Robotics now

Three fundamental trends are now driving the development of robotics, all of which offer possibilities for agriculture and may give rise to a robotic solution to the problem of cotton picking on small farms.

Firstly, the cost of robotics, especially with regard to 3-D printing, desktop CNC¹ and mechanical engineering, is now dropping at a rapid pace. Open-source software is a thirty-year-old concept; in the past, it was ideas and software that were shared and developed. Now the same principle is being applied to mechanical hardware systems, and this industry is slowly catching up, as it becomes easier and more cost-effective for an innovator to build systems quickly. Secondly, computing power is growing by leaps and bounds, enabling cognitive sciences such as Vision-AI and robotics. Thirdly, the technology employed in sensors and precision electro-mechanical systems has taken a big step forward, and

¹ Computer numerical control

solutions using real-time intelligent sensing subsystems with high-performing dynamic closed-loop control systems are now economically viable. Electro-mechanical systems using sensors and intelligent computing form the basis of robotics, and now these technologies can be easily adopted to solve problems in agriculture.

Open sourcing for the robotic ecosystem is on the rise, primarily in academic environments, with industry supporting the developments. Standards such as Industrial-ROS (Robotics Operating System) are gaining ground, and industry is now adopting these standards in hardware and software, bringing down the cost of adoption to an affordable level.

The University of Georgia in Atlanta, USA, is developing an instrument that employs machine vision and robotics for use in small-farm cotton harvesting with funding support from Cotton Incorporated, USA. This project is at the research stage, with the solution expected to be multi-functional and more efficient than the single-function harvesting machines currently in use in the US.

Green Robot Machinery, a company in Bangalore, India, has developed a different sort of cotton-picking machine. This technology uses 3-D vision to detect and locate bloomed cotton, an intelligent robotic arm to pick the detected cotton and transport it, using air flow, to a collection bin. The picking performance of this robotic arm is 50 kgs/day which is the average picking rate of a human worker in India. Multiple robotic arms mounted on a vehicle moving over a row of cotton plants will enable a high productivity rate. The picking process becomes completely independent and does not require any human intervention. The

vehicle moves along the row autonomously, and the controls software coordinates and synchronises the operation of the multiple arms. An operator is required to set up the machine to run along a row of cotton plants, guide the machine from one row to another, and finally unload the cotton from the picking bin on the machine. The machine is a stop-and-go mechanism.

The trash content will be similar to that achieved through manual picking since the machine can pick only bloomed cotton and the mechanism can position the arm with about 3mm precision, which helps avoid any leaves or twigs being picked by mistake when the arm is in position. Picking is done by a roller mechanism and is aided by vacuum. Each arm by itself will have a reach of about 600 mm and can be used for any plant geometry with a diameter of 900 mm (about three feet).



The precise and accurate positioning of the robotic arm helps selective picking of bloomed cotton, and hence this becomes a very useful solution for the multi-bloom cotton plants from which cotton is picked several times, as and when it blooms. Given the small footprint of the hardware, it would be possible to devise an over-the-plant machine for use in rows measuring just three feet. A multi-row picking option is also envisaged to take productivity to a much higher level, say 1,000 kgs a day. Typically, cotton plants producing seed cotton in the amount of 1,000 kgs per season will yield about 250 kgs per picking, and a five-arm system that can pick this amount in a single day would seem to be the most suitable solution.



The software is built around open-source ROS software; it uses the ubuntu operating system and embedded ubuntu hardware. The vision sensors use stereo-vision technology and off-the-shelf hardware. The electro-mechanical system uses smart motors for the actuation and simple gears and bearings. The mechanical system is 3D-printed or uses CNC-built metal hardware. The target cost per robotic arm, which is a self-contained intelligent cotton-picking unit, will be less than US\$ 500, and the total cost of a five-arm cotton picker unit is targeted to be around US\$ 7,500. The pictures above show the cotton picker in the field, the robotic arm used in the machine, and the end-effector which does the actual picking.

Challenges

The engineering challenge will centre on the robustness of the system and its reliability, especially since the electro-mechanical system and electronics are so precise. Wind, dust and temperature variations at farms will have to be managed, and standards such as IP65 need to be adopted for the machinery to perform in all conditions.

Opportunities in precision farming in cotton

Picking cotton is the task that requires the maximum labour time. Beyond picking, good agricultural practices for cotton call for tasks such as topping to achieve the best yields, but these are not widely adopted in India due to the shortage of labour. Weeding is managed by herbicides, using ineffective spraying methods. The best means of eliminating weeds is to detect and then

remove them mechanically from the soil, a process well suited to precision robotics technology. The task of topping involves deciding at what height the plant should be topped and mechanically removing the stem above that height. Pruning also requires a combination of intelligent vision and mechanical tasks, and once done will provide sunlight and air to encourage good, healthy plant growth and minimise pest colonisation. Spraying is a simple task, but with precision sprayers targeting the exact location, the effectiveness of both pesticides and fertilisers can be optimised. Variable-rate spraying is an easy technology to adopt because of the proximity of the plant and ease of close application of the spray solution. Precision seeding can achieve the right depth, row spacing and plant-to-plant density, which in turns helps good seed sprouting and maintenance of the correct plant density.

