

CHAPTER XIII**TEXTILE RESEARCH ASSOCIATION****COTTON TEXTILE RESEARCH ASSOCIATIONS**

The following four Textile Research Associations, also known as Cotton Textile Research Associations (CTRAs), receive financial support from this Ministry:-

- 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.

These TRAs had been promoted by the cotton textile industry for carrying out research and providing them various services including consultancy, testing, training and research etc. These are societies registered under the Societies Act, 1860. Though these Associations receive substantial financial support from the Government, they are not under any kind of control of the Government and enjoy full autonomy in the matter of carrying out research work. Each TRA has a Governing (or management) Council with representatives of industry elected by its members as per its bye-laws. The members of the Council elect one of the members as the

Chairperson of the Research Association. The Council appoints the Director/Chief executive. The Chairperson is in overall charge of the TRA. The Joint Secretary in the Textile Ministry and the Textile Commissioner represents the Government on Council of Administration to ensure that government funds given as recurring and non-recurring expenditure for research programmes of TRAs are utilised for the purpose they are meant for.

During the reported period of 2003-04, these CTRAs have mostly undertaken projects having potential for commercial application mainly in the areas of ginning, spinning, weaving, chemistry and chemical technology, environmental engineering, energy conservation, machinery development, electronics and information technology. They have also concentrated on devising strategies for meeting the challenges likely to be faced by the Indian textile industry in the post Multi Fibre Arrangement (MFA) era.

Ahmedabad Textile Industry's Research Association (ATIRA), Ahmedabad

During this period ATIRA has undertaken 15 projects including 5 sponsored by this Ministry; has imparted training to 1370 personnel; has developed 389 computer designs for textiles; has provided consul-



tancy and services to 142 units and its testing labs; have done 7050 tests on samples. During the same period it has filed for 2 patents, and has also obtained 2 patents. Other significant work done by ATIRA during 2003-2004 is as follows:-

- (i) It has transferred four know-how.
- (ii) Three papers published in international journals.
- (iii) A process of clod-bleaching, developed for hand processing sector, has been commercialized.
- (iv) Two projects sponsored by foreign agencies have been completed.

Bombay Textile Research Association (BTRA), Mumbai

During this period BTRA undertook 12 projects. It obtained four patents. It developed 332 computer designs, imparted training to 110 persons, provided consultation services in 318 cases and tested 14,278 samples.

South India Textile Research Association (SITRA), Coimbatore

During this period SITRA was involved in 43 research projects and 144 consultancy studies in the areas of Product Development, Process Control, Chemical Processing, Machinery Development, Energy Conservation, Instrumentation and Finance and Productivity. In the area of Human Resources Development, 584 managerial and technical staff and 992 labourers were imparted training. SITRA's powerloom service centers offered a wide range of

services, including 144 technical consultations, around 1945 new designs, more than 140 thousands yarn and cloth tests. Besides, SITRA applied for 3 patents, bagged 7 awards, gave 5 licenses, and published 37 research journals during 2003-04.

Northern India Textile Research Association (NITRA), Ghaziabad

During the reported period NITRA has completed 15 projects, and 13 projects are in progress. Notable projects include the development of an eco-friendly ultra soft fabric, the development of antimicrobial and blood repellent fabric, a of UV resistant fabric, and technical textiles especially for people working at high altitudes, and a Study on the structural behaviour of compact spun yarn. Over 5000 tests on different parameters of textiles, dyes, chemicals, and effluents, as well as a number of fabric defect analyses, were carried out during the said period in NITRA Labs. 65 technical consultancies of varying nature were provided to around 55 textile, garment and non-textile units by NITRA's technical divisions during the year. NITRA successfully commissioned water recovery plants in Rajasthan and Haryana. The system is capable of recovering and re-using about 50% of the processing effluent again in the process house. The Computer Aided Design Centres under NITRA developed 118 designs, trained 71 persons and provided consultancies to 105 units. NITRA has applied for 4 patents: they relate to Solar Textile Yarn Drying Ma-

chine, Indigo Dyeing Machine, Decolourisation of Textile Coloured Effluents, and Process for the preparation of yarn/fabric having ultra-violet radiation protection and flame resistant properties.

