

CHAPTER – 16

RESEARCH AND DEVELOPMENT

INTRODUCTION:

16.1 Innovation is the keyword for survival. Continuous innovation in technology, machinery, product or process is necessary to the industry to exploit fully the opportunities available in the world market. The R & D approach of the textiles industry needs to be changed from passive to proactive.

16.2 There are eight Textiles Research Associations (TRAs) in the country. Ahmedabad Textile Industry Research Association (ATIRA), Bombay Textile Research Association (BTRA), South India Textile Research Association (SITRA) and Northern India Textile Research Association (NITRA) carry out consultancy, testing, training and research and development in cotton and cotton/synthetic as well as cotton/natural fibre blends. Other fibre specific TRAs are Man-made Textile Research Association (MANTRA), The Synthetic & Art Silk Mills Research Association (SASMIRA) who work predominantly in synthetics, Wool Research Association (WRA) and Indian Jute Industry's Research Association (IJIRA) carry out work in wool and jute, respectively. The Textiles Committee laboratories serve the testing, certification and market research needs of the industry. The TRAs are industry promoted bodies and work in a wide range of fibre/ technology areas for product development, process improvement, testing, consultancy and training needs of the industry. The policy initiatives of Government of India aim at supporting innovation, investment in R&D, support to generic research programmes of the TRAs, and encourage the industry to support the TRAs in order to cater to their technological needs.

PERFORMANCE DURING THE TENTH PLAN

16.3 While adopting and adapting imported technology continues to be one of the activities of TRAs, work on quite a few innovative developments has also been carried out. The TRAs together have carried out around 300 projects in the last 5 years, and have provided consultancy on various aspects of quality/product improvement, cost reduction, environmental aspects, and manpower planning to the industry.

16.4 In addition, tailor made training programmes are being handled for various categories of personnel in the industry. The numerous training programmes of TRAs account for the training of more than 1000 personnel per year for the industry.

16.5 The testing laboratories of TRAs, and those with the 41 Powerlooms Service Centres and the Textiles Committee test more than two lakh samples of the industry for their physical, chemical, and eco parameters.

APPROACH TO THE ELEVENTH PLAN

16.6 In keeping with the vision for the textiles industry, Research and Development will be promoted to boost innovations. The Public Private Partnership mode will be actively pursued so that the industry will collaborate with TRAs in areas of their day to day technological needs, while the Government of India will support generic research projects. The industry participation will be sought in selection and monitoring of all research projects sponsored by the Government.

16.7 The thrust areas for R&D that are identified for focus are :

- i. Decentralised sector including Handlooms
- ii. Product Development
- iii. Cost reduction in the entire manufacturing chain including utilities conservation.
- iv. Eco-friendly technologies
- v. Development of Technical Textiles, including test methods and test equipment
- vi. Application of Information Technology
- vii. Application of Biotechnology
- viii. R&D in Knitting and Garment technology
- ix. Application of Nanotechnology and Plasma Science

PLAN SCHEMES:

16.8 TRAs continue to be the flag bearers of R&D in textiles in the country and in view of the restructuring that has taken place in the industry during the last decade, coupled with the reforms in the trade scenario, it is necessary that Government to adequately support the TRAs. Continued R&D assistance by way of fully sponsored projects by the Government of India in areas identified is proposed. In the Eleventh Plan, an outlay of Rs 40 crore @ Rs.5 crore for 8 TRAs is proposed for sponsored R&D projects.

16.9 While the Government support for the recurring expenditure of TRAs will be negligible by end of Eleventh Plan, it is essential that capital grants are provided for the upgradation of laboratories and other research needs. A fresh look at the 10 percent reduction in grants is proposed, based on track record of each TRA. Technology is changing fast and equipment becomes obsolete earlier than in the previous decade. To cope with such changes, the facilities at TRAs have to be upgraded. This is particularly true with the advent of Technical Textiles in the Indian textiles scenario. Setting up and maintaining a Resource Bank for the technological database, technology forecasting and management practices in the entire textiles sector will be a priority. A separate provision of Rs 5 crore for this is proposed.

16.10 A fresh exercise on the needs of TRAs in terms of the upgradation of laboratories and a pilot plan will be undertaken for such funding and Rs 100 crore may be earmarked for upgradation of infrastructure in TRAs in Eleventh Plan.

R& D in Textiles Machinery

16.11 R&D in textiles machinery cannot be isolated from the developments in textiles technology. The textiles machinery industry has to work in close collaboration with textiles R&D organisations and the textiles industry. With major investments coming in the textiles industry in the coming years, the development of indigenous textile machines will be encouraged. The centre has been set up by Textile Machinery Manufacturers Association of India (TMMAI) in Indian Institute of Technology (IIT), Mumbai. This issue is further discussed in detail in Chapter – 15 on the textiles engineering industry.

