



CHAPTER XIII

TEXTILE RESEARCH ASSOCIATIONS

COTTON TEXTILE RESEARCH ASSOCIATIONS

Following four Textile Research Associations (TRAs) are registered under the Societies Registration Act, 1860 (XXI of 1860), which come under the umbrella of Cotton Textile Research Association:

- i) Ahmedabad Textile Industry's Research Association (ATIRA), Ahmedabad;
- ii) Bombay Textile Research Association (BTRA), Mumbai;
- iii) South India Textile Research Association (SITRA), Coimbatore;
- iv) Northern India Textile Research Association (NITRA), Ghaziabad,

The main objective of these Associations is to carry out research and render consultancy services to the textile industry on various aspects of textile technology with a view to reducing the cost and improving the quality and durability of fabrics, reducing pollution, conserving energy and utilising waste, adopting new technology and improving the technology in the decentralised handloom sector. During the year 2001-02 these Associations undertook such projects, which had potential for commercial application to help the Industry

in economising energy, capital and were environmental friendly.

ATIRA

During this year ATIRA had undertaken 25 R&D projects of considerable importance and has imparted consultancy services to 36 units. It has also applied for patent for the subject "Pre-Ginning Seed Cotton Cleaner for Removing Immature/ Defective Bolls Leafy Matter to Waste Material from Seed Cotton". A Seminar was organised on "Imperatives of Calibration in ISO 9000 Systems" on 2nd July, 2001

BTRA

During this year BTRA had undertaken 23 R&D projects and completed 8 projects. It imparted consultancy services to 466 units. Its achievements during the year included:-

- i) Mr. Joseph Zacharia, Head, TEQC, BTRA bagged the 1999 Hari Om Ashram Award for his outstanding work on "Development of thin Kerosene Vapor Recovery for Textile Printing."
- ii) Dr. A.N Desai, Director, BTRA was nominated as a member of the Editorial Board of Indian Journal of Fibre and Textile research for the period January 2002 to December 2004.
- iii) Mr. S.M. Dalal, Head, Operations



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Studies Division was nominated as a member of the committee constituted by the Textile Commissioner to carry out techno-economic audit of conversion work undertaken by the mills under NTC(MN) Ltd., Mumbai.

SITRA

During this year SITRA had undertaken 18 R&D projects and completed 7 projects. It imparted consultancy services to 466 units and filed for patent for the development, "A pneumafil suction tube for yarn spinning textile machinery". Its achievements during the year included:-

- i) "Century Textiles Best Technical Book in Textiles Award" for the year 2001 for the book "SITRA's Research During the Nineties".
- ii) C.D. Foundation Trust Award given to Ms. Indra Doraiswamy, Shri P. Muthukumaraswamy, Shri R. Prakasam and H. Balasubramaniam.

NITRA

During this year NITRA had undertaken 36 R&D projects and completed 17 projects. It imparted consultancy services to 32 units. Its achievements during the year included:-

- i) A very useful survey report "The Market for Fabric in Vietnam and Cambodia-2000" was released for the benefit of Indian fabric and textile accessories manufacturers and exporters. The report was prepared in collaboration

with Protech India Ltd. It has proven great help to fabric manufacturers to tap the relatively untapped potential markets in these two developing countries.

- ii) Dr.M.S. Parmar & M. Chakraborty of NITRA bagged "Kanaiyalal Motilal Award " in 42nd Joint technology Conference.for "A New Approach for Manufacturing Cost effective Denim Fabric".

SYNTHETIC & ART SILK MILLS RESEARCH ASSOCIATION

The Synthetic & Art Silk Mills' Research Association, (SASMIRA) Mumbai is a Textile Research Association located at Mumbai. Sasmira's principle activities include research and development, provision of technical services, testing and training facilities in the field of art and art silk.

During the current year Sasmira has completed 6 projects. Sasmira has also been engaged in the projects sponsored by Department of Science & Technology and of Ministry of Defence. During the period under review, SASMIRA was engaged in carrying out R&D work on the following on going projects Government sponsored/ funded projects Some of the projects sponsored by Ministry of Textiles are given below.

- (i) Indigenisation of woven geogrid manufacturing technology.
- (ii) Development of an indigenous airbag fabric for automotive safety.



- (iii) Development of scientific database and recipe prediction software for computer colour matching on polyester, viscose and its blend for the process houses in the decentralized sector.
- (iv) Producing dope-dyed polyester from recycled PET waste for use in automotive interior textiles.
- (v) Development of calibrated colour-viewing cabinet with metamerism scale for the process houses and garment manufacturer.
- (vi) To develop standard depth and whiteness scales on textile substrates.
- (vii) Development of chemical protective fabrics based on activated carbon fibres from cheaper sources.
- (viii) Development of UV resist water proof breathable coating as protective textiles.
- (ix) Reducing pollution by recycling decoloured exhaust dye liquor.
- (x) Design and development of a low energy open width-dyeing machine for batch dyeing of natural and systematic fabrics.

