



**INTERNATIONAL TEXTILE MANUFACTURERS FEDERATION
FEDERATION INTERNATIONALE DES INDUSTRIES TEXTILES
INTERNATIONALE VEREINIGUNG DER TEXTILINDUSTRIE**

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Spinners Committee

Travel Report

India

October 31 – November 8, 2002

From October 31 to November 8, 2002, members of the ITMF Spinners Committee visited India immediately following the ITMF annual conference in New Delhi. In Hyderabad they visited the farms and gins of M/s Amit Cotton Ltd. at Boorgula; in the Ahmedabad area the farms and gins of M/s A.C. Industries at Kapadwanj; in Haryana the Market Yards at Hisar and Dabwali; in Punjab the ginning and pressing factory (G&P) of JCT at Abohar; in Rajasthan the cotton research station of that state in Sriganganagar. The visit ended in Delhi with a presentation of the Technology Mission on Cotton by Mr. M.B. Lal, Advisor and long-time Chairman of the Cotton Corporation of India. Throughout the visit the Committee was accompanied by leading representatives of the Cotton Corporation of India, amongst them Messrs. M.B. Lal, Vishwa Nath, Chairman cum Managing Director of the Corporation and Mr. Krishna Iyer, Consultant to the Corporation. And by representatives of the East India Cotton Association, amongst them Mr. Suresh Kotak.

This was the second visit of the Committee to India, the first having taken place in 1992. Its main purpose was to obtain a first-hand impression of the results of the ongoing Technology Mission on Cotton, a project initiated by the Indian government and executed under the responsibility of the Cotton Corporation of India. It is designed to ensure a strong raw material base for cotton, still the most preferred fibre for the textile industry of India.

Participants

Committee Members & Secretariat

Romano Bonadei	Italy	Filartex
Rajaram Jaipuria	India	Ginni Filaments
Kenan Koç	Turkey	Kult
Andrew Macdonald	Brazil	Santista Têxtil S.A . & Committee Chairman
Herwig Strolz		Director General ITMF

Invited Guests

Robert J. Carter	UK	Central Cotton Company
D.K. Nair	India	Indian Cotton Mills Federation



The Indian Cotton Scenario

- Largest area under cotton (8.8 million hectares) and third largest cotton producer after China and USA (2.5 million tons in 2001/02)
- Productivity one of the lowest in the world – around 300 kg/ha
- Cotton and cotton textiles employ 16 million people in vocations connected with cultivation, cotton trade, textile and allied industries and marketing of textiles
- Cotton accounts for about 65% of textile production
- Only country cultivating all 4 basic cotton species (arboreum, herbaceum, hirsutum and barbadense) and producing cotton of all staple lengths from un-spinnable Asiatic cottons to superfine varieties spinnable to 120s count.
- First country to cultivate hybrid cottons which occupy 30% of area and account for 45% of production. Over 100 genotypes (varieties and hybrids) under commercial cultivation.
- Ginning outturn varies from 22% to 44%.

Problem Areas

- **Low Yield**

Reasons being:

- Low intrinsic productivity of genotypes
- Gap in supply of certified seeds (only 30% for varieties)
- Reliance on rain (irrigation: only 30% area)
- Excessive pest pressure
- Water logging and soil salinity in the Northern States
- Inadequacies in technology transfer

- **High input costs, particularly on account of pesticides**

- **Erosion of profit margins due to low cotton prices**

- **Contamination**

All these problems have led to increasingly larger imports, at a lower cost, with less contamination, and offering deferred payment terms

Measures to Strengthen the Cotton and Cotton Textile Economy

Two recent initiatives by the Government of India have been designed to improve the competitiveness of the country's cotton and textile complex:

1. Technology Upgradation Fund Scheme (TUFS)

Modernisation of the ginning, spinning, weaving, processing and garment sectors at Rupies 250 billion (planned).

2. Technology Mission on Cotton (TMC)

The mission was launched in February 2000 and is designed to strengthen the raw material base for cotton textiles. It consists of 4 missions:

Mission I - Generation of Cotton Research and Technology

Mission II – Transfer of Technology and Development

Mission III – Development of Market Yards

Mission IV – Modernization and Upgradation of Ginning and Pressing (G&P) Factories

Development of Market Yards

Of the 400 markets yards existing in the country, 171 are targeted for development, 96 projects being already under way. Market yards are places where seed cotton is brought by farmers and purchased by traders or ginners. The cotton is ginned and the bales sold to spinning mills. By December 2002, 50 market yards were renovated/rebuilt, handling about 30% of all cotton produced in India. This percentage is expected to rise to 70% by 2006/07, when all 171 markets will be functional.



