

Weekly Publication of



**Cotton
Association
of India**

COTTON STATISTICS & NEWS

Edited & Published by Amar Singh

2018-19 • No. 52 • 26th March, 2019 Published every Tuesday

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Cotton Futures – Improving Competitiveness of Indian Cotton Amongst Global Peers

Shri. Paranjape is the Managing Director and Chief Executive Officer of Multi Commodity Exchange of India (MCX). MCX is India's leading Commodity Futures Exchange and the first listed bourse in the country today with products that are internationally acclaimed and well recognized across bullion, base metals, energy and agricultural commodities.

Prior to joining MCX, he was the India Head of DB Centre – the front office offshoring centre of Deutsche Bank across all business functions.

During the last decade he has held several leadership

positions and assignments with Deutsche Bank in India and abroad in the Global Transaction Banking division. In 2012, he was awarded the "Custodian Banker of the Year" by Asian Investor Magazine.



GUEST COLUMN

Shri Mrugank Paranjape
Managing Director and CEO, MCX

He has worked with ICICI Prudential AMC, India Infoline, W I Carr, ING Barings & Citibank in various positions across business, technology and operations functions.

He is an alumnus of IIT Mumbai (Electrical Engineering), and holds a PGDM (Specialization in Information Systems) from IIM Ahmedabad.

Cotton can be considered to be a true global commodity, with production and trading of cotton involving all three major economic activities of agriculture, industry and services. In terms of trade volume, no other agricultural commodity can come close to the circulation of cotton in the world. Every year, a third of the cotton produced globally crosses the boundaries

of nations and is consumed in a country other than its original location of production.

This huge global influence on the trading of cotton, leads to multiple agencies, institutions and market forces determining the prices of cotton. On account of this, the uncertainty and volatility in cotton prices remain at elevated

levels. The prices of cotton traded from different geographies also display a healthy correlation, though quality standards, logistics costs and government policies also play an important role in determining prices.

The annualised volatility in Indian cotton prices were 18.3% and 21.3% in 2016 and 2017 respectively. The heightened volatility in cotton prices is passed along the cotton value chain, involving multiple entities from the farmer to the ultimate consumer, undergoing several levels of processing and value addition, resulting in each and every participant getting impacted with this high volatility, lowering overall efficiency and competitiveness of the whole value chain. This makes it essential to have an efficient and cost-effective risk management tool, so that players from the Indian cotton value chain can remain competitive.

India's Role in Global Supply and Demand

Cotton is one of the principal crops grown in India and accounts for a third of India's farm sector GDP. This crop is also called 'white gold' because of its economic significance. What is more significant about cotton cultivation in India is that the cultivation is widespread, spanning across 10 different cotton growing states having diverse agro-climatic conditions from arid to semi-arid to high rainfall areas. A large number of rural families in 10 states depend on cotton for their livelihood. Further, cotton is the basic raw material for the textile industry, which has

an overwhelming presence in the economic life of the country as it is second largest provider of employment after agriculture.

India is the largest producer and one of the major consumers and exporters of cotton in the world currently. We are also the largest exporter of cotton yarn in the world. However, this was not the scenario at the beginning of this millennium, when India's production was short of our domestic consumption and we were dependent on imports to meet our requirements (See Table 1).

The launch of 'Technology Mission on Cotton' by Govt. of India in Feb 2000, resulted in significant achievements in increasing yield, production through development of high yielding varieties and increased area under cultivation of Bt cotton hybrids. The yield per hectare jumped from 300 kg/ha in 2000-01 to 472 kg per ha in 2005-06 to the level of 566 kg per ha in recent years. However, we still have a long road to traverse as the yield is still below the world average of about 800 kg per ha.

Global forecasting agencies are predicting that 2017-18 global cotton year (beginning August 1), will see production exceeding consumption after a shortfall seen during the previous year. The latest world Agricultural and Supply Demand estimates released by the US Department of Agriculture on March 8, 2018, peg the global production at 121.94 million (480 lb.) bales up by 14.2% from 2016-17 production

Table 1
India's Progress from Deficiency to Self-sufficiency in Cotton

Parameter (million bales of 170 kg each)	2000 - 01		2017-18		
	Quantity	% Share of World	Quantity	% Share of World	Global Rank
Area (million ha)	8.6	27%	12.2	37%	1
Production	14.0	12%	36.5	23%	1
Domestic Consumption	17.3	15%	31.4	20%	2
Exports	0.1	0.4%	5.4	10%	3

(Source: USDA, March 2018 World Supply and Demand estimates)

of 106.80 million (480 lb.) bales. The total consumption is projected at 120.79 million (480 lb.) bales up by 5.2% from 114.81 million (480 lb.) bales estimated in 2016-17.