SASMIRA is giving excellent testing services to textile manufacturers, traders, exporters, Govt. agencies, R&D institutes, etc. in the field of man-made textiles, synthetic textiles and allied fields. SASMIRA

has been designated as a Nodal Agency for development of Technical Textiles; International Seminar of Technical Textiles was organized by SASMIRA. The prospect of technical textiles market in India is very significant because it may help the ailing textile industry in the country not only to survive but also to revive and thrive. A seminar on Technical Textiles was organized by the Powerloom Development & Export Promotion Council (PDEXCIL) Mumbai on 2nd September 2002 at Bhiwandi in collaboration with SASMIRA, Mumbai. Director, SASMIRA who highlighted the importance developing technical textile products in India to revive the ailing textile industry and to grab a substantial share of the global market in the next decade.

SASMIRA has developed an instrument called Light Fastness Tester indigenously under a project sponsored by Deptt. of Science & Technology. This instrument was imported so far. The indigenous version of the instrument is expected to be cost effective. SASMIRA has also developed various value-added products e.g. Fibre fills, Nonwoven blankets, Insulation batting for protective suits, Auto interior carpets, Floor carpets and Non woven Geotextiles from recycled PET (Poly Ethylene Terephthalate) Bottles under a project sponsored by Ministry of Textiles.

SASMIRA is receiving government financial support for running Powerloom Service Centres at Bhiwandi. SASMIRA is helping powerlooms units to prepare bankable



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project proposals for modernization under TUFs.

MAN-MADE TEXTILES RESEARCH

The Man-Made Textiles Research Association (MANTRA), Surat is a Textile Research Association registered under the Societies Act of Gujarat. MANTRA is one of the Textile Research Associations catering to multifarious needs of the textile and allied industry at large. The activities of MANTRA are primarily aimed at planned and healthy growth of the decentralized sector.

MANTRA has been undertaking the R&D assignments as per the needs of the local synthetic textile industry and the stress is, particularly, more on the application and transfer of available research results to the local decentralised textile industry, which badly needs such inputs to withstand the global competition round the corner. Looking into the needs of industry. MANTRA has undertaken research projects on such areas as pollution control (including noise pollution) and on mechanical and wet processing. Some of the on-going projects are:

- (i). Development of economical thickener for printing synthetic fibre fabrics by replacing guar gum fully or partially with other alternatives.
- (ii) Development of continuous filament synthetics sewing thread by air-jet texturing for domestic as well as export garment sector.
- (iii) A study on the comfort properties of the

woven fabrics produced in different weave constructions, using yarns of different structural characteristics.

- (iv) To develop eco-friendly substitute products for dyeing and printing of synthetic fabrics and to reduce the pollution load of the effluent.
- (v) Development of air intermingled elastane combination yarns for stretch fabrics.
- (vi) Application of formaldehyde-free finishes to man-made fibre-fabrics such as tencel, viscose, polyester and the blends and performance evaluation of the finished fabrics.
- (vii) Flame retardant finishing based on eco-friendly formulations for viscose, polyester and their blends.
- (viii) Application of cationic dyes to anionically modified nylon and their performance evaluation in comparison with cationic dye dyeable polyester and regular nylon with special reference to fastness properties.

MANTRA has a Computer Aided Design Centre and three Powerloom Service Centres at Dhokla, Sachin and Pandesara. The present activities of these units include training of weavers for quality fabric production design development on loom-testing and technical service support for loom modernization activity etc., for local Weavers' Co-operative Societies and weavers in respective areas.



INDIAN JUTE INDUSTRIES RESEARCH ASSOCIATION (IJIRA), KOLKATA

Indian Jute Industries Research Association (IJIRA), Kolkata, registered under West Bengal Societies Registration Act, 1961, is an autonomous Cooperative Research Organisation mainly funded by the Ministry of Textiles, Government of India. IJIRA is governed by a Council, headed by the Chairman, assisted by the Vice Chairman and consisting of 24 members in all, drawn from the Industry, Government, Eminent Professionals and others. The Director is appointed by the Council and is the Principal Executive Officer of the Association exercising general power of supervision and coordination over all activities of the Association and is assisted by the Secretary cum Financial Controller, Deputy Directors. There are nine technical divisions and each division is supervised by and held in charge of a head In charge/Group Leader.

The objectives of IJIRA are: -

- (i) To promote Research and other scientific work connected with the jute trade and industries allied with or accessory thereto;
- (ii) To establish and maintain laboratories and faster education of persons engaged in or likely to be engaged in the said trade and industry.
- (iii) To examine and publish information regarding the nature and merits of inventions, improvements materials and

designs connected with the said trades of industries.

The R&D activities and technology transfer programme of IJIRA have helped to improve the productivity, product quality and cost viability of the organized jute mills and also the SMEs in the jute sector.