Swarm Robotics is a technique in which many small machines work together in synchronisation, communicating with one other so that fewer people are required to operate the systems. Volume production of these machines will make them cost-effective so they can easily be adopted for better farming efficiency. Small machines also cause less soil compaction than traditional, heavier machinery.

The robotic cotton picker is an ideal platform from which to move towards the mechanisation of all other tasks, including seeding, weeding, spraying, topping and pruning. Machines can help over the entire life cycle of the cotton plant, from seeding to harvesting, with the aim of improving yields and farmers' incomes.

Business model

Cotton-picking machines are ideal for use as part of a rental programme, which can be operated as a service similar to that for rice and wheat-harvesting machines. The cost of the machines should be targeted such that farmers will be able to use the technology for the same price (or lower) than the cost per kilogram of manual picking. Meanwhile, if the machines run efficiently, during a 40-day picking season, the operator should be able to make sufficient profit to recover the initial capital expenditure. The machine will be even more cost-effective if it is also used for other tasks including seeding, weeding and spraying.

Conclusions

Farming robots are now ready to be deployed, since the cost, technology and need for a such a solution are all converging to create a perfect storm of demand. India has a large area of land under cultivation, but individual tracts and cotton fields are small, which means that small robotic machines are better suited for use on farms where there is a need for multiple picking. Moreover, the adaptation of small robot technology for use in other farming tasks such as seeding, weeding, spraying and topping will make these machines indispensable in the near future.

Changing patterns of trade in the global market for textiles and made-ups – Opportunities and difficulties for Indian exporters



Dr K.V. Srinivasan
Managing Director
Premier Group

India has transitioned into one of the fastest-growing economies in the world in recent years. In 2019, its global growth is projected to reach 3.9 percent according to a World Economic Outlook report published in 2018. This growth can be attributed to market liberalisation, the implementation of structural reforms such as GST¹ and a move towards a rule-based framework including, for example, the Insolvency and Bankruptcy Code (IBC).

In the context of an imminent Brexit and the ongoing US-China trade war, a developing country like India should be quick and flexible enough to spot the opportunities in the transforming landscape of global trade. India is well placed to make the most of the available opportunities, as it has a robust raw material base, a skilled workforce and benefits from other competitive cost factors.

World trade in textiles and clothing

In 2017, world trade in textile and clothing grew by almost four percent over the previous year, reaching a level of US\$ 756 billion. Of this total, clothing accounts for a 57-percent share, while textiles represent the remaining 43 percent. For the period between January and June 2018, the global

trade in textiles and clothing grew by 8.9 percent over the previous year, to a level of US\$ 350 billion.

India registered a growth of 5.4 percent in 2017, reaching a level of US\$ 37.4 billion. However, for Jan-Jun 2018 it declined by 3.9 percent. Its share of the world market for textiles and clothing during the same period is estimated to be 5.5 percent. With annual exports to a value of USD 37.44 billion, India is ranked second amongst the world's largest textile suppliers.

Exports of cotton textiles

World trade in cotton textiles (yarns, fabrics and made-ups) reported a growth of four percent during 2017 and a further growth of six percent in the first six months of 2018. In this half-year period, made-ups accounted for a 40-percent share, fabrics for 48 percent, and cotton yarn for 12 percent.

During 2017, India exported cotton textile products worth US\$ 11 billion, reporting a growth of four percent over the previous year. Cotton made-ups dominated the Indian cotton textiles basket, with a share of 49 percent; they were followed by cotton yarns, which achieved a share of 32 percent, and cotton fabrics on 19 percent.

¹ The universal Goods and Services Tax, introduced in July 2017

The made-ups market

Home textiles represent one of the most dynamic export segments in India's textile industry. The success in home textile exports stems largely from the efforts of innovative companies which have become India's top home textile exporters and which have implemented large expansion programmes to cater to the growing demand. The market for home textiles, both domestic and for export, has registered a steady growth, and Indian companies have made relentless efforts to benefit from the opportunities in the international market.

The market for home textiles is dominated by bed and bath linen, which have more than two thirds of the market share in value terms. In the 2017/18 financial year, the value of India's exports of bed, bath, toilet and kitchen linen along with home furnishing articles was approximately US\$ 3.1 billion out of a total of US\$ 5.13 billion for all made-ups exports. At the same time, home textiles had a 49-percent share within the total Indian cotton textile export basket of US\$ 10.71 billion. Available data for the period April to June 2018 show that the home textile sector (US\$ 1.28 billion) continues to dominate the cotton textile export basket (US\$ 3 billion) with a share of 43 percent.

Opportunities and difficulties

Given the issues raised at the WTO regarding the compatibility of India's export promotion schemes, it may be noted that the schemes in operation have been extremely useful in increasing exports, especially when one considers the various disadvantages exporters experience, including preferential tariffs afforded to competing countries, the high logistics and transaction costs incurred on account of infrastructure deficiencies, etc.

In this context, exporters have been expressing concern about the alternative schemes that may replace the existing ones. Readers may already be aware that the government is in the process of putting in place alternative schemes to promote exports which will improve the competitiveness of the products without lowering the level of support. These alternative schemes are expected to be WTO-compatible.