The NITRA brought out a survey report on The market for fabrics in Vietnam and Cambodia 2002, and the Development of New Generation Martindale Abrasion cum Pilling Tester amongst others. NITRA's Software Development Centre has developed eight programmes (Management Quality Control Information System, Machinery Maintenance Scheduling and Record Keeping, Boiler Efficiency and Indirect Losses System, Management Information System in Wet Processing, Energy Balance and Accounting for Textile process Houses, Solar Yarn Dyeing Machine Design System, D.G. Set Software and Humidification Software, suitable for small and medium scale industry at a very nominal price.

SYNTHETIC & ART SILK MILLS RESEARCH ASSOCIATION, MUMBAI

The Synthetic & Art Silk Mills Research Association (SASMIRA), Mumbai is a Textile Research Association located at Mumbai. SASMIRA conducts need based research and development in various fields of the textiles industry and provides technical services of testing and training and consultancy to its members.

During 2002-03, SASMIRA carried out 7 research projects on different subjects related to mechanical and chemical

processing of textiles, product development, eco-friendly processes, instrumentation and technical textiles. SASMIRA has signed a MoU with the National Research and Development Council (NRDC), for technology transfer of PET recycling technology developed by SASMIRA.

As a part of SASMIRA's initiative for a powerloom cluster at Bhiwandi, the Municipal Corporation at Bhiwandi had proposed four infrastructure development projects to improve the road, drainage and water supply position under the schemes of Ministry of Textiles at a total outlay of Rs. 80 crore. SASMIRA's efforts resulted in a large number of powerloom workers taking advantage of the Government of India's Group Insurance Scheme for powerloom workers.

MAN-MADE TEXTILES RESEARCH ASSOCIATION, SURAT

The Man-Made Textiles Research Association (MANTRA), Surat is a Textile Research Association concentrating on man-made fibres. MANTRA has been taking up need-based R&D projects in the areas related to the quality and productivity improvement, product development, energy, ecology and environment. MANTRA is recognized as a Scientific and Industrial Research Organization by the Ministry of Science & Technology, Government of India. The activities of MANTRA are primarily aimed at planned and healthy growth of the decentralized sector. Local textile manufacturing industries have benefited



greatly from the R&D work successfully pursued by MANTRA.

During 2002-2003, MANTRA completed four R&D projects, which were funded by the Ministry of Textiles (MOT). The six on-going projects are:—

- (i) Development of air-intermingled elastane combination yarns for stretch fabrics.
- (ii) Application of formaldehyde free finishes to man-made fibre fabrics such as tencel, viscose, polyester and their blends and performance evaluation of the finished fabrics.
- (iii) Flame retardant finishing based on eco-friendly formulations for viscose, polyester and their blends.
- (iv) 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.
- (v) Development of novel stack-disc friction units made from the combination of polyurethane (soft) friction discs with other hard materials' friction discs and quality evaluation of draw-textured yarns made therefrom.
- (vi) Development of lightweight reusable protective fabrics from micro denier synthetic filament yarns.

The MANTRA has a Computer Aided Design Centre and two Powerloom Service

Centres at Sachin and Pandesara in Surat District, Gujarat. 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 Weaver' Co-operative Societies and weavers in respective areas. As regards PSC Sachin, the GIDC has allotted land measuring 688 sq.mts. for construction of a building. The construction work has been taken up, and is expected to be completed, well within the next financial year.

The MANTRA, in collaboration with M/s Kothari Info Tech Ltd., has developed software for Computer Colour Matching, and have also developed a huge database in this respect. A survey of "Technical Textiles manufactured in, and around, Surat" was completed. Category-wise catalogue and other technical details have been compiled.

INDIAN JUTE INDUSTRIES' RESEARCH ASSOCIATION , KOLKATA

The Indian Jute Industries' Research Association (IJIRA), Kolkata, registered under West Bengal Societies Registration Act, 1961, is an autonomous Co-operative Research Organisation mainly funded in the form of grant-in-aid from 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, as representation from the Jute Industry, Gov-

ernment, Eminent Professionals, and Directors of some renowned Institutions. The Director, IJIRA is appointed by the Council and is the Principal Executive Officer of the Association exercising general power of supervision and coordinating overall activities of the Association and is assisted by the Sr. Deputy Director and Secretary-cum-Financial Controller. There are nine technical divisions and each division is supervised by Head / In-Charge / Group Leader.

