Sustainability in Textiles and Fashion – The Current Challenge

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Abstract
This paper is concerned with sustainability in textiles and fashion and identifies the problems and challenges faced by the international textile and fashion industry. Traditional product end uses as well as novel applications associated with the minority natural fibres such as jute, ramie and hemp are identified, and thepotential advantages of focusing on developing the applicability of such in fashion applications is assessed. A series of strategic proposals, aimed at gaining attention inglobal textile and fashion markets, is presented.

Keywords: Sustainability, jute, ramie, hemp, product development and fashion applicability.

1. Introduction

This paper considers the nature of sustainability in the context of textiles and fashion. The focus, in particular, is on three 'minority' fibre types (jute, ramie and hemp) produced largely in countries with below average national income. The intention is to identify avenues for improving demand for the three selected fibre varieties. Natural fibre resources are important in the context of the social and economic development of many lower-income producing countries. At the same time, it appears that global demand is increasing for products with an environmentally friendly label. There seems little doubt that sustainability issues will continue to dominate debates in the future, among textile and fashion designers, producers and consumers. This paper is a review-type paper with suggested strategic directions for industrial policy and research. Some of the important considerations are identified below.

2. Sustainability in textiles and fashion

The term 'sustainability' is used to refer to the degree to which processes, products or protect the environment for future generations. Sustainable development meets the needs of the present without compromising what the future. Sustainability has economic, environmental and cultural aspects. A good concise historical review of perspectives on sustainability was provided by Scoones [1]. Various aspects of sustainability across a range of Asian countries were identified by Kesavan and Swaminathan [2]. Important considerations relating to sustainability in the context of textiles include: the increasing quantities of textile products (including clothing) consumed and disposed of; energy, water and pesticide consumption associated with different fibres and their production and processing; the 'carbon miles' associated with transportation; the use of hazardous chemicals and their effect on health, safety and the environment. A well-focused article, dealing with environmental and health aspects associated with fashion production, was presented by Claudio [3].

Although perceived as natural and environmentally friendly, an important (often hidden) fact is that cotton fibre accounts for the use of around one quarter of pesticide (or insecticide) used in the USA and a large proportion of that used globally [3]. A further important consideration is that large amounts of agricultural land are set aside for cotton rather than food-stuffproduction. A further important development which has entered the on-going debate on the sustainability of the global cotton crop is the use of genetically modified seed stock. An interesting paper entitled: 'Economic Impact of Genetically Modified Cotton in India' was provided by Bennett, Ismael, Kambhampati and Morse [4]. The discussion of this important development is however outside the scope of this paper.In the European context, awareness of sustainability issues in the context of textiles and textile products (especially clothing) has been increasing in recent years, and there is the desire to use larger proportions of alternative natural fibres, largely unfamiliar to the general public and less detrimental to the environment than conventional (non-organic) cotton. Fibres more sustainable than cotton include jute, ramie and hemp.

3. Discussion, conclusions and proposals

All three ‘minority’ fibres have undergone substantial declines in demand over the past five decades in the wake ofthe introduction of synthetic-fibre substitutes. There have been attempts by international agencies to develop astrategy to slow down, or stop, further erosion of traditional markets for these fibres. However it appears to be the case among the vast bulk ofinternational advisers and consultants, when asked to identify future product development areas for these ‘minority’fibres, that the focus is on creating a greater reward for large multi-national companies, based in higher-incomecountries, rather than improving the welfare of producers in the countries where the fibres originated. With thislatter consideration in mind, the reader is invited to consider the issues and concerns identified in this paper and toponder how best international agencies, large multi-national corporations and others seeking the accolade ofsustainability, can assist in improving the livelihood of the communities, and GDP of the countries involved, in‘minority’ fibre production and subsequent processing. A range