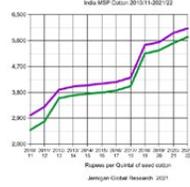
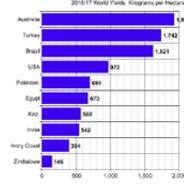




INDIAN COTTON POLICY IS VERY IMPORTANT TO WORLD TRADE



INDIAN MP DRIVES COTTON ACREAGE



INDIAN NOW NEEDS TO FOCUS ON YIELD IMPROVEMENT



INDIAN COTTON FIBER AND YARN TRADE CANNOT BE DISRUPTED



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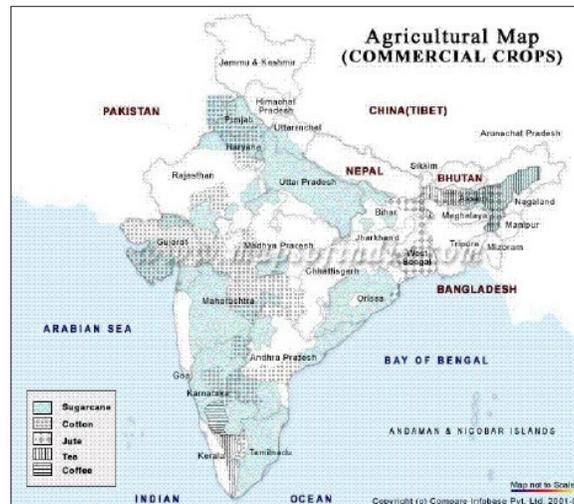
— KNOWLEDGE IS THE NEW CAPITAL —

INDIAN DEBATE INTERJECTS NEW DYNAMICS TO GLOBAL TRADE

SPECIAL INDIAN ISSUE



Cotton has always played a very important role in the history of India, and with it comes a high degree of emotion. First, it should be noted that in a recent poll Indian PM Modi was the most admired national leader in the world, far above the weakened heads of state of the current US President. He has been the first Indian leader to embrace widespread capitalism while at the same time attempting to meet the needs of the



poorest, especially the farmers. Last week, the global cotton market felt a crisis might be at hand as textile manufacturers met with the Union Minister of Textiles, Commerce Affairs to ask the government to ban or limit the export of cotton and cotton yarn in order to limit prices. The Ministry turned down the group’s request and told the industry to “Resolve cotton pricing issue in the spirit of collaboration rather than competition.”

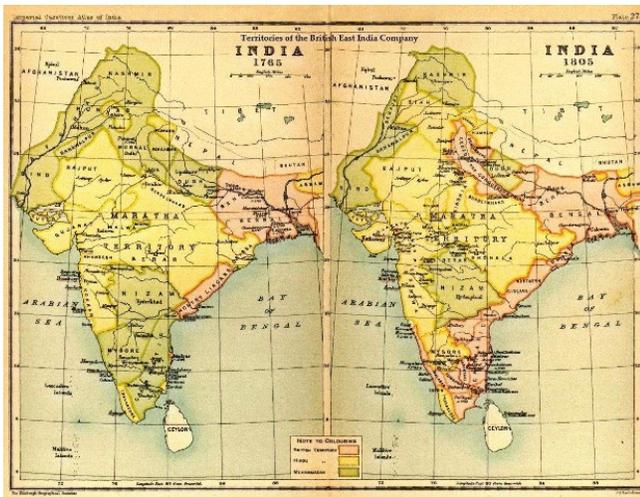
He cautioned traders from manipulation of prices or hoarding and went on to tell the manufacturing sector to not depend on the government to intervene. The Minister made it clear that the farmers' interests must be taken care of first, and they should receive as high a cotton price as possible. He also cited the success of the increasing MSP under the Modi government in helping to stimulate acreage and profits. He went on to say, "Let free market forces play out." To further show the Modi government support for the farmers he announced the repeal of three controversial laws that farmers had been protesting about.