The idea is to devise schemes that cannot be challenged on the grounds of countries' various interpretations of the possible benefits ensuing to exporters. The findings of a study commissioned by Texprocil² may help the government formulate new schemes that will ensure continuity in business and foster trust between exporters and importers in the long-term interest of all-round export growth.

Another difficulty the Council has pointed out at various forums is that Indian textile products face discriminatory duties in key markets such as the EU, China and South Korea. These duties range from 3.5

percent to eight percent for fabrics and 9.6 percent for made-ups in the EU. On the other hand, imports from competing nations such as Bangladesh, Cambodia, Vietnam, Pakistan and Turkey enjoy duty free access to these markets. These duty differentials are putting Indian exporters of cotton textiles at a distinct disadvantage vis-à-vis competing textile manufacturing nations.

Proactive steps need to be taken to address tariff issues in some of the markets with potential for high growth in Indian exports. These steps might include:

- ◇ reducing import duty from ten percent to five percent on fabrics, and five percent to zero on cotton yarn imported by China;
- ◇ the removal of additional duty of 20 percent on fabrics exported from India to Turkey, which is arguably in violation of WTO rules;
- ◇ the reduction of customs duty on imports of cotton yarn by South Korea to a level on par with that for fabrics and made-ups under the India-Korea CEPA.³

Another cause for concern is the aspect of social compliance, in which existing practices are not optimal. Currently, standards are confusing and conflicting, with gaps in their overall coverage. Such anomalies lead to disruption in production, thereby increasing costs. It is therefore necessary to create a collaborative platform for communication between retailers and manufacturers and unify requirements to create a comprehensive industry standard. Such measures will foster better communication between brands, retailers and vendors, thereby optimizing resources.

E-commerce has now begun to play an important part in everyone's lives. E-commerce players have now added 'home' segments on their websites. The growth of home textiles is inevitable in the Indian market as customers are increasingly prepared to spend money on creating a unique environment in their home and office décor. Since a majority of the home furnishing market is still unorganised, there is a huge opportunity for e-commerce companies to take a large market share in this space. With online business growing with each passing day, textile companies are increasingly using their own websites for e-commerce as well, thereby establishing a direct connection with consumers.

² Cotton Textiles Export Promotion Council.

³ Comprehensive Economic Partnership Agreement between India and Korea, an updated version of which was signed in July 2018.

India's position in a shifting global cotton market



I.J. Dhuria
Director – Raw Materials
Vardhman Textiles Ltd.

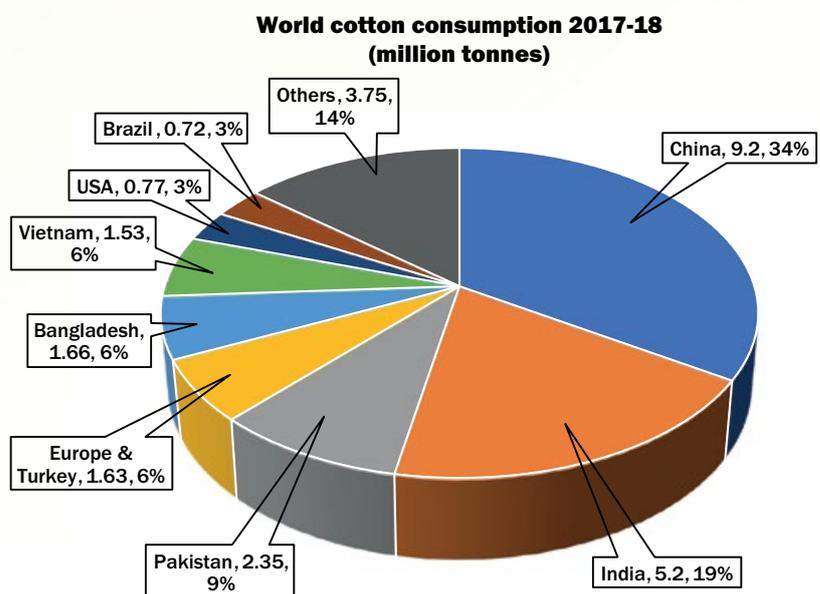
The global textile and clothing industry plays a crucial role in the world economy. The total value of merchandise exports in 2017 was estimated to be US\$ 17.7 trillion, of which textiles and clothing made up US\$ 756 billion, so about 4.3 percent of global trade.

Indian textile and clothing exports were valued at US\$ 37.4 billion in 2017, which was about five percent of the worldwide total. The textile and clothing industry is of great significance to the Indian economy. It supplies about four percent of the country's GDP and represents ten percent of manufacturing production and 12 percent of the country's export earnings. With 45 million people working in the textile sector, it is one of the largest sources of employment generation in the country.

India is the number two exporter of textiles and clothing in the world, second only to China. However, there is a significant difference between the two players in terms of export volume. China's share in the global trade for textiles and clothing is more than 34 percent, with a value of about US\$ 258.5 billion.

India – rich in cotton textiles

The Indian textile industry is dominated by cotton. At present, the Indian share of the world cotton textile trade is more than nine percent. The ratio of exports of Indian cotton textiles to other textiles is about 60:40, whereas this ratio is reversed in other parts of the world, i.e. about 40 percent cotton to 60 percent other fibres.