The development of market yards is aimed at improving the overall quality of the seed cotton and thereby the return to the grower, under democratic and fair-trade practices. Improvements are being introduced by, inter alia, cemented roads; pucca platforms; sheds; parking places; grading laboratories; farmers information centre; farmers' rest houses and canteens; sanitary installations. The farmers' information centres are to be equipped with computers, with Internet access. There will be display boards, where information will be available regarding prices, crop situation, farm practices, tips on crop management and availability of farm inputs.

It is anticipated that the improved market yards will also reduce the level of contamination.

Modernisation of Ginning Industry

Prior to reform, over 4000 ginning and pressing factories were in existence, only 700 of which were composite units with both ginning and pressing facilities. Most units are small in size and pre-cleaning is undertaken in only about 200 of them.

Most ginning machinery is old, with low productivity, with many ginning operators being untrained, with a resulting low level of efficiency.

The absence of mechanical conveyors leads to manual handling of raw cotton and the lint is exposed to further contamination.

At the present level of cotton production, there is really only a need for about 800 ginning complexes. However if the current targeted production of 2.24 million bales is realised by 2006/07, it is estimated that India may need about 1,100 ginning complexes.



Future ginning complexes must be economically viable and should be equipped with:

- a minimum of 24 roller gins or 3 saw gins, with a production target of 8 bales per hour.
- roller gins should have auto-feeders; pre-cleaner and lint cleaners; pneumatic/mechanical conveyors for cotton lint and seed; modern bale presses with auto-tramper and automatic feeding facilities, and moisturisers in the processing area.
- fire fighting arrangements and weighbridges are essential also.

Desirable equipment would include machines for testing the quality of the ginning and the cotton it self.

Additionally it may be prudent depending on the localisation of the ginning facilities to have available generators, a location with workshop machines, and even delinting machines.

At the moment 600 ginning complexes have been targeted for modernisation of which 207 are currently under renovation. 150 ginneries were expected to be modernised by the end of 2002, corresponding to 20% of the Indian production, the percentage rising to 50% when all 600 projects will completed by 2006/07.

TMC and the ITMF Cotton Contamination Survey

The Cotton Contamination Survey conducted by the Federation every other year, since the early Eighties has shown consistently Indian cottons to be the most contaminated in the world, followed by those from Pakistan. The results of the survey have been noted with growing concern by Indian cotton and textile industry circles and had a decisive influence on the decision to set up the Technology Mission on Cotton.

Observations by the Spinners Committee:

Contamination

The tremendous effort was noted in all the regions and ginning factories visited, regarding the extraction of contamination. The Committee was satisfied with the importance that has been given, and the investments that have been dedicated in this area, in order to endeavour to reduce this very serious problem. The Committee made various suggestions on how the extraction could be improved, which the hosts said they would study with interest. Obviously though there is still much that has to be done as regards educating the growers and the pickers, about how much damage contamination does to their product, before it would be possible to think in terms of declaring Indian cotton contamination free.



Good Farming Practice

During the many field inspections made during the visit, the Committee noted the considerable variation between individual plants within a given area. The Committee indicated that the lack of uniformity within cotton was the next major hurdle for India to overcome. Any variation in the plant's development, be it in height, the number of branches and bolls per plant, will each produce a slightly different cotton. The Committee also drew attention to the differences in the aspect between the various fields, some being in excellent condition and others showing very poor appearance.

The Committee suggested therefore that in order to spread the best management practices, every year the local cotton authorities should declare, or elect, one farm in the area, as a model farm, and organise on that farm, a "Farmers' Day" or "Day in the Field", which might be sponsored by the agro industry, or perhaps the textile industry, or the edible oil industry. This day would be set aside for experts in the various areas of the cotton production to come to explain and show the best practices. This would be a very effective means of educating farmers and enable them to produce better quality at lower cost, and this idea has been applied in many other countries having given excellent results.

Uniformity in cotton fibre stands out today, as one of the most important parameters in cotton, and this can be achieved only with uniform seed and uniform growing conditions, and of course good ginning practices.