The objectives of IJIRA are as under:

- (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 foster education of persons engaged in or likely to be engaged in the said trade and industry;
- (iii) to encourage discoveries; and
- (iv) to examine and publish information regarding the nature and merits of inventions, improvements, materials and designs connected with the said trades or 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. At present IJIRA has 58 primary members and 35 associate members. IJIRA has to its credit about 57 publications in last 5 years out of which 13 publications are in refereed journals. Out of 13 publications, 6 publi-

cations are in refereed journals of international repute. IJIRA has applied for 28 patents, and as on date, IJIRA has 6 live patents. Besides, various R&D projects approved by Ministry of Textiles, Govt. of India, IJIRA has taken up projects recommended by the Jute Industry and sponsored by different agencies like JMDC, UNDP- CCF1 etc.

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 geo-textiles, (vi) jute composites for various new application, (vii) Instrumentation (on line and stand alone) for quality control etc.

The IJIRA has been maintaining Regional Centres at Shantipur (West Bengal), Guwahati (Assam) and Vijainagram (Andhra Pradesh) for strengthening the locally grown 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.

WOOL RESEARCH ASSOCIATION, THANE

The Wool Research Association (WRA), 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 include research and development work, special training programmes, educational activities, foreign delegations' visits, workshops and paper presentations at an international level.

During the year 2002-2003, 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 2003-2004:

- (i) Implementation of Computer Aided Jacquard Designing facility linked with card cutting mechanism for small scale powerloom and handloom industry for shawls and other jacquard fabrics like curtain materials, bed covers, etc.
- (ii) Implementation of I.T. for T.I. – Wool (Information Technology for Textile Industry – Wool) by conducting the National Survey and by effectively utilizing the net media to launch the unique website.
- (iii) Quantitative and Qualitative estimation of blends of specialty fibres with wool.
- (iv) Enrichment of Fabrics by using Tie & Dye Technique.

- (v) Cheap Blends for Woollen Khadi (KVIC Project).
- (vi) Pashmina Project - Grading of Pashmina.
- (vii) Study of Scouring, adopting various scouring methods, dehairing and carding till top conversion of pashmina wool.
- (viii) Dyeing of Pashmina.
- (ix) Better Waste utilization of Pashmina Wool Guard Hair Fibres

Completed Research Projects during 2002-2003

The following Research Projects sponsored by the Ministry of Textiles were completed by the Association during the year 2002-2003:-

- (i) Fabricating the 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) Implementing production of natural dyes at the cottage level in the identified wool carpet belts of the country and training the artisans on how to produce and use them in dyeing of woollen yarn to desired properties.

Technical Services:

The Association provided various technical services to the woollen industry through its established infrastructure during the year 2002-03, which include the following:

- Testing of the physical properties of wool and its blends from fibre to fabric in its ISO 9002-1994 certified Quality Test House. Wool Research Association rendered services to its members and non-members from Textile Industry, Defence, Customs, Railways, State Transports and other Authorities.
- Laboratory finishing treatments including dyeing, natural dyeing, and chemical testing of wool in its well equipped Chemical Laboratory.
- Testing of eco-friendly chemicals for banned aminos, insecticides, etc. in its National Eco-testing Laboratory
- Computer colour matching in its latest equipped Textile Department, which has also 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 facilities of woollen and shoddy spinning, jute spinning and friction

spinning, self twist spinning for carrying out developmental work in its Pilot Plant.

- It also provided the facilities of carding, drawing and spinning of fine wool e.g. Angora and Merino wool on the Special Spinning System in its Textile Technology Department.

Other Activities:

- The transfer of R&D findings and the transfer of adapted technology to the various entrepreneurs and related industries were covered under different HRD programs, Training programmes, Courses, Awareness Programmes, Workshops, Seminars, Ph.D. Programmes, etc.
- Wool Research Association has an Extension Programme of UNDP 98 for Carpet on Natural Dyes. Under this project dissemination seminars and workshops were conducted at IICT, Bhadohi and Jaipur.

The WRA also provided consultancy services to the woollen industry. The refresher course in "Processing Techniques & Testing of Wool" was conducted for the Officers of Directorate General of Supplies & Disposal (DGS&D), New Delhi during the year 2002-03.

