



ELICIT INFORMATION ON SUSTAINABLE YARNS IN TIRUPUR KNITWEAR INDUSTRY

Mrs. Mitali Nautiyal

M.Phil. Scholar, Department of Textiles and Clothing, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore – 641 043, Tamil Nadu, India.

Dr. N. Vasugi*

Dean, School of Home Science and Professor, Textiles and Clothing, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore – 641 043, Tamil Nadu, India. *Corresponding Author

ABSTRACT The textile industry provides one of the most basic needs of people “cloth”, and is helping in maintaining sustained growth for improving the quality of life. Over the past few decades sustainability has become a major concern for the textile and apparel industry. This study provides information concerning the type of sustainable raw materials used in the knitting industry, with respect to its environmental sustainability. A survey was conducted in the Tirupur knitwear industry and data was collected by interview schedule on raw material selection and the factors affecting it. The aim of the study was to understand the industry and the demand and supply of sustainable raw materials. The survey established that conventionally grown cotton is the main fibre used in the Tirupur knitwear industry. There has been a tremendous growth in the demand for environmentally sustainable yarns and organic cotton had played an important role in fulfilling this demand. Bamboo, BCI cotton, linen, and recycled cotton are used moderately but not up to their potential.

KEYWORDS : Raw Material for Knitting; Sustainable raw materials; Application of Sustainability; Tirupur Knitwear Garment Industry, Yarns in knitwear industry.

INTRODUCTION

Textile industry provides one of the most basic needs of people “cloth”, and is helping in maintaining a sustained growth for improving the quality of life. It has a unique position as a self-reliant industry, from the production of raw materials to the delivery of finished products. It is a major contributor to the country's economy by providing income, jobs and foreign exchange. Tirupur is a small town located 450 km south of the capital of Tamil Nadu, Chennai. Thousands of textile companies are running in Tirupur earning foreign exchange for the country. It is the hub of the knitwear industry which produces approximately 56% of India's total knitwear export (Tirupur Garments Business Directory, 2014). The Tirupur cluster alone provides employment opportunity to close to 6,00,000 people (Business Standard, 2014).

The knitwear industry in Tirupur is still in its blooming stage where everyday new knitwear units are coming up. Knit fabrics are commonly preferred in sportswear, casual wear and innerwear due to their outstanding comfort properties, extensible loop structure, light weight, warmth wrinkle resistance and easy care properties (Kumar and Sampath, 2013). Growing awareness on eco-friendly practices has expanded the production of knitted goods with the inclusion of recycled fibers and their blends (Choi and Kin, 2015). This study leads to awareness about sustainable raw materials and better sustainable practices followed while selecting raw material in the industry. The paper will work as a foundation for further studies on sustainability in the knitwear industry. This study would also drive the textile and clothing industry to introduce eco-friendly concepts in their products and practices leading to a sustainable environment.

OBJECTIVES

- To study environmental sustainability of different yarn types.
- To elicit information about the sustainable raw materials used in knitwear industry.
- To investigate the factors affecting yarn selection criteria.

METHODOLOGY

The study on sustainable material selection in Tirupur knitwear industry was explorative in nature; hence survey research design was implemented to collect relevant information. The target population for this study were persons on the job in various knitting and garment production units. Company proprietors, managers, merchandisers, designers, fabric managers were interviewed for their knowledge on environmental sustainability, selection of raw materials, sustainable raw materials, demand and availability of sustainable yarns, third party certifications and eco-conscious brands. A total of 100 garment units were selected for the survey from different parts of Tirupur knitwear cluster. Samples were selected by random sampling method according

to the ease of approach by the investigator and co-operation extended by the industry. Care was taken to incorporate all types of unit's such as knitting units, stitching units, dyeing and printing units, and other ancillary units in the survey.

The survey was conducted with the help of an interview schedule. The interview schedule was framed to contain 80 questions to elicit information from the industry regarding target market, environmental concerns, yarns, criteria for selecting yarns, sustainable yarns, yarn sourcing, manufacturing challenges, certifications, knitting structures, dyeing and printing facilities, surface treatments, product information, eco- brands, practices to conserve natural resources, waste disposal, CSR activities, problems faced while performing sustainable practices and future requirements.