Seed Availability

In order to assist in arriving at a greater uniformity with a given cotton in a given area, the Committee emphasized the need to prevent the mixing of varieties. Currently there are very many private seed companies active in the country, over which little or no control is being exercised by government, or any other institution. In Punjab alone, there are currently 20 different varieties being planted regularly, which evidently can cause considerable variation in the cotton, as the seeds become mixed, as well as leading to the dangers of cross pollination.

Transgenic Cotton

The Committee encouraged the greater use of transgenic cottons as a means of reducing the cost of insecticides, as well as being more compatible with environmental considerations. In India, cotton is grown on just 5% of agriculture land, but 55% of all pesticides are for cotton production. According to a recent report by the ICAC, pest infestations have increased dramatically in recent years because of the intensified use of chemicals and many pests developed resistance to the available insecticides.

The Committee learnt that according to Monsanto India, 55,000 farmers in India planted 42,200 ha of 3 Bt hybrids in 2002/03. India ultimately might allow commercial production of cotton varieties that are not hybrids. The Northern region of India will be able to use the Bt gene technology only if it is introduced into straight varieties. However, the Bt gene's impact may not be so prominent in the North, since the limiting factors are not so dominated by poor pest control, but rather other factors such as low irrigation levels.

Ginning

The Committee again expressed its opinion that ginning is one of the key factors in producing good quality cotton, and the manner in which trash is extracted is definitively more important than just clean cotton.

The Committee therefore expressed reservations with the findings of a study by the South India Textile Research Association (SITRA) on the suitability of saw ginning for Indian cotton according to which - from the point of view of yarn quality - there was no major disadvantage from using saw gins when compared to roller gins.

Saw ginning intrinsically treats the cotton in a more aggressive manner, slightly shortens the staple, increases neps as well as the short fibre content. Individual comparison tests under controlled conditions might not show so much variation, but under industrial conditions the Committee's experience shows that roller ginned cotton improves the yield and characteristics, though the visual aspect of the lint is less attractive. The Committee, during this visit, were shown some of the finest multi, double roller gins factory ever seen anywhere in the world. The ginning was excellent, the productivity very high. As well as treating the cotton with respect, roller ginning makes the maintenance much simpler and economical, since if one machine or motor breaks, it does not close down the entire gin, as happens in a saw gin.

The Committee cautioned against too much concentration on the problem of trash. If all trash is extracted, this could be at the expense of fibre quality. Thanks to the new cotton testing instruments on the market today, spinners are in a position to better evaluate the different fibre

parameters and their influence on yarn quality, so the preference is for fibre quality as trash can be eliminated in the opening line of the mill.

It is the pressing system that requires much more attention; the involvement of so many workers in transferring the ginned cotton to the press, then “pushing” the loose cotton into the press must increase the risk of contamination.

Cotton Testing Instruments

The Committee supported the goal of the Technology Mission to equip market yards with testing instruments. It emphasized the need for the TMC to look not only at the traditional HVI instruments (Zellweger), but also and in particular at new developments, such as those by Lintronics which in addition to the traditional Zellweger HVI machine can also measure neps, seed coat neps, maturity and stickiness. The Committee stressed again that until HVI systems operable without air-condition are available, the climatization in the laboratory must be perfectly maintained, 24 hours a day, which might involve having a spare generator to guard against any possible power cut. The TMC must ensure that an investment in HVI carries with it the requirement for the correct testing air-conditioned environment, as well as the correct time for conditioning of the samples (48 hours strictly in an airconditioned environment).

Future Competitiveness

The Spinners Committee conceded that the time of 80 cents cotton is unlikely ever to come back. Lower prices were probably here to stay, which would give India a strong competitive advantage, if the objectives of the Technology Mission were achieved, the quality improved, contamination severely reduced, and, on the international front, agricultural subsidies slowly phased out in the industrial nations. The Committee noted with interest the research into the development of long staple cotton varieties as a means to supply India’s long staple requirements.

Final Considerations

Overall the Committee was very impressed with the direction that the Indian cotton industry has taken, and though it will be a long and arduous task, the rewards will be there in the form of a strong textile industry to take on the world.

The Committee would like to thank all the organisers of the visit, many people were involved, so it would be incorrect to single out anyone in particular, but we can assure everybody that ITMF supports all measure to improve the quality of cotton so as to extend its use to all walks of life.