Besides taking care of the persistent problems of organized and decentralized jute sectors, IJIRA is currently engaged in R&D projects such as (i) Improvement of Raw Jute characteristics by bio-chemical/chemical treatment, (ii) Process improvement for quality enhancement, energy conservation, waste reduction, etc; (iii) Product development, e.g. cost-effective traditional jute bags, low-cost jute carry bags, technical textiles, etc; (iv) Eco-compliance of jute products, (v) Jute Geotextiles, (vi) Jute Composites for various new applications, (vii) Instrumentation (on-line and stand-alone) for quality control, etc.

IJIRA has been maintaining Regional Centres at Shantipur (West Bengal), Guwahati (Assam) and Vizianagram (Andhra Pradesh) for strengthening the locally growing jute related activities.

IJIRA is maintaining a website – www.ijira.org for disseminating various information related to technology and other important issues related to jute.

INTERNATIONAL JUTE STUDY GROUP (IJSG)

An International Jute Study Group (IJSG)



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came into existence with effect from 25th April 2002 to succeed the erstwhile International Jute Organisation (IJO), which entered into the liquidation mode with effect from 11th April 2000. The second session of IJSG was held on 29th June, 2002, in which the Indian candidate Shri T. Nandakumar, Joint Secretary (Jute), Ministry of Textiles, has been elected as its first Secretary-General. The new organisation will administer the provisions of the successor Agreement on Jute and Jute products, 2002 adopted by the United Nations.

WOOL RESEARCH ASSOCIATION (WRA), THANE

The Wool Research Association, Thane was established and registered under the Societies Registration Act 1860 in October' 1963. It is engaged in various activities, necessary for the technological upgradation of the Indian Woollen Industry which includes research and development work, special training programmes, educational activities, foreign delegations' visits, workshops and paper presentations at an international level.

During the year 2001-02, the following activities were undertaken by the Wool Research Association:

On-going Projects:

The work on following Research Projects sponsored by the Ministry of Textiles was continued by the Association during the year 2001-2002: -

- (i) To fabricate a woollen carding machine of 40" width to process coarser Indian wool for cottage level.
- (ii) Derivatisation, separation of banned amines isomers and their quantification using internal standard.
- (iii) Investigation of Herbs, Belladonna, Neem and Custard Apple seeds as effective moth proofers.
- (iv) Enrichment of woollen fabric with printing for economic benefits.
- (v) Dyeing of wool, Angora & Pashmina at low temperatures.
- (vi) Quality management from raw material to yarn of wool and wool blends on the worsted system.
- (vii) To develop cotton core and wrapped woollen yarns on woollen spinning system and study its suitability for products like dress materials, furnishing and knitwear.
- (viii) Development of innovative yarns and fabrics using elastomers (Lycra, Natural rubber, Nylon) blended with wool, cotton acrylic for designing comfortable and fashion oriented garments.
- (ix) Grading of pashmina.
- (x) Study of scouring, adopting various scouring methods, dehairing and carding till top conversion of pashmina wool.



- (xi) Dyeing of pashmina.
- (xii) Better waste utilization of pashmina wool guard hair fibres.

Completed Research Projects:

The following Research Projects sponsored by the Ministry of Textiles were completed by the Association during the year 2001-2002:-

- (i) To improve aesthetic value of the worsted fabric by enzyme treatment.
- (ii) Development of different types knitwears, outerwears, Pullovers, knitted shawls from Repco spun self twist yarn by using wool and other fibres in suitable blends.

Technical Services:

The Association provided various technical services to the woollen industry through its established infrastructure during the year:

- The quality test house is well equipped with equipment for testing of the physical properties of wool and its blends from fibre to fabric. Wool Research Association renders its services to its members and non-members from textile industry, defence, customs, railways, state transports and other authorities. The Quality Test House is ISO 9002-1994 certified.
- The Chemical Laboratory is well equipped for all the laboratory finishing

treatments including dyeing, natural dyeing and chemical testing of wool.

- National Eco-testing Laboratory does testing of eco-friendly chemicals for banned aminos, insecticides, etc.
- The Textile Department is well equipped with the latest equipments for computer colour matching. The department is also well equipped with advanced textile designing software for design creations based on modules like jacquard, dobby printing, carpets, embroidery, with its hardware and output requirements along with Computerized Sample Weaving Loom.
- The Pilot Plant has the facilities of woollen and shoddy spinning, jute spinning and friction spinning, self twist spinning for carrying out developmental work.
- Textile Technology Department- Special Spinning System for carding, drawing & spinning of fine wool like that from angora rabbit and merino is available.

Other Activities:

- The transfer of R & D findings and the transfer of adapted technology to various entrepreneurs and industries was made via different HRD programmes, training programmes, courses, awareness programmes, workshops, seminars, Ph.D. programmes, etc.



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- Wool Research Association has an Extension Programme of UNDP 98 for Carpet on Natural Dyes. Under this project dissemination seminar and workshop were conducted at IICT, Bhadohi and Jaipur.
- Knitwear design developments by three students of National Institute of Fashion Technology were carried out at WRA during the year 2000-02 on the computerized knitting and designing system.
- A Wool Technology Training course was conducted by the WRA for schoolteachers in association with the Marathi Vidyan Parishad.

The WRA also provided consultancy services to the woollen industry.