India’s cotton production in 2017-18 is pegged at 36.2 million bales (170 kg) as per the February 2018 estimates released by the Cotton Association of India, which is 7.3% higher than the estimated 2016-17 production of 33.7 million bales. The production was earlier forecasted to be higher, on account of the increase in the area sown under cotton in the 2017 kharif sowing period. Cotton was sown on 12.3 million hectares in 2017-18 as against around 10.5 - 11.5 million hectares sown usually. The production forecast was revised downwards later from the initial forecast of 37.5 million bales, with pink bollworm infestation across Maharashtra, Telengana. Andhra Pradesh and Karnataka making a massive dent on the output forecast.

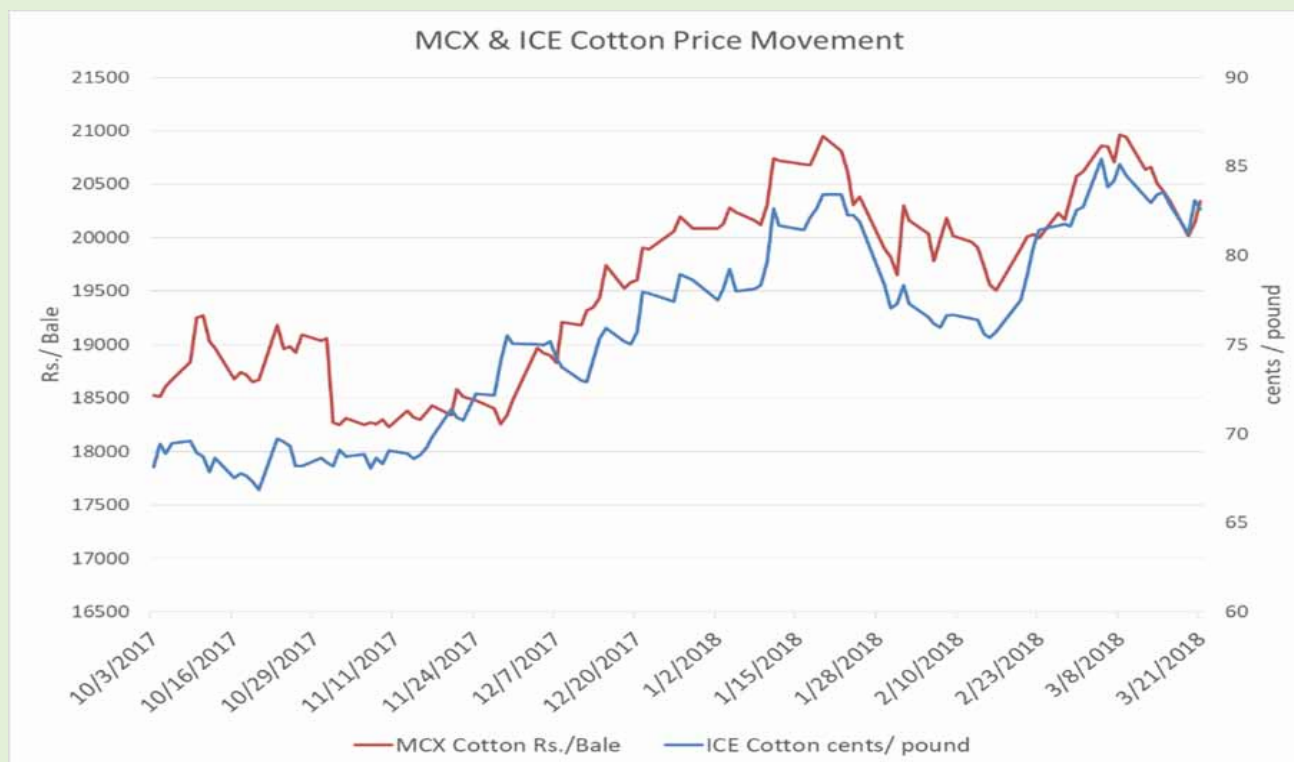
India, China, United States and Pakistan account for about 70 percent of world production. The global trade is pegged at 38.83 million (480 lb.) bales in 2017-18, which comes to around 32% of the annual production, which is a main factor responsible for the high volatility in cotton prices and the high correlation of Indian cotton prices to global prices (See Table 2).

