A PROFILE OF INDIAN COTTON: AT A GLANCE

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Introduction:

Cotton is an immensely important crop for the sustainable economy of India and livelihood of the Indian cotton farming community. It is cultivated in about 312 lakh hectares across the world and in around 117 lakh hectares in the country. Thus, India accounts for around 37.5% of the global cotton area and contributes to 26% (i.e 6.20 Million MT) of the global cotton produce of 23.92 Million MT. Cotton continues to enjoy a pre-eminent and the most favoured fibre status among the Indian textile mills, as the major raw material for the textile industry.

Presently, nearly 60 million people depend on cotton cultivation, marketing, processing and exports for their livelihood. India is also the only country in the world that grows not only the four cultivated species of cotton but also their intra-and-inter-specific hybrids on a commercial scale.

The textile industry, which consumes the cotton, as its principal raw material, contributes about 4% to the GDP and is the major exchange earner for the country. Hence, growth and development of cotton and cotton based textile industry has a vital bearing on the overall development of the Indian economy.

Cotton Crop Situation:

Cotton is generating employment for millions of farmers and others engaged in activities relating to cotton, cotton processing, transportation etc. India occupies first place in the world in terms of acreage under cotton and cotton production.

Presently, most of the country's cotton production comes from eleven major cotton growing States, which can be grouped into three regions viz., Northern Zone comprising Punjab, Haryana and Rajasthan, Central zone comprising of Gujarat, Maharashtra, Madhya Pradesh and Orissa and Southern Zone comprising of Andhra Pradesh, Telangana, Karnataka and Tamil Nadu.

India has brought about a qualitative and quantitative transformation in the production of cotton since independence. Production and productivity of cotton in India have improved significantly during the past six decades, which has increased from 33.36 lakh bales of 170 kgs each in 1947-48 to 178 lakh bales in 1996-97, an increase of about 433 per cent, though thereafter there was a decline in cotton production in the subsequent years i.e. between the period 1997-98 and 2002-03. Cotton production recorded in the year 2002-03 at 136 lakh bales was the lowest since 1994-95. Cotton production was highest in the year 2013-14 at 398 lakh bales. For the current cotton season 2015-16, cotton production in India is estimated at 365 lakh bales due to switching over to other competing crop, delayed monsoon in Gujarat and Karnataka and crop damage due to white fly pests attack in Northern region.

At the time of independence, mostly short and medium staple cottons were produced and while there were no long and extra long staple cottons during 1947-48, the same now constitute more than 50 per cent of the production. Today, India produces the widest range of cottons capable of spinning from 6s to 120s counts. The import of cotton, particularly of Egyptian and Sudanese long and extra long staple cottons, which was a regular phenomenon till 1978-79 was no longer required as India now is not only self sufficient in cotton requirements including cottons comparable to Egyptian and Sudanese types but also emerged as a net exporter of cotton in the mid 1990s.

Development of improved varieties and hybrids in the different staple length groups, generation of improved production and plant protection technologies, their dissemination by extension functionaries and adoption by farmers are responsible for bringing about the distinct improvement in the domestic cotton scenario to its present state. Government policies such as giving greater thrusts to Research and Development in cotton encouraging use of quality seeds and pesticides by providing subsidies for such inputs and price support measures have also contributed in changing the cotton scenario in India.

In spite of the progress enunciated above, the cotton yield in the country was ranging between 300/305 kg per hectare, which was one of the lowest in the world, despite India having the largest cotton cultivable area in the world, and as a result the total income of the cotton farmers was not adequate. Hence, with a view to increase production, productivity and quality of Indian cotton, the Government had launched the Technology Mission on Cotton in February 2000 with four Mini Missions.