Cotton is the principal fibre in the Indian consumption basket. Currently, the country consumes 5.6 million tonnes (51 percent) of cotton out of a total fibre consumption of 11 million tonnes, whereas the rest of the world processes about 25.4 million tonnes (about 25 percent) of cotton out of 103.1 million tonnes of total fibre consumption.

With the passage of time, the textile industry has shifted its base towards low-cost Asian countries. India is now the second-largest consumer of cotton, with a 19-percent share in global cotton consumption. Again, it follows China, which accounts for about 34 percent of the total. The other major cotton-consuming countries take between three and six percent each, the exception being Pakistan, which accounts for about nine percent.

When it comes to the processing of cotton textiles, India benefits from certain key advantages.

- ◇ Firstly, India has its own supply of raw cotton, indeed it has a surplus. Other leading cotton-consuming countries either do not produce their own cotton, or not enough to meet the needs of their textile industries.
- ◇ India produces a wide range of cotton styles, from short staple to extra-long staple, which means it can meet the demand of spinners for different yarns in order to produce many different fabric types.
- ◇ India is competitively placed in terms of the cost factors for textile processing as compared to other textile-producing countries.
- ◇ India is located near to the major cotton textile importing markets of China, Bangladesh, Vietnam and Hong-Kong.

Recent developments in cotton textiles that impact the global market

In the integrated global market, events taking place in any of the leading cotton economies are likely to have an impact elsewhere in the world. In particular, it will be important to monitor developments in the following areas.

1. Sino-US Trade war

China is the second-largest cotton-producing and largest cotton-consuming country in the world. However, because its consumption is greater than its domestic production, China has to buy cotton from the international market.

China imports a good volume of US cotton, which suits its requirement for contamination-controlled cotton. China is also the largest importer of US Pima cotton for its ELS requirements and 'tag-driven' business.

Meanwhile, the US is the largest import market for cotton textile products, taking a 15-percent share of all sales. Forty percent of its cotton textiles imports come from China.

Unsurprisingly then, the ongoing trade war between the world's two largest cotton economies is having a significant impact on the global cotton market. It has created an environment of uncertainty and anxiety across the industry.

However, the uncertainty has also opened the horizons for other cotton-producing countries with an exportable surplus, including India, Australia, Brazil and West African countries. They have the opportunity to export more raw cotton to China in order to meet the deficit created by the fall in demand for US Cotton.

Moreover, as the US is the largest market for textile products, continuing trade tension between the US and China will shift the flow of business to other textile-producing countries, mainly India, Pakistan, Turkey and Vietnam.

2. Increasing cotton production in Brazil

Brazil, a leading cotton-producing country that in recent years has made significant efforts to develop its production of many crops including cotton, achieved a bumper cotton crop of more than two million tonnes in the 2017/18 season. This year, Brazil is expected to produce about 2.3 million tonnes of cotton.

Brazil is a net exporter of cotton and is known for producing very low contamination levels as a result of mechanical picking. It is also one of the leading exporters of cotton to textile-processing countries. As cotton production increases in the country, Brazil may get the opportunity to increase its presence as an exporter of raw cotton. It is also in a good position to fulfil the demand for contamination-free cotton, substituting for US cotton affected by the trade war.

3. Increasing cotton consumption driven by consumer demand and preference for cotton

During 2000/01, world cotton consumption was about 20 million tonnes. It hit record highs of about 27 million tonnes in 2006/07 and 2007/08, before dropping to the level of 22.7 million tonnes in the year 2011/12 as a result of the high price volatility witnessed in the previous season. Since then, world cotton consumption has been recovering. It was about 26.8 million tonnes in 2017/18 and is projected to be more than 27 million tonnes in 2018/19. However, because of the prevailing environment of uncertainty, such a level of consumption now seems to some to be more difficult to achieve in the short term. Nevertheless, cotton consumption is likely to increase in the years to come.

The increase in cotton consumption has been recorded mainly because of the consumer's preference for the comfort of natural fibres and increased awareness of environmental issues such as biodegradability and sustainability. End users are becoming more aware of their consumption and are increasingly concerned about who makes their garments. The 'circular economy' has moved into view, with its focus on reuse, regeneration and recycling. Many responsible

brands are now promoting the recycling and reuse of products and materials at the end of each service life.

As a result of these developments, cotton consumption is likely to increase in future, both in overall terms and with regard to its percentage share of total fibre consumption across the world. However, some other cellulosic fibres may substitute cotton to some extent.

India – a promising country to count on for future cotton textile needs

To cater to the increasing need for cotton textile products, more cotton production will be required around the world. Assuming that the global area dedicated to cotton cultivation will not increase significantly in the future, since cotton already competes for acreage with other crops, food grains in particular, the required increase in production can be achieved only by improving cotton yields.

India can play a significant role in meeting the cotton textile needs of the future due to the following factors.

- ◊ India has provided more than 50 percent of the increased volume of world production from 1990 to 2018.
- ◊ India has the largest area under cotton cultivation of any country in the world, and accounts for about 35 percent of global area.