Table 2
Avg. Daily Volatility of MCX Near Month Futures Prices and Correlation with ICE Cotton Futures (%)

Crop Year (Oct - Sep)	Volatility (%)	Correlation (%)
2011-12	1.16%	> 80 %
2012-13	0.95%	
2013-14	0.93%	
2014-15	0.81%	
2015-16	1.06%	
2016-17	0.84%	
2017-18*	0.82%	
Till 28 Feb 2018		

Cotton Derivatives: Tool for Price Risk Management

The significant influence global cotton market has on Indian cotton prices and its price volatility



has led to increased significance for market based risk management tools in recent times, so that stakeholders in the Indian cotton value chain are able to be compete with their global counterparts more efficiently and at lesser cost. In this regard, commodity derivatives markets serve as an important platform for bringing stability in the commodity markets by providing stakeholders with the avenue for risk management.

Understanding the necessity of the Indian cotton value chain to hedge their risks, the country's largest commodity exchange, MCX commenced futures trading in cotton on October 3, 2011. The MCX cotton contract with 25 bales as the trading unit, has cotton with staple length of 29 mm as the basis quality, with facility to deliver 27 - 31 mm at appropriate discounts / premiums. The basis grade along with its entire deliverable range represents more than 75 per cent of the cotton grown in the country. MCX Cotton contract is also unique in that it is based on internationally accepted technical specification of cotton. This contract, which has been widely accepted by various stakeholders across the country has to be compulsory settled by physical delivery on expiry, with basis delivery centre at Rajkot and provision to deliver additionally at Kadi, Mumdra, Yavatmal, Jalna, Adilabad and Warangal

The contract has been revised over the years in quality specifications, delivery centres,

contract expiry months and other delivery related parameters so as to remain relevant to the cotton industry and meet the requirements of the various stakeholders. While, the initial contracts were expiring bimonthly (January, March, May, July, October and November), this was later expanded to cover 10 calendar months of the year (except August and September, which are lean months, with dwindling supply), so as to match the risk management requirements of the industry. Another modification, we have done is to extend acceptable grades from standardised grade as per HVI Middling 31-3 to all grades between 11-1 and 42-3 with appropriate premium / discount, which has expanded the deliverable basket.

The contract has been growing over the years with the Indian cotton industry increasingly accepting and participating in the cotton futures trade. The improving volume, turnover and open interest are testimony to the increasing confidence in the cotton futures contract (Table 3, 4, 5).

Table 3
Participation in MCX Cotton Futures

Fin Year	Unique Participants
2015-16	4,008
2016-17	5,767

Table 4
Performance of MCX Cotton Futures Over the Years

Crop Year (Oct - Sep)	Total Volume (Bales)	Average Daily Volume (Bales)	Total Value (Rs. Crores)	Average Daily Value (Rs. Crores)	Average Daily OI (Bales)	Total Delivery (Bales)
2011-12	8,616,450	28,818	14,908	50	80,659	80,500
2012-13	19,241,925	64,788	36,199	122	246,388	154,700
2013-14	31,033,075	112,033	61,918	224	344,183	76,000
2014-15	16,470,625	64,088	25,990	101	258,531	1,87,600
2015-16	26,161,750	101,797	47,293	184	304,318	83,400
2016-17	23,116,100	89,251	46,588	180	255,954	96,200
2017-18*	9,852,450	93,833	19,544	186	249,340	69,900
Till 28 Feb 2018						

Table 5
Cotton: Peak Performance Details

Parameter	Quantity	Date
Daily Volume (Bales)	5,56,000	24 January 2014
Daily Value (Rs Crores)	1,162	24 January 2014
Daily Open Interest (Bales)	6,44,500	24 January 2014
Max Delivery (Bales)	50,800	July 2013 contract
Month-end stocks (Bales)	1,61,400	in 2012-13 season
Till 28 Feb 2018		

Impact Assessment of MCX Cotton Futures

The exchange-traded cotton futures contract has been beneficial for all sections of the economy including farmers and consumers; it provides advanced price signals to sellers (farmers/producers) and assists buyers (consumers) of agricultural commodities to decide on the time for purchase of the commodity, giving a tool for hedging the uncertainty in prices across time periods.

Against this backdrop, a study on the impact of cotton futures was undertaken by the ICAR-National Institute of Agricultural Economics and Policy Research, New Delhi (NIAP). The study, inter alia investigated improvements, if any, that cotton futures might have brought on the stakeholders of various elements in the commodity's value chain. It also examined the indirect impact of availability of futures prices to the farmers and traders' ecosystem through availability of knowledge about prices, price realization by producers and price linkages among the major domestic markets and with the futures market.

Findings of the Study

The main findings of the study are summarised below.