History reveals why the battle between the cotton farmers and textile industry is so emotional. India has been the center of much of the global trade in cotton for centuries. India and Peru share the credit for being the first confirmed regions to have discovered and used cotton in approximately 5,000 BC. One of Alexander the Great's admirals in 327 BC recorded that he saw cotton cloth in India that was whiter than flax. In his travels, Marco Polo visited India where he wrote about the cotton cloth he encountered, describing it as the most beautiful in the world. He is said to have seen the famous giant cotton trees of Gujarat that stood 18 feet tall. Along the Coromandel coast, in what is now Tamil Nadu, it was reported there were entire villages where every man, woman, and child was employed in the making of cotton cloth. This cloth became known around the world for its quality. Cotton continued to play a major role in India, accounting for 25% of global textile trade in the 18th century at the height of the Mughal Empire, with its textile and apparel exports reaching from the Americas to Japan. During this period, India dominated the global cotton textile industry to the same extent China has in recent years. The center of the textile industry was in the region we know today as Bangladesh and the Indian states

of West Bengal and Orissa. This period is known as "India's Last Golden Age" due to the fact that the Mughal Empire controlled 24.4% of global GDP. The empire began in 1526 and lasted until the final remnants of the empire were taken over by the British government in 1858.

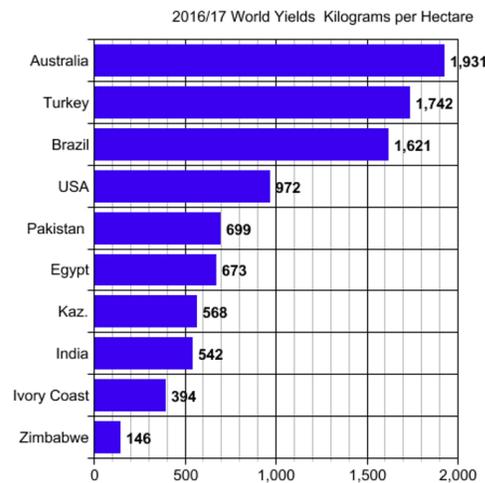
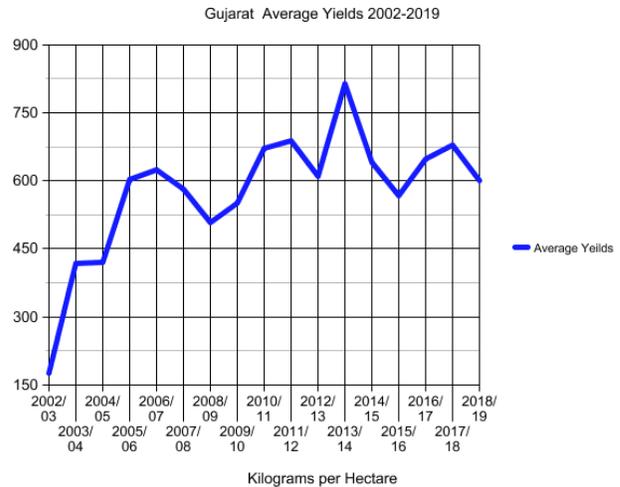
As the British East India Company's rule over India expanded, the impact it had on the cotton industry shaped every aspect of the industry. By 1878, it was observed that cotton trade had fallen almost entirely into the hands of European merchants, which included the establishment of European agents in farming centers with direct contact with farmers. The European and Japanese trading groups that moved in changed the process and pushed the long dominant Indian cotton merchants to the margins of trade. In 1875, Indian companies controlled only 28% of exports. The East Indian Company's hold on large parts of India allowed it to introduce large, centralized ginning operations that stopped the practice of separating the hundreds of local varieties that had been bred specifically for certain areas. These gins purchased cotton only on weight, which turned the focus to yield. Prior to the East Indian Company's gins, hand ginning was used, which carefully separated the seed from the lint resulting in a good quality seed saved for sowing the following season. The company's large scale ginning practices mixed varieties and damaged the seed, which led to shortages of planting seed in some areas. In 1868, India grew an estimated 4.29 million hectares of cotton.