Government Schemes for development of cotton sector:

With a view to improve production, productivity and quality of cotton as also to increase the income of cotton farmers by reducing the cost of cultivation through transfer of technology etc., the Govt. of India has launched Technology Mission on Cotton in February 2000 with four Mini Missions as under:

Mini Mission	Objective	Nodal Agency
Mini Mission I	Cotton Research and Technology Generation	Indian Council of Agricultural Research
Mini Mission II	Transfer of Technology and Development	Ministry of Agriculture
Mini Mission III	Improvement of Marketing Infrastructure	Ministry of Textiles
Mini Mission IV	Modernization/ upgradation of G&P factories	Ministry of Textiles

Research and Transfer of Technology under TMC:

Low yields of most of the varieties, paucity of good quality seeds, high cost of inputs, poor quality of pesticides and inadequacies of transfer of technologies had decimated farm income, while poor fibre quality, admixtures of varieties and contamination in cotton had increased the woes of textile mills. Hence, with a view to improve production, productivity and quality of cotton, the Government of India had launched Technology Mission on Cotton in February 2000. While Mini Mission I dealt with Research and Technology generation; Mini Mission II pertained to transfer of technology and development and Mini Mission III ensured improvement of market infrastructure.With concerted efforts through MM-I and MM-II of TMC and other steps taken by the Government of India by way of research and transfer of technology from research level to farm level helped the cotton farmers in improving the production and quality of cotton, besides increasing the yield per hectare by reducing the cost of cultivation.

Improvement in Quality of Cotton:

Further, due to concerted efforts under MM-III and MM-IV, the quality of cotton processed in the modernized factories has improved considerably both in terms of cleanliness, grade and trash. The level of contamination has come down. As a result, the Indian cottons have become fully acceptable to the domestic as well as international buyers. The term of MM-III and IV has expired on 31-12-2010.

Release of BT seed for commercial cultivation:

Several varieties/hybrids including Bt varieties satisfying the quality norms of Indian Textile Industry have been developed and released for commercial cultivation. The Govt. of India through GEAC, Ministry of Environment and Forests has started releasing Bt varieties for commercial cultivation since 26th March 2002. Since then, the GEAC has approved/recommended more than 619 Bt cotton hybrids. The area under Bt cotton in the country has been continuously rising. Development of resistance to biotic factors (diseases & pests) through introgression of potential genes from wild species of cotton is in progress. Several farm-worthy cotton production technologies such as fertigation, farm-yard manure application, application of micro-nutrients, etc., have shown to restore the actual genetic potential in terms of productivity and fibre quality.

Due to all these efforts Cotton farmers in India have been showing increasing inclination in bringing more and more areas under BT cultivation, which has helped them in increasing their net earnings through higher yields and lower cost on pesticides consumption.

The acreage under BT cotton in 2014-15 had been around 95% of the total area of 130.83 lakh hectares while during 2013-14, it was around 92% of the total acreage of 119.60 lakh hectares.

Other Programs for improvement in productivity of cotton & skill developments for best farm practices:

- **Implementation of High Density Planting System Program:**

  The objective of High Density Planting System (HDPS) program is to improve cotton productivity in the Country so that research work being done in the field of productivity improvement could be transferred from lab to field level and the productivity of cotton in the country could be improved. High density cotton planting system is a new initiative from Central Institute for cotton Research (CICR), Nagpur in collaboration with the State Agriculture Department and Krishi Vigyan Kendra's.

  After adoption of this system of HDP, productivity in the country will improve and average per acre production may go upto 15 quintals (about 37 quintals seed cotton or 7 – 8 quintals lint per hectare) under the normal rain-fed condition. Under HDP system, sowing is being done by keeping 10 cm. distance between two plants, with three models of distance between two rows i.e. 45 mm., 60 mm. & 70 mm.

  The cost in case of these varieties is also expected to be low as the plant will grow vertically and the efforts for weeding out and clearing the bushes will be comparatively lesser than the present planting system.

This type of plantation may be more effective, as it will reduce the cost by saving on account of negligible cost of irrigation, less cost of seed, etc.

- **Inter-cropping system:**

Keeping in view climatic vulnerability, market fluctuation and better resources use to produce higher economic return and yields per unit area, intercropping system is useful for increasing input use efficiency. It offers greater stability in production and meets the domestic needs of the farmer and provides suitable distribution of farm resources.

These intercrops are observed to serve as an insurance against the menace of pest and disease, vagaries of weather, market fluctuation and help to increase the net profit to growers.

Farmers intercrop cotton with moong, Tur, soybean, cowpeas etc. With this technology, farmers can produce cotton and protein-rich legumes at the same time in the same field. Intercropping cotton with moong, Tur, soybean etc, does not reduce seed-cotton yield. Instead it increases income per unit area because two crops are planted at the same time. Moreover, it also enrich soil fertility.