1. Integration of Physical and Futures Prices

Price movements in futures markets were analysed with those in ten selected cotton markets from five major cotton producing states of India - M.P., Gujarat, Haryana, Telengana and Rajasthan. The study found a great degree of integration among the markets and with the futures market, with high, positive and statistically significant coefficients of correlation among them. This indicates that, leaving aside the logistic cost of storage and transportation, cotton prices across markets move together and are in tandem with the futures prices. Higher integration of cotton prices among the markets also implies more competition among the markets and hence farmers may expect more competitive prices for their produce. Since the signs of all the coefficients are positive, prices were found to move in a similar direction.

2. Price Discovery

The study revealed that cotton futures has greatly helped the growers with regard to

providing some kind of referral or indicative price at a reference point to start negotiation with the buyer. Thus, even if the growers were not trading on the exchange platform, they could derive a lot of benefit simply by knowing the exchange-traded prices and use that as a reference for their negotiations. For instance, when enquired about the overall changes in the cotton industry after introduction of cotton futures, most ginneries agreed that there has been change in the cotton ecosystem after the introduction of cotton futures and also revealed that a majority of them have been using the exchange-discovered futures or spot prices to take decisions for trade in physical market.

3. Price Risk Management

The study found that cotton futures contracts have emerged as a valuable and effective tool for managing cotton price risk, providing the ability to various participants, namely, producers, ginneries, millers, yarn manufacturers, exporters, etc. to take advantage of futures market contracts as a means of shifting price risk. National commodity derivatives exchanges are providing effective risk management practices today by enabling the users to hedge against the price risk that they encounter.

On investigating the efficacy of cotton futures on ginneries, the study discovered that futures trading through the platform of national commodity exchanges provide an opportunity to these participants to improve their efficiencies and consolidate their competitiveness through price risk management. It also emerged that the introduction of futures contract in cotton helped ginneries in getting better prices and effective risk management techniques to hedge their investments from the price fluctuations of ginned cotton. In this manner, hedging has played a crucial role for stabilising the incomes of ginneries. Reducing risk may not have direct linkage with increase in earnings, but lack of options to manage risk have direct impact on factory's long-term income, commented the report.

Cotton being a global commodity, international factors have direct and significant effect on Indian cotton prices. The study finds that historically there have been several instances when the depreciation of the US dollar against most global currencies coupled

with appreciation of the rupee hit the Indian exporters badly. In such instances, the rupee-denominated cotton futures could be effectively used by small and medium-sized traders to hedge themselves against the rise in the value of foreign currencies.

4. Development of the Cotton Ecosystem

The study gathered opinions of multiple stakeholder groups to elicit the impact of cotton futures in the cotton ecosystem. It found that most growers, traders and exporters were of the opinion that there has been improvement in the storage infrastructure after the introduction of futures trading of the commodity, and that the futures platform has provided them with a reference point to take their trading decisions. Around fifty per cent of the respondents, moreover, reported that there has been improvement in the grading infrastructure after introduction of cotton futures in 2011.

The Way Ahead

The NIAP study concluded that although cotton futures has had a perceptible impact in the cotton ecosystem and the various stakeholders connected to this commodity, there is a lot of potential that remains to be achieved. Given the Indian context, farmers with small land holdings are less likely to directly participate in the commodity derivatives market in the immediate run. However, efforts need to be made to enhance their indirect participation through more widespread dissemination of exchange-traded prices, warehouse receipt finance and propagating the benefits of improved efficiency, transparency and liquidity by participating directly on the exchange platform. The report advocates using farmers' associations and cooperatives as vehicles to serve as intermediaries among small farmers, warehouses, brokers, banks and commodity exchanges to maximise the participation of farmers and small traders and enable them reap the benefits of the cotton derivatives market.

Courtesy: Cotton India 2018 (Domestic)

(The views expressed in this column are of the author and not that of Cotton Association of India)



Since 1921, we are dedicated to the cause of Indian cotton.

Just one of the reasons, you should use our Laboratory Testing Services.

The Cotton Association of India (CAI) is respected as the chief trade body in the hierarchy of the Indian cotton economy. Since its origin in 1921, CAI's contribution has been unparalleled in the development of cotton across India.

The CAI is setting benchmarks across a wide spectrum of services targeting the entire cotton value chain. These range from research and development at the grass root level to education, providing an arbitration mechanism, maintaining Indian cotton grade standards, issuing Certificates of Origin to collecting and disseminating statistics and information. Moreover, CAI is an autonomous organization portraying professionalism and reliability in cotton testing.