The entire process of shifting the Indian industry from growing cotton for its domestic industry to focusing on exports transformed cotton growing in India. The Indian varieties that had once produced the finest cloth in the world were now unsuited for the new textile machinery operating in English mills. Those changes meant cotton traits were needed to meet the requirements of the new machines and not for the type of cloth they produced. This began the push for longer staple cotton. British mills needed cotton, and the rapidly increasing demand led to the transformation of India's entire agriculture sector as cotton was replacing more and more food crops. This, along with heavy taxes, caused Indian farmers to be short of enough food to eat and forced them heavily in debt. The British East India Company required all farmers to pay their taxes in cash. The importance of Indian cotton to the British economy resulted in attempts to change the type of cotton produced while also expanding cotton into areas where it was not suited. The introduction of non-indigenous cotton varieties by the British destroyed the biodiversity of the local Desi cottons. The focus on cotton for export was so great that in Berar, the



center of the European merchants' investments, the local government banned a cotton variety known as "Khandesi," which was only used by the local industry. The Colonial government banned it in 1872, which meant markets were unable to trade it and railways were not allowed to transport it. During the American Civil War, Berar was the center of an intense campaign to increase production to the point where it would replace US cotton for the British mills. This effort took a significant toll on the soil, water, etc., and the legacy carries forward to today with six districts of the Vidarbha region of Maharashtra still having the lowest cotton yields in India and the highest number of farmer suicides due to debt. The soils are extremely poor in this region.

The British forced the introduction of the American Hinganghat and Dharwar cotton varieties, and those styles did not like their new environmental conditions and had much lower ginning outturn than the traditional Indian Waradi cotton grown in the Khandesh region. Any farmer found to be growing Waradi had the cotton seed crushed and fed to cows to prevent it from being planted. Manchester mill owners pressured the East India Company to improve the quality of the Indian cotton, especially the staple length. To meet the demand for better quality lint they even imported American cotton gins. The first US saw gin arrived in Bombay in 1793. They actually hired US farmers to set up experimental farms to grow the US varieties. The experimental farms proved to be a failure. However, the expansion of the American varieties continued.





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WHY COTTON?
Comes from Nature, Returns to Nature

World War I initiated another important phase in the history of the Indian cotton industry. The British cotton textile industry peaked just before the start of World War I, which began in 1914. At the time, the British cotton textile industry supplied India with its domestic needs. Therefore, during the time of British rule, India went from a dynamic exporter of cotton cloth to an importer of British-made cotton goods and an exporter of the raw fiber. In 1913, the British had overstocked cotton goods to India. A poor monsoon and a credit crisis prior to the war caused a sharp slowdown in shipments. The exports were cotton piece goods and a small amount of yarn. As WW I intensified and expanded, ocean freight rates to/from India surged from around 22-25 shillings a ton to 275 shillings a ton in 1918. Between 1915 and 1918 British cotton imports declined by almost 50%. The war also allowed for a sharp increase in Indian domestic production of cotton goods. The war years saw new Indian mills begin to come online with both cotton spindles and looms. Secondhand looms from English mills were dismantled and shipped to India. Between 1913/1914 and 1918/1919, domestic Indian cotton fabric production increased from 2189.7 million linear yards to 2518 million linear yards, while imports from Britain fell by 75%. However, it was during this period that Japanese exports of cotton piece goods to India began to occur on a large scale.

In the 1920's, Mohandas Gandhi launched the Khadi

movement, which called for the boycott of British cotton goods further damaging imports. The period between World War I and World War II was a boom period for the Indian cotton industry. In 1932, India had 340 mills with 9.5 million spindles and 186,407 looms. Domestic cotton fabric production increased by 54% between 1918 and 1931. India still had a cotton quality problem, and it was during this boom period they tried again to find a solution. The answer was an American type of cotton grown in Indochina called "Cambodia," which was adapted for India and introduced. This cotton became the basis for several new varieties and hybrids.

Between 1929 and 1948, India's cotton acreage ranged from 8.5-10.5 million hectares. However, production ranged from a low of 2.840 million 500-lb. bales to a high of 5.217 million bales with yields ranging from 165.82 lbs. per hectare to 294.27 lbs. The spread between Indian yields and US yields widened further during the mid to late 1940's. In 1948, the average yield in the US was 765 lbs. a hectare compared to 228.2 lbs. per hectare in India. The monsoon, or lack of it, was a big factor regarding low yield, as only 21.7% of the farm acreage was irrigated in 1930/1931. To address the increasing need for food crops, the Indian government in 1944 launched a "Grow More Food" program that reduced cotton acreage. In 1929, India exported 3.293 million bales of cotton. In 1940, exports had fallen to only 1.891 million bales, and by the end of the war

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exports in 1948 totaled a mere 943,000 bales. During this period, international trade changed dramatically, and India's domestic mill consumption increased. In 1942, India was consuming 4.026 million bales of cotton and had 401 mills with 10,131 spindles and 200,000 looms.