The information collected through the survey was consolidated, tabulated systematically organized, and analyzed. The frequency and percentage of the answers were calculated and inferences were drawn by making statistical analysis wherever necessary.

RESULTS AND DISCUSSIONS

The results and discussions for finding information on sustainable raw material selection in Tirupur knitwear industry are given below.

I. Selection of raw material: The following Figure 1.1 shows the major yarns which were used by Tirupur knitwear industry.

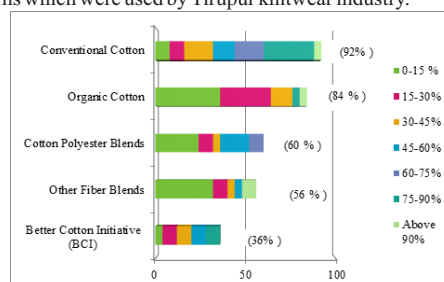


Figure 1.1: Yarn used in Knitting Industry

Figure 1.1 showed that conventionally grown cotton yarn was the most widely used yarn by the knitwear industry. About 92 per cent respondents had used conventional cotton in their past year's production. A large percentage had used conventional cotton for manufacturing about 75-90 per cent of apparel products.

84 percent companies used organic cotton which was the second most widely used yarn by Tirupur knitwear industry. Most of these

companies used organic cotton for making 0-15 per cent and 15-30 per cent of the apparel products. Cotton polyester blends, other fibre blends and BCI (Better Cotton Initiative) yarns are some other yarn categories which were used by the industry by 60%, 56% and 36% respectively.

II. Sustainable Yarns: The following Figure 1.2 shows the yarns in sustainable yarn category which were used in Tirupur knitwear industry

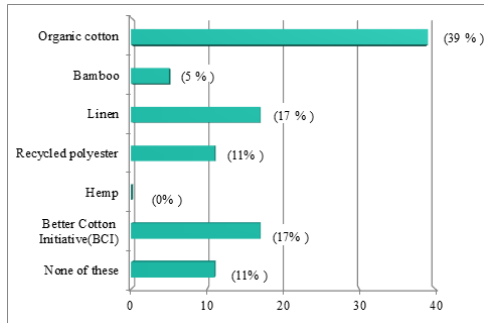


Figure 1.2: Sustainable Yarns

Figure 1.2 showed that organic cotton was amongst the most popular yarn in the sustainable yarn category which was used by the knitwear industry. The study revealed that organic cotton was used by 39 per cent organisations.

Other sustainable materials like BCI (Better Cotton Initiative) cotton yarn, was used by 17 per cent companies in the study. Linen was also found to be used by 17 per cent in past. Environmentally sustainable yarns like bamboo and recycled polyester were used by 5 and 11 percent respectively.

III. Use and availability of organic cotton yarns: The following Figure 1.3 shows the availability of organic cotton yarn in the Tirupur knitwear industry.

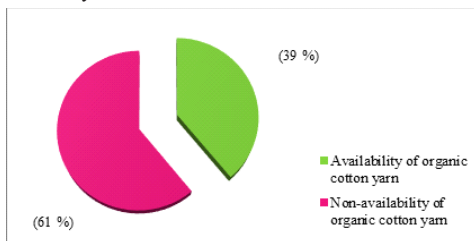


Figure 1.3: Availability of Organic Cotton Yarn

The Figure 1.3 showed that 39 per cent companies used organic cotton yarns whereas 61 per cent companies were found to have used only non-organic i.e. conventionally grown cotton yarns with other fiber blends in the past year.

IV. Demand for Sustainable Yarns: The following Figure 1.4 shows the demand for sustainable yarns in Tirupur knitwear industry.