Year	World			India		
	Area (Million hectares)	Prod (Million tons)	Yield (kg/ha)	Area (Million hectares)	Prod (Million tons)	Yield (kg/ha)
1990-91	33.01	18.95	574	7.44	1.99	267
2018-19	33.18	26.16	789	12.38	6.14	501

Source: ICAC & CAB

- ◊ India is located between the tropics of Cancer and Capricorn meaning that its climate is ideal for cotton cultivation and growth.
- ◊ India is the only leading cotton-producing country in Asia with an exportable surplus of raw cotton beyond its own textile needs; indeed it is the second-largest exporter of cotton in the world.
- ◊ India has the scope to improve its yields. Indian cotton yields are currently much lower (about 500 kgs/hectare) than those achieved by the leading cotton-producing countries. They are even lower than the world average yield of 789 kgs/hectare.
- ◊ If India were able to improve cotton yields, even if only to a level equivalent to the current global average, then on its present area of about 12 million hectares it would be able to produce more than nine million tonnes of raw cotton. This additional cotton might go towards meeting the increasing need for cotton textiles worldwide.

- ◊ India has the second-largest textile industry after China in terms of installed capacity. About 40 percent of spindles in operation in India are less than ten years old, meaning they have better productivity.
- ◊ The cost of cotton cultivation in India is the lowest among the leading cotton-producing countries.

Cost of cotton production in USD/ kgs (2015-16)

India	China	Pakistan	USA	Australia	Brazil
0.71	1.7	1.18	1.88	0.97	1.15

Source: ICAC

- ◊ Cotton-producing states in India are encouraging the establishment and expansion of processing and textiles units by way of various incentives and subsidy schemes. This may result not only in increased consumption of raw cotton and cotton yarn, but also in more value-added products being made in India.

Key Improvement areas

1. Cotton seed technology

After the introduction of Bt. seeds in India in the 2002/03 season, Indian cotton yields improved from 300 kg/hectare in 2002/03 to more than 500 kg/hectare in the next couple of years. The maximum was recorded in 2013/14 at 565 kg/hectare. However, over the last couple of years, Indian cotton yields have decreased as a result of pest attacks in the country, leading some to hypothesise that pests in India have developed resistance against the present version of Bt. Seeds.

There is now an urgent need for farmers to be able to access the newest version of seeds with the most up-to-date technology so as to increase cotton yields in the country.

As a result of a dispute about royalties, the launch of the newest version of Bt. cotton seed was cancelled. However, India is now making sincere efforts through the Central Institute of Research to develop its own seed varieties that will be able to address the pest issue.

2. Contamination

According to a survey on contamination conducted by ICAC, Indian cotton is ranked as the most contaminated origin. This is the main reason for Indian cotton's typical discount of about 5 to 8 US cents/lb in relation to the least-contaminated growths such as US and Australian.

Most of the contamination in Indian cotton arises from human intervention. If India were able to reduce contamination levels in its produce, it could generate an additional US\$ 1 billion of revenue from cotton production.

India needs to develop the practice of mechanical picking, and therefore farmers need access to mechanical pickers suitable for the size of Indian farms. They must also use cotton bags for collecting, storing and transporting seed cotton.

Summary

India has an extensive cotton textiles industry that caters to the needs of major cotton textile consuming countries around the world. Various developments in the sector, including fast fashions, changing consumer preferences, the use of artificial intelligence, and the need for sustainability, are creating challenges for every

player in the world cotton textile industry. Meeting these challenges will be a critical factor in future success.

Despite the strong presence of Indian cotton in the market for cotton textiles, India still has a great deal to learn from other leading producing countries about how to improve yields and farm practices. With the second-largest installed spinning capacity in the world, a continuous programme of technical upgradation, and support from state governments via subsidies and incentives for textiles and processing units, India can play an even larger role in the future. The rest of the world will be able to count on India to supply not just cotton yarn, but products from the entire cotton textile value chain.



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Sharing a commitment to safe trading in cotton



Bill Kingdon
Managing Director
International Cotton Association

The combined journey of the Cotton Association of India (CAI) and the International Cotton Association (ICA) is as important to our current leaders today as it has ever been. It is a source of significant pride that more than ten percent of ICA members are from this important market and most are jointly members of the CAI and ICA.

I am reminded by Madhoo Pavaskar's *Saga of the Cotton Exchange* that the history of cotton in India is as old as the country itself. This abundant crop still provides India with the largest cotton market in the world, producing textiles that clothed populations some 2,500 years before the remainder of the world recognised and embraced its utility. And the close ties between CAI and the ICA are arguably more significant now than they have ever been. In these times of economic and climatic uncertainty, trust and confidence between trading partners is increasingly important.

The President of the ICA, Mr Bill Ballenden, and I are delighted to accept the invitation from CAI to attend this conference which is focused on 'Global Opportunities and Challenges in Cotton'. CAI and ICA share a common commitment to safe trading and contract sanctity. The current fragility and uncertainty that seem to be affecting so much of the international commodity trade make our combined focus on these challenges particularly timely.

Both our associations can take pride that the first ICA President from India is a well-known Mumbai-based businessman. Mr Mohit Shah from Gill and Co. Pvt. Ltd. was elected in 2013, and the following year, under his leadership, the first Memorandum of Understanding (MOU) was signed between CAI and ICA. To this day, this remains one of only three MOUs that the ICA has with international bodies across the world. ICA's current First Vice-President, Azeez Syed, further symbolises our close links with India.



