Project Title- 10	**Evaluation of knitting behavior and performance of knitted fabrics during garment manufacturing using artificial neural network**
Principal Investigator	K.P .Chellamani
Cost	Rs.27.78 lakhs
Date of Commencement	01.04.2007
Duration	18 Months
Date of Completion	30.09.2008
Abstract	Cotton yarn samples of 20s CH & 40s CH with different levels of frequent and infrequent yarn faults were spun by varying process parameters like noil extraction during combing, spinning draft employed and the spindle speed used in ring frame. Appearance of these samples was evaluated using EIB instrument. An expression connecting yarn appearance with frequent and infrequent yarn faults has been developed. Three knitted structures viz. single jersey, single rib and derby rib were produced using the yarn samples spun in this study. Defects in these knitted structures were measured and a model for predicting fabric defects in knitted structures based on frequent and infrequent yarn faults using artificial neural network has also been developed.
Highlights	▪ SITRA has conducted a study to assess the relationship between yarn faults and yarn appearance evaluated electronically. Short thick faults and long thin faults and normal thick places (+50%) and neps (+200%) have major influence on yarn appearance ▪ An expression connecting yarn appearance with frequent and infrequent yarn faults has been developed. ▪ A model for predicting fabric defects in knitted structures based on frequent and infrequent yarn faults using artificial neural network has been developed. The accuracy of prediction is good
Area of applicability	Knitters
Target beneficiaries	Knitting Industries
Status	Completed