World War II brought significant and long-lasting changes to the global cotton trade. Prior to the war, the Liverpool market was the world leader, but it was forced to close as the war in Europe expanded and all trading ended in 1940. Indian cotton at the time was a major force in world trade, along with American cotton. Due to quality differences, Indian cotton was always quoted at a discount to US cotton, and in the period from 1929 to 1939 the discount ranged from close to 1 cent a lb. to over 5 cents. These were very large discounts considering the price of cotton during the 10-year period was always below 19 cents per lb.

On August 15, 1947, India and Pakistan were separated and granted independence from Britain after 190 years of colonial rule. At the time of separation, Pakistan had approximately 65,000 bales of textile consumption and a million bales of cotton production, while India had the balance of the textile industry and approximately 3.5 million bales of cotton production. Pakistan took with it a large block of the irrigated acreage. At this time, medium staple cotton accounted for 67% of the acreage and short staple the balance of India's cotton production. The area planted to cotton in the first year of independence was estimated to be 4.3 million hectares with production of 1.724 million 500-lb. bales. By 1961, acreage had expanded to 7.78 million hectares with a yield of 105 kilograms a hectare, 231.48 lbs., and in 1969 acreage had expanded slightly to 7.810 million hectares and yields had reached 120 kg a hectare, or 264.55 lbs. The yields were a significant improvement

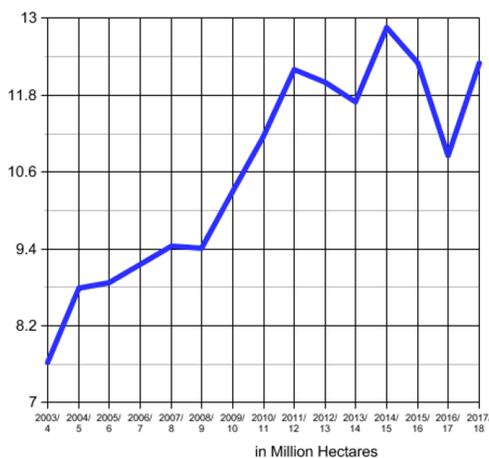
of about 20% from the average yields of the 1940s. The All India Coordinated Cotton Improvement Project (AICCIP) was launched in 1967, which brought about new seed variety research. Approximately 150 new seed varieties emerged from AICCIP, including the H-4 variety.



During the decade from 1970 to 1980, cotton acreage changed little, remaining near 7.7 million hectares. However, the average yield did experience another significant improvement, averaging 164 kilograms, 361.58 lbs., per hectare in 1979/1980. The increase in yields was a major improvement from the 1910 levels with yields doubling during this period.

The period between 1980 and 2000 saw limited expansion in cotton acreage but another significant increase in cotton yields. By 1985, average yield moved above 200 kg, 440.92 lbs., per hectare before then making a dramatic jump from that level. It was during this period that new hybrids were introduced, and the first was in 1970 in Gujarat. The new hybrids significantly changed and improved the fiber traits of Indian cotton. By the end of the period, the crop was 69% long staple, 25% medium staple, and 6% short staple compared to 67% medium staple and 33% short staple at the time of independence. This change in quality had an important impact on India's cotton textile industry. In 1947, Indian cotton could only be used to spin 24 - 28 count yarn, but some 50 years later staple length had increased to the point that Indian cotton could spin the finer 120 count yarns. Yield continued to increase, exceeding 300 kilograms, 661.38 lbs. a hectare by 1994/1995, and in 2000 the hybrids were producing seed cotton yields of 40 quintals per hectare compared to 15 in 1947. Improved farmer's income, along with advancements in disease resistance, is a result of the success of the hybrids in enhancing yields and fiber quality.