The CAI's network of independent cotton testing & research laboratories are strategically spread across major cotton centres in India and are equipped with:

- State-of-the-art technology & world-class Premier and MAG cotton testing machines
- HVI test mode with trash% tested gravimetrically

LABORATORY LOCATIONS

Current locations : • **Maharashtra :** Mumbai; Yavatmal; Aurangabad • **Gujarat :** Rajkot; Kadi; Ahmedabad • **Andhra Pradesh :** Adoni
• **Madhya Pradesh :** Khargone • **Karnataka :** Hubli • **Punjab :** Bathinda • **Telangana:** Warangal, Adilabad

UPCOMING LOCATIONS

• **Telangana:** Mahbubnagar



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UPCOUNTRY SPOT RATES (Rs./Qtl)												
Standard Descriptions with Basic Grade & Staple in Millimetres based on Upper Half Mean Length [By law 66 (A) (a) (4)]							Spot Rate (Uppcountry) 2018-19 Crop March 2019					
Sr. No.	Growth	Grade Standard	Grade	Staple	Micronaire	Strength /GPT	18th	19th	20th	21st	22nd	23rd
1	P/H/R	ICS-101	Fine	Below 22mm	5.0-7.0	15	11248 (40000)	11360 (40400)	11360 (40400)	H	11360 (40400)	11360 (40400)
2	P/H/R	ICS-201	Fine	Below 22mm	5.0-7.0	15	11389 (40500)	11501 (40900)	11501 (40900)		11501 (40900)	11501 (40900)
3	GUJ	ICS-102	Fine	22mm	4.0-6.0	20	9561 (34000)	9617 (34200)	9617 (34200)		9673 (34400)	9673 (34400)
4	KAR	ICS-103	Fine	23mm	4.0-5.5	21	10742 (38200)	10742 (38200)	10742 (38200)	O	10742 (38200)	10742 (38200)
5	M/M	ICS-104	Fine	24mm	4.0-5.0	23	11248 (40000)	11248 (40000)	11248 (40000)		11332 (40300)	11332 (40300)
6	P/H/R	ICS-202	Fine	26mm	3.5-4.9	26	12176 (43300)	12176 (43300)	12204 (43400)		12260 (43600)	12317 (43800)
7	M/M/A	ICS-105	Fine	26mm	3.0-3.4	25	10686 (38000)	10742 (38200)	10742 (38200)	L	10826 (38500)	10826 (38500)
8	M/M/A	ICS-105	Fine	26mm	3.5-4.9	25	11079 (39400)	11135 (39600)	11135 (39600)		11220 (39900)	11220 (39900)
9	P/H/R	ICS-105	Fine	27mm	3.5-4.9	26	12345 (43900)	12373 (44000)	12401 (44100)		12457 (44300)	12513 (44500)
10	M/M/A	ICS-105	Fine	27mm	3.0-3.4	26	10911 (38800)	10967 (39000)	10967 (39000)	I	11051 (39300)	11051 (39300)
11	M/M/A	ICS-105	Fine	27mm	3.5-4.9	26	11473 (40800)	11529 (41000)	11529 (41000)		11614 (41300)	11614 (41300)
12	P/H/R	ICS-105	Fine	28mm	3.5-4.9	27	12401 (44100)	12457 (44300)	12485 (44400)		12541 (44600)	12598 (44800)
13	M/M/A	ICS-105	Fine	28mm	3.5-4.9	27	11810 (42000)	11867 (42200)	11867 (42200)	D	11951 (42500)	11951 (42500)
14	GUJ	ICS-105	Fine	28mm	3.5-4.9	27	11951 (42500)	12092 (43000)	12092 (43000)		12148 (43200)	12148 (43200)
15	M/M/A/K	ICS-105	Fine	29mm	3.5-4.9	28	12035 (42800)	12148 (43200)	12148 (43200)		12232 (43500)	12232 (43500)
16	GUJ	ICS-105	Fine	29mm	3.5-4.9	28	12176 (43300)	12317 (43800)	12317 (43800)	A	12401 (44100)	12401 (44100)
17	M/M/A/K	ICS-105	Fine	30mm	3.5-4.9	29	12345 (43900)	12373 (44000)	12373 (44000)		12457 (44300)	12457 (44300)
18	M/M/A/K/T/O	ICS-105	Fine	31mm	3.5-4.9	30	12541 (44600)	12570 (44700)	12570 (44700)		12654 (45000)	12654 (45000)
19	A/K/T/O	ICS-106	Fine	32mm	3.5-4.9	31	12823 (45600)	12851 (45700)	12851 (45700)	Y	12935 (46000)	12935 (46000)
20	M(P)/K/T	ICS-107	Fine	34mm	3.0-3.8	33	15157 (53900)	15269 (54300)	15269 (54300)		15353 (54600)	15353 (54600)

(Note: Figures in bracket indicate prices in Rs./Candy)