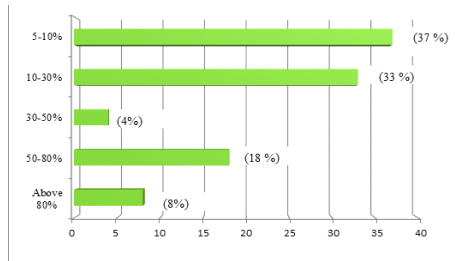


Figure 1.4: Demand for Sustainable Raw Material

Figure 1.4 showed that for an average of 5 to 10 per cent buyers of 37 per cent companies ask for sustainable yarns. 33 per cent companies reported that approximately 10 to 30 per cent of their buyers demand eco-friendly yarns. 4 per cent said that 30-50 per cent buyers and 18 per cent manufacturers got queries from 50 to 80 per cent of their customers. 8 per cent got enquiries from more than 80 per cent of their

buyers for sustainable raw materials.

V. Certification to conduct sustainable production: The following Figure 1.5 shows the certifications possessed by the companies in the study to perform sustainable garment production in Tirupur.

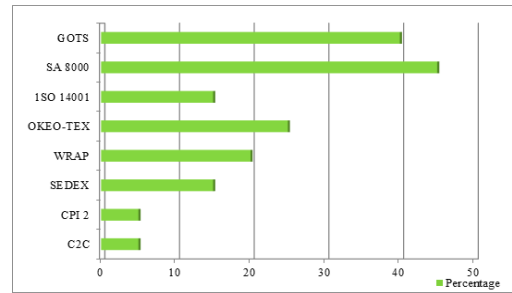


Figure 1.5: Certification of sustainable production

Figure 1.5 showed that SA 8000 (Social Accountability Accreditation Services) was the most widely possessed third party certification in Tirupur knitted garments industry. 45 per cent of the companies surveyed had SA 8000 certificate. GOTS (Global Organic Textile Standard) was the second most popular certificate possessed by 40 per cent companies.

The other certificates which were possessed by lesser number of companies were OEKO-TEX certificate by 25 per cent, WARP (Worldwide Responsible Accredited Production) certificate by 20 per cent, SEDEX (Supplier Ethical Data Exchange) by 15 per cent and ISO 14001 (International Organization for Standardization) certificate by 15 per cent companies. Certifications like C2C (Cradle to Cradle), CPI₂ (Carbon Performance Improvement Initiative) were some other certificates owned by 5 per cent company's each. It was also observed that all companies were giving quality certification for their produced garments.

VI. Sustainable brands: In the survey it was observed that more and more number of brands are joining the sustainability campaign and manufacturing sustainable garments. Brands are incorporating transparency and traceability in all their manufacturing processes like greenhouse gas emissions generated during production, transport and storage. Standard practices related to the work environment, handling and use of chemicals, waste-water treatment and recycling programmes are expected to meet the expectations of sustainable brands. This transparency in the supply chain had proved to be profitable for the brand by improving its image. Bestseller, C&A, C&M, Carrefour, Coolibar, Erana's Family, Esprit, GK, H&M, Hugo Boss, Jack & Jones, Leecope, Marks and Spencer, Maxederell, MOP, Mother Care, Myntra, Next, Noppies, OVS, Primark, Sainsbury, Splash, TASC, Tom Tailor, Tranquillo and Van Heusen are few of the brands that source sustainable yarns for developing knitted garments in Tirupur.

CONCLUSION

The results and discussions established that conventionally grown cotton was the most widely used yarn in the Tirupur knitwear industry followed by organic cotton which is also the most utilized yarn in the sustainable yarn category. Cotton polyester blends and other fiber blends were the third most consumed yarns. From the list of sustainable yarn category, it was observed that organically grown cotton was the most widely used yarn followed by linen and BCI cotton. Bamboo and recycled polyester were an upcoming sustainable raw material choice in the knitwear industry. It was also observed that sustainable yarns had a small share in the knitwear industry as only about 39 per cent companies surveyed were found to be using it frequently.

Various international certification agencies have been certifying the yarns and the garment production units for sustainability in their supply chain. All the companies interviewed in the survey had a third party certifications to carry out their production in a sustainable manner. SA800, GOTS and OKEO-TEX were some of the most popular certificates possessed by the knitting and manufacturing units in Tirupur. More and more number of brands were found to be joining the sustainability campaign and adopting sustainable practices like eco-friendly production, limited utilization of natural resources,

traceability in sourcing raw materials, using less amount of hazardous chemicals and pesticides and animal welfare, making sustainability in the textile and garment industry an achievable dream.

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