India Cotton Acreage 2003/4-2017/18



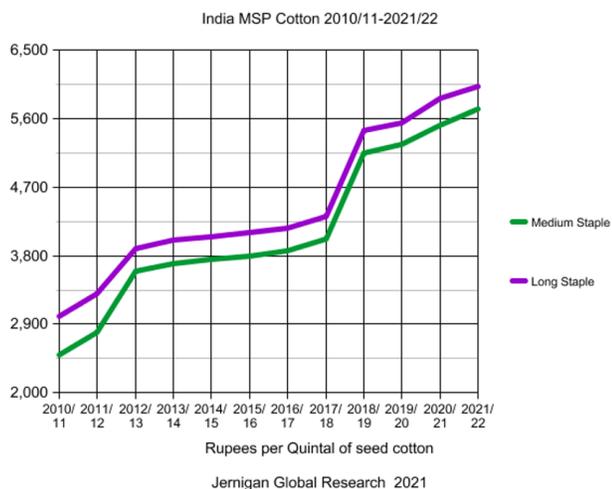
For all the positive benefits of the new cotton hybrids there were sizeable challenges as well. Growers were experiencing new diseases and pests, which they had little experience dealing with, and the government extension services aiding the small, uneducated rural farmers were inadequately trained and poorly equipped. The government's solution was principally to encourage treating the problems with a host of chemicals. Yields and quality improved, but farmers now found they had a new and costly input structure that jeopardized those benefits. The grower must purchase the hybrid seed each year, and the increased chemical usage requires additional credit from the local money lenders, which increases the hold on the farmer. For farmers, such as those in Maharashtra, these conditions create a tremendous burden as they were accustomed to the Desi varieties, which were resistant to many diseases and pests and required less input cost. The extra cost associated with the hybrids and lack of training in the use of inputs created a crisis situation for many growers, which in turn meant a problem for state and national governments and to some extent the Indian textile sector. Agriculture problems of this scale do not happen in a vacuum. The hybrid seed issues joined the list of difficulties farmers who already had to deal with erratic rains, poor monsoons, lack of credit, and needed irrigation. Only 27% of the acreage in Maharashtra is irrigated. The local agriculture retailers

that supplied cotton seed and chemical inputs were also the local moneylenders. Many of these were small, one-hectare farmers who saw their indebtedness soar due to overuse of chemicals. Prior to the introduction of BT cotton, 54% of all pesticide use in India was applied to cotton.

With the introduction of BT cotton in 2002, the average yield in India began to increase. In 2004/2005, BT cotton accounted for only 5% of the acreage with average yields increasing to 471 kg, 1,038 lbs., per hectare. However, by 2013/2014, BT cotton had reached 90% of the acreage. The record yield occurred in 2013/2014, reaching 577 kg, 1,272 lbs., per hectare. The arrival of BT also resulted in cotton acreage increasing from 7.630 million hectares in 2003/2004 to a peak of 12.850 million hectares in 2014/2015. Gujarat, Maharashtra, and Andhra Pradesh experienced the largest increases in acreage.

Yields, however, stalled and began to decline as the government failed to pay the required technology fees and several major plots of acreage developed from bootleg seed from around the world. The Modi government's pro-farmer policy has failed to resolve this issue but did use public funds to increase the minimum support price annually to the point that growers' profits improved, even without the yield gains.

MSP DETERMINES INDIAN COTTON ACREAGE



The minimum support price for all major crops is set annually by the government, which plays a key role in what farmer plant. The cotton MSP is designed to provide the grower with a 50% return over his production cost assuming normal yield. The 2020/2021 MSP was set on Sept 21, 2021, at a new record of 5,825 rupees per quintal of seed cotton. This was up from

EXPRESS explained.

WHAT'S MSP

It is a "minimum price" for any crop that the government considers as remunerative for farmers and hence deserving of "support". It's also the price that government agencies pay whenever they procure the particular crop. The government now fixes MSPs for 23 crops, but is NOT legally bound to pay these even if open market rates for the said produce are ruling below their announced floor prices

#QUIXPLAINED

5515 the previous season. It has been rising steadily under the Modi government. When the seed cotton price drops below that price the Cotton Corporation of India will lease or operate gins to pay the seed cotton at that price. In 2020/2021, the program worked very well, and the CCI purchased a large volume of cotton and then released it back into the market as the price rose, providing great benefit to the industry. So far in the new season, the seed cotton price has been far above the MSP, resulting in limiting CCI activity. A new announcement of the next season's MSP could occur