So, what are the benefits of ICA membership? These can best be characterised under five headings:

A community

We seek to foster a community to share best practice and encourage safe trading and contract sanctity. Each member of the ICA, by openly committing to safe trading, is making a public undertaking to maintain contract sanctity between trading partners. This is at the heart of the ICA community in which each member is making a statement about what he or she stands for. To join is to be an active participant in a global cotton community with a common goal and shared values. We welcome participants in the evolving debate about how best to support the global cotton community to trade effectively and safely.

Trade networking events

We promote and facilitate cotton trade networking events that benefit members and non-members alike. All ICA events are intended to encourage trading and networking between members, and some non-members too. The annual trade event is held in an international venue each year. This year it will be coming back to Liverpool, UK, from 9-10 October 2019. In 2020 it will be held in Singapore. The event is designed to provide the best possible environment for networking amongst cotton professionals, and we hope we can continue to welcome a substantial number of delegates from India. ICA training and outreach events, too, are designed to encourage trading networks.



Protection against contractual disputes

We protect against contractual disputes by providing a firm and impartial set of Bylaws and Rules to underpin the global cotton community backed by a respected system of dispute resolution. Safe trading rules need to adapt and adjust to new trading conditions. The ICA is constantly working to ensure that shifts in the trading environment, price volatility and supply chain uncertainty do not allow either the buyer or the seller to gain an unfair advantage. ICA's Bylaws and Rules are adapted and adjusted to keep pace with the international trade in cotton. These Bylaws and Rules provide the basis for dispute resolution if a contract is not honoured, which is an important service provided

by the ICA, and offered at a significant discount to members. Our MOU with CAI is reinforced by our joint commitment to share information about the enforcement of arbitral awards and safe trading in order to promote trust and transparency in the market.

A 'centre of excellence'

Our joint-venture company ICA Bremen provides cotton testing, research, quality training and certification of cotton-testing laboratories around the world to implement an internationally recognised standard. Increasingly, ICA Bremen is gaining a reputation as a 'centre of excellence' for cotton quality matters. Its comprehensive 'Cotton Classing and Testing' training is a regular success. Usually held annually in Bremen, Germany, the course can be tailored and delivered remotely to meet many special requirements.

Training and outreach

Our training and outreach initiatives are often delivered in partnership with national and regional associations, and are tailored to the needs and interests of the partner organisation. One example of this is the successful training we delivered in Mumbai in 2014 in partnership with CAI which covered risk management, cotton contracting and international Bylaws and Rules. These topics, and new ones, might provide the focus for future training and outreach initiatives between the CAI and ICA. We look forward to working together to explore these training ideas for the future. Our 'Complete Cotton' course will run from 29 April to 10 May in Liverpool, UK. Designed to foster a professional network for younger cotton people, it focuses on those in the industry in the early stages of their career.

What next for CAI and ICA?

We are excited for what the future will bring and look forward to actively collaborating with CAI to promote our shared values. We know that as associations we are both committed to the enduring success of the cotton trade in this important world market well into the future.

We value the professional friendships that are at the heart of this enduring relationship.



Unpredictable dynamics in cotton prices and global supply and demand



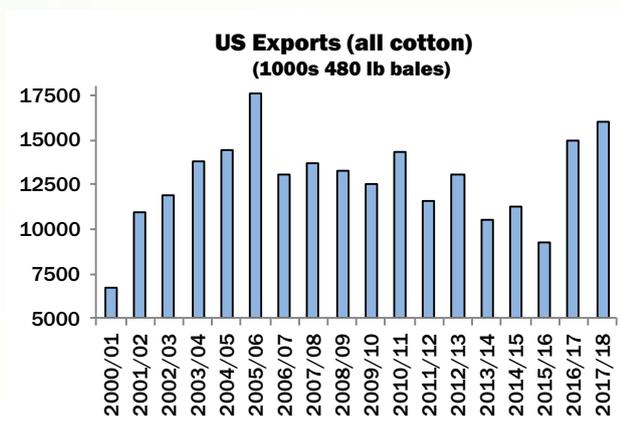
Antonia Prescott
Editorial Team
Cotton Outlook

The movement of international cotton prices as reflected by the Cotlook A Index in 2018 can be seen as having two distinct phases. To the surprise of some observers who, prompted by the prospect of bumper cotton crops in India and the US, had foreseen a downturn for prices in early 2018, the first five and a half months of the year were generally characterised by bullish sentiment. Strong advances on both the ICE and ZCE futures platforms and the announcement of an increased Minimum Support Price in India were accompanied by higher prices for physical cotton around the world. The market continued to show

remarkable resilience throughout the second quarter of the year, even as storm clouds presaging a trade war between China and the United States gathered on the horizon. In China, daily auctions from the State Reserve recommenced in March; over the course of this fourth auction series, 2.5 million tonnes would be released smoothly back to the domestic market, reinforcing the perception that the country's return as a major importer was no longer so distant a prospect. Meanwhile, week after week, the USDA's export reports provided evidence that demand, for US cotton at least, was much stronger than had been anticipated. In the 2017/18 season, 15,982 480-lb bales were shipped, the second-highest total on record.