SUPPORT FOR DESIGN, QUALITY AND COMPLIANCE

16.12 The inability of Indian textiles and clothing industry to meet the stringent quality standards and compliance related to environmental standards, etc., continues to adversely impact global competitiveness. Lack of product diversification due to limited investments in designing efforts, has also been adversely affecting the competitiveness of Indian industry. The fact that a majority of Indian enterprises belong to SME category makes the problem more complex in view of fragmentation and limited capacity of the industry to meet emerging requirements. The distinction between export standards and domestic market standards is no longer valid in view of

globalization of markets, where product diversification, quality and compliance are the key for survival and market expansion.

16.13 Although these issues have been recognized to be very important, there has not been adequate focus and thrust to assist the industry in addressing these requirements. The limited efforts to provide testing services through the laboratories run by the Textiles Commissioner, Textiles Committee and TRAs have not yielded desirable and sustainable results.

16.14 Considering the importance of assisting the industry to improve its capacity in meeting emerging requirements related to design, quality and standards, the following strategy / approach will be adopted during the Eleventh Five Year Plan:

16.14.1 (i) making available testing and designing services at the doorstep of the industry, which will help in improving the quality of products, and, (ii) assisting the industry to obtain internationally accredited quality, environmental and social standard certification.

16.14.2 The testing and design support

- i) Testing and designing facilities are proposed to be developed on Public Private Partnership (PPP) basis, with the objective of deepening the testing and design culture on a wider scale in the industry, and providing greater sense of ownership and involvement of the user industry. The industry associations, SPVs for textiles parks, cluster level industry bodies, and other user industry driven organizations, like TRAs and the Textiles Committee will be provided one time assistance by the Government towards establishing internationally accredited testing and design centers. The Government would provide required plant & machinery, while the user industry group will be responsible for land, building and infrastructure, apart from meeting the entire O&M costs. A framework will be developed under which the industry group, intending to develop the testing and design facility, will enter into an agreement with the Government to provide stipulated services to user enterprises. The industry group is expected to run the testing and design center on a commercially sustainable basis in the larger interest of member enterprises. In the event of the inability of the industry group to run the

facility on a sustainable basis, the framework will enable the Government to recall the plant & machinery that was provided.

- ii. The industry groups will be actively encouraged to forge linkages with key stakeholders and service providers of repute in order to ensure that the facilities being created are of acceptable standards and utility to the consumers and buyers.
- iii. This framework, which is demand driven and need based, will ensure greater participation and ownership of the user industry resulting into greater utilization of the facilities, apart from providing internationally accredited testing and design services at the doorstep of the industry.
- iv. The Government would develop detailed guidelines and framework to operationalize this initiative through the office of the Textiles Commissioner.
- v. At-least 50 such testing and design centers are proposed to be developed during the Eleventh Five Year Plan in the country and an allocation of Rs.100 crore is proposed for this purpose.

16.14.3 Accreditation / Certification support

- (i) An independent and third party accreditation / certification for product, process and systems, is emerging to be a key requirement for global competitiveness of the Indian textiles and clothing industry. These requirements are largely related to environmental standards, quality standards, and social compliance.
- (ii) ISO 9000 QMS, which is a process certification / standard, has been increasingly adopted by the Indian industry, as a result of various developmental efforts by the Government organizations as well as the industry associations. However, the penetration and adaptation of product and process related certification / standards related to environment and social accountability has not been significant. Some such important global standards are; OEKOTEX 100 for certification of a product to be environmental friendly, SA8000, WRAP and ILO certifications for social accountability at the work place, ISO 14000 for certification of environmental management systems at the work place, etc.

- (iii) The objective is to assist the small and medium enterprises in obtaining such internationally accredited certification and establishing systems, which would enable them to meet environmental and social standards more effectively. Assistance to establish ISO 9000 QMS is not envisaged in view of its already wide usage in the industry.
- (iv) The cost on account of obtaining / establishing such standards and systems primarily includes expenses on hard as well as soft activities such as creation / modification of infrastructure at the work place, training, certification fee, publicity, etc.
- (v) An individual or a group of enterprises will be eligible to avail of assistance under this initiative.
- (vi) The assistance by the Government will be limited to 25 percent of the cost of such certification with a ceiling of Rs.2.5 lakh in each case. It is proposed to assist at-least 2000 enterprises in obtaining this certification during the Eleventh Five Year Plan. Thus, an allocation of Rs.50 crore is proposed during the Eleventh Five Year Plan.
- (vii) The Government, in consultation with user industry associations and the certification bodies, will lay down detailed operational guidelines of the Scheme, which will be implemented through the office of Textiles Commissioner.

Proposed Plan outlay

Rs in crore

Strengthening of R&D capabilities and laboratories of TRAs - one time support	100.00
Project Related R&D activities	40.00
Resource bank for technological data base	5.00
Support for design, quality and compliances	150.00
(i) Testing and design support Rs.100 crore	
(ii) Accreditation / certification support Rs.50 crore	
Total	295.00