- **Efforts to implement instrument based quality Evaluation System:**

In India, cotton is traded in market yards in the form of kapas at the farmers' level. Generally, the assessment of quality of kapas (i.e. grade/colour, fibre length, strength, fineness, moisture contents etc.) are done in the market yards where kapas is either stored on the platforms or carts/trolley by visual inspection and hand testing at the time of auction. However, being one of the nominated agency of Government of India *for conducting MSP operation and to ensure quality based* remunerative prices to the cotton farmers, the Cotton Corporation of India started instrument based quality evaluation system for assessing of quality of kapas by using moisture meters and micronnaire testers.

Now, as against traditional practice, other buyers/traders in the country are also following the instrument based quality evaluation system for assessing of quality of kapas. This not only helps the cotton farmers to get remunerative prices of their produce but also provide the quality cotton to the mills as per their requirement.

- **Integrated Cotton Cultivation (ICC):**

With a view to benefit the cotton farming community on the one hand by way of making available quality inputs like seeds, pesticides etc., for producing quality cotton and to enable the user industry (i.e. textile mills) to obtain desired quality of cotton on the other, the Govt. of India has promoted Integrated Cotton Cultivation (Contract Farming), which has the involvement of corporate sector not only in extension services but also in making available quality inputs like seeds, fertilizers etc., to the farmers to improve productivity and quality of Indian cotton.

- **Front Line Demonstrations under MM-II of TMC**

The Govt. of India, besides, States, ICAR, Krishi Vigyan Kendras, State Agricultural Universities and various other organisations had identified CCI, as one of the Nodal Agencies for implementing Front Line Demonstrations (FLDs) under Mini Mission II of Technology Mission on Cotton.

FLDs were conducted for transfer of modern/improved cotton production technologies including farm implements/machinery as well as improved cotton varieties and hybrids. Demonstrations of high yielding varieties and hybrids suited for various agro-climatic conditions, approved transgenic cotton, integrated nutrient management, integrated pest management, use of bio-fertilizers etc, have helped the farmers to increase yields and reduce the use of pesticides & production cost significantly.

- **Coloured Cotton:**

Govt. of India is making efforts to encourage cultivation of colour cotton in the country with the active cooperation of the Industry, supplemented by R&D. There has been much progress in research in recent years on coloured cotton. Scientists have reported that the desired parameter like productivity, staple length and strength etc. of colour cotton can be brought to the levels of white cotton to the satisfaction of the textile industry. Presently coloured cotton is being cultivated in small area in Dharwad (Karnataka), Coimbatore (T.N.), Vidharbha (Maharashtra) and Guntur (AP). Estimated total area is around 200 acres and production is around 330 quintal. For promotion of natural Coloured Cotton, respective State Govts have been requested to cultivate colour cotton and extend required support from the research institutions and Khadi & Village Industries Board for processing and marketing of the products for giving a remunerative price to the growers.

- **Upgradation of skills for Ginning & Pressing:**

Efforts are being made for Up-gradation of Ginning and Pressing machines with modern and latest technology to achieve better quality of lint cotton. Besides this, operators' skills are also being up-graded through proper training to handle the machines with latest technology.

India's cotton statistics: ***Techniques of data collection:***

The Cotton Advisory Board, chaired by the Textiles Commissioner Mumbai comprises of representatives of Ministry of Agriculture, Ministry of Textiles, Department of Commerce, State Agriculture Departments, space assessment, trade and industry associations formulate the India's cotton balance sheet and the same is revised in its quarterly meeting based on prevailing market conditions. The balance sheet followed a pattern with estimates of production, consumption, exports and closing stocks being determined based on estimations received from various associations.

Besides above, India has a well-established and internationally acknowledged Agricultural Statistics System. It is a decentralised system with the State Governments – State Agricultural Statistics Authorities (SASAs) to be more specific – playing a major role in the collection and compilation of Agricultural Statistics at the State level while the Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) at the Centre is the pivotal agency for such compilation at the all-India level. The other principal data-gathering agencies involved are the National Sample Survey Organization (NSSO), and the State Directorates of Economics and Statistics (DESs).

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