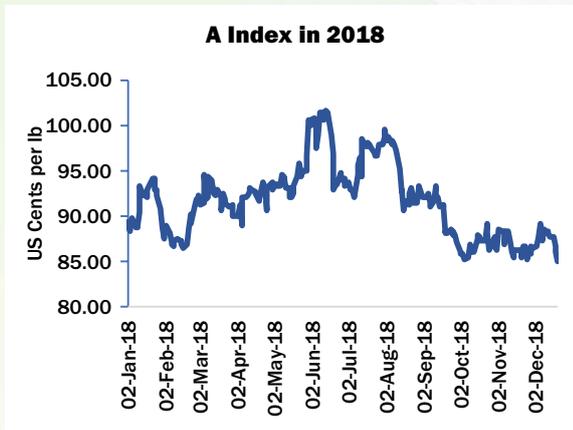
Moreover, a significant shift to a pattern of forward, on-call buying indicated a level of confidence in future demand that had not been seen in some time. On June 12, 2018, the A Index recorded a six-year high of 101.7 cents per lb.

Ultimately, though, the gains made throughout May and early June in particular were not consolidated, and the mood could not be sustained. On July 6, China's announcement of additional tariffs in response to a similar move by the US included a supplementary 25-percent duty on cotton moving from the US to China.



What followed then was a sharp downturn in the value of futures contracts, and a prolonged period of uncertainty as physical prices struggled to find direction, mill demand cooled, and estimates of consumption were revised lower. Long-standing economic and political anxieties in certain markets beyond China and the US, for instance Turkey, Argentina, Indonesia and Egypt, began to come to the fore and contributed to the general feeling of insecurity in cotton trading circles, but also more widely.

When viewing this broader perspective, it becomes clear that the early indicators of a global economic slowdown had been apparent for some time. By late January 2018, the Shanghai Composite Index, for example, the measure of all stocks traded at the Shanghai Stock Exchange, had reached a two-year high on the back of fairly consistent gains over 24 months. In early February, however, the Index underwent a sharp fall that established a pattern of declining value for Chinese stocks that has persisted more or less ever since. Plainly then, the trade war is not the only factor in the slowdown for the cotton market; however, it does highlight its effects and exacerbate the consequences for all sectors of the industry.



Nevertheless, market observers comment regularly that an upswing may be just around the corner, indeed that a single tweet from the US president declaring an end to the tariff dispute would be enough to turn the tide. At the end of November, a meeting between Presidents Xi and Trump at the G20 Summit in Buenos Aires offered some cause for optimism as both sides agreed to hold back from any further escalation in the dispute for a period of three months in order to allow fresh negotiations to take place. However, in late January the positive-sounding comments made

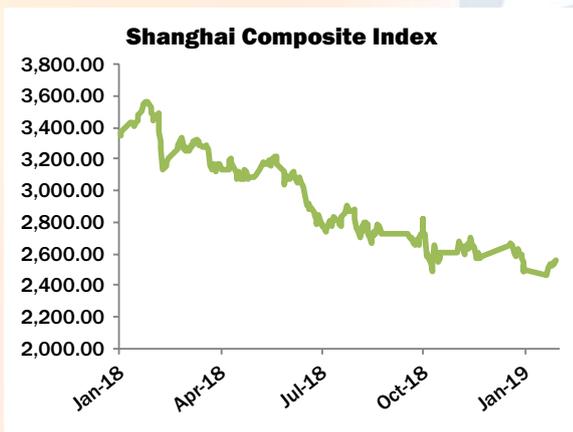
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Reserve auctions are to be held, they may well begin later than in the previous two years – perhaps in May 2019, to allow more time for the marketing of the domestic crop. That scenario throws up a further question regarding the possibility of government buying in advance of a new sales series. By the end of the 2018 auction season, during which 2.5 million tonnes were sold, it was estimated that about 2.7-2.8 million tonnes remained in the Reserve. This represents the lowest level of Chinese stocks for many years; moreover, little is known publicly about the composition and quality of the ageing cotton left in the Reserve. However, a survey held in January by the China Cotton Textile Association revealed a desire on the part of mills that the authorities replenish government stocks with higher grade cotton. And certainly, buying presumed to be on behalf of the State Reserve has been in evidence since October; interestingly, in light of the current 25-percent additional tariff on stocks from the US, Chinese buyers seem to be focusing on Brazilian and West African cotton. During the period from November 2018 to the end of January 2019, Brazil shipped over 250,000 tonnes to China.

by each side following the most recent (at the time of writing) round of talks still did not confirm that the hoped-for breakthrough had yet been achieved.