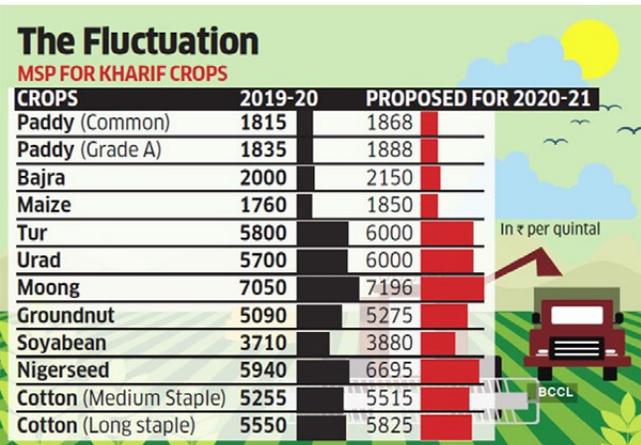
soon, and it is expected to be increased further due to farmers' increased input cost. Last week the spot price of a Shaker 6 ex gin closed the week at 112.00 cents, which gives the government lots of room to raise the MSP, which we expect. We expect 2021/2022 crop Indian cotton acreage to reach a new crop, and production could reach 43-44 million 170-K bales vs. just over 36 million bales this year. This would give India a record exportable surplus of over 10 million bales.

MSP VALUE OF PRODUCTION	
CROP	VALUE
Paddy	3,20,821.57
Wheat	2,07,110.75
Sugarcane	97,817.50
Cotton	95,117.65
Chana	55,331.25
Groundnut	51,388.64
Maize	50,406.40
Soyabean	41,607.65
Mustard	40,338.30
Arhar	22,214.00
Bajra	20,560.00
Moong	17,343.00
Jowar	12,061.50
Urad	11,628.00
Copra	7,140.75
Jute	6,691.93
Masur	5,664.00
Ragi	5,481.00
Sesamum	4,863.75
Barley	2,577.25
Sunflower	1,226.05
Nigerseed	249.48
Safflower	156.45
TOTAL Value	10,77,796.88

(Prices in Rs crore; for 2019-20)

COST & PROFIT UNDER NEW REGIME			
Crops	Cost (Rs./Quintal)	MSP (Rs./Quintal)	% return over cost
Bajra	990	1,950	96.9
Arhar (Tur)	3,432	5,675	65.3
Urad	3,438	5,600	62.9
Maize	1,131	1,700	50.3
Paddy*	1,166	1,750	50.1
Jowar**	1,619	2,430	50.1
Ragi	1,931	2,897	50
Cotton***	3,433	5,150	50
Sunflower seed	3,592	5,388	50
Soyabean	2,266	3,399	50
Sesamum	4,166	6,249	50
Nigerseed	3,918	5,877	50
Moong	4,650	6,975	50
Groundnut	3,260	4,890	50

*Common variety, ** Hybrid, ***Medium staple



INDIAN COTTON EXPORT & YARN TRADE MAJOR PART OF WORLD TRADE

Any attempt to interfere with Indian cotton yarn and fabric trade would have major implications for the entire global trade. First, India is the world's second largest cotton textile and made-up exporter in the world. In September alone it exported 117,091 tons of cotton yarn. China was the largest market at 45,666 tons and may import up over 500,000 tons of cotton yarn from India in 2021. This yarn would be very difficult to replace. China imports open end, low count yarns from Pakistan, medium count yarns from India, and maybe even ELS yarns and home textile yarns from Uzbekistan. India overall is the main supplier of cotton yarn to Bangladesh, and the country depends on its yarns. August/September cotton yarn exports to

Bangladesh alone were 92,574 tons. In cotton trade, it is a main supplier to Bangladesh, Vietnam, and China. Bangladesh would suffer the greatest disruption to any trade change. The logistics crisis has made Indian yarn and cotton essential to the country.

The Indian textile industry call for a ban or limit on cotton fiber and yarn was very shortsighted and would cause great damage long term. It might signal a top in the Indian cotton price panic. Normally such events occur when emotions reach extremes. We presented a brief history this week of Indian trade in order for all to understand the emotion behind the action.

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