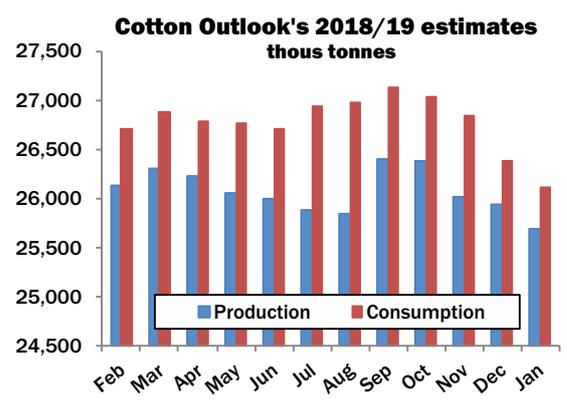
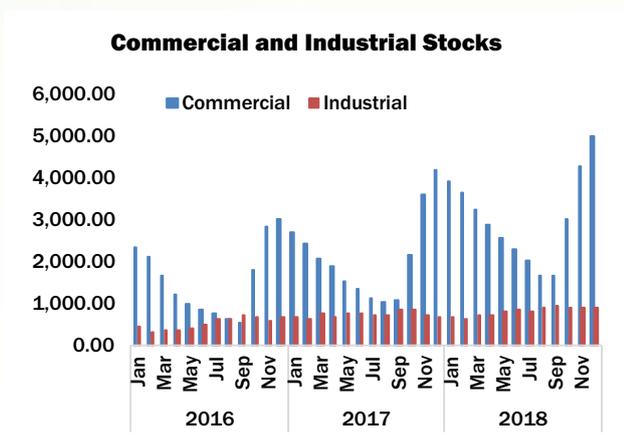
In the meantime, then, market observers can only wait and speculate about the prospects for the next few months – a task made significantly more difficult, of course, by the protracted US government shutdown at the beginning of the year and the delays to the release of data that arose as a result. Many imponderables persist beyond the fundamental issues of supply and demand, which are themselves subject to the perennial, and unpredictable influences of pricing, weather and pests. The outcome of the trade war is just one of these. A similarly important, and not unrelated question concerns the intentions of the Chinese government with regard to the State Reserve this year.

China's local supply situation remains abundant. At the turn of the year, industrial stocks (those held by mills) and commercial stocks (other cotton freely available in the marketplace, so with ginners, merchants and producers, but *not* in the State Reserve) amounted to the highest combined total at the same juncture for several years. At over 5.8 million tonnes, stocks were equivalent to over eight months of domestic consumption (based on Cotlook's forecast for the season of 8.6 million tonnes).

Given the availability of cotton to Chinese buyers, then, many observers are of the opinion that if State

While questions about the trade and domestic policies of the major nations for now remain unanswerable and the motivations of decision makers largely inscrutable, we can at least begin to speculate about the more workaday unknowables of supply and demand in the 2019/20 season. At this juncture, the best guess for production seems to be that global planting levels will at least be maintained, and in some cases increased. For instance, in early February the results of the Planting Intentions Survey conducted by the National Cotton Council in the US suggested that 14.5 million acres may be dedicated to cotton cultivation in the 2019/20 season. This would represent a three-percent increase on the previous year and the largest area since the 2011/12 season. Despite everything, cotton prices are still firm by historical standards, and in many markets cotton enjoys significant advantages (with regard to price or other considerations) over competing crops.

However, of course, planted area is not the only metric determining crop size, so yields in various producing regions will also bear close scrutiny, a process that inevitably prompts yet more questions. In the past few seasons, yields in India and Pakistan have been disappointing, so is this trend set to continue, or is a



turnaround imminent? In the US, where the appetite for cotton planting still seems keen, will farmers escape a recurrence of the various setbacks that they experienced in 2018/19? It would be unfortunate indeed if something like the combination of over 40-percent abandonment in Texas, hurricanes in the south eastern states and persistent rainfall during the second half of the growing season and harvest virtually everywhere except the Far West were to be repeated immediately. And what of China? The authorities will presumably wish to sustain production in Xinjiang, but it would not be surprising to see a further contraction of area in eastern provinces.

As for consumption, the process of predicting demand in a season that won't even begin for another

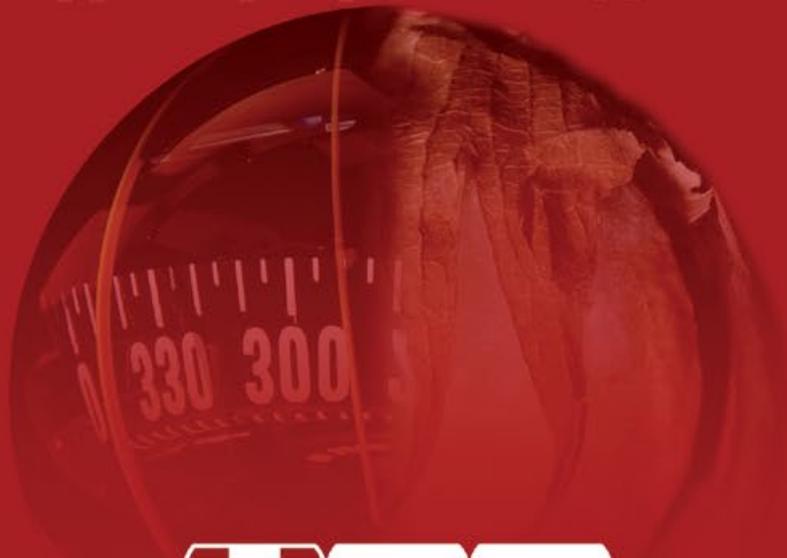
five months is even more fraught with difficulty and uncertainty than that for production. Perhaps the best we can say for now is that as things stand, mill margins are tight (since spinners have been processing cotton bought at the top of the market), and yarn off-take is slow. Consequently, estimates of consumption in the current season have been subject to successive downward revisions for several months.

As discussed above, there are many factors that may serve to improve prospects in the next quarter and allow for a rosier view of consumption in 2019/20, but the answer to the question of whether any or all of these possibilities will ultimately materialise remains for the time being somewhere over the horizon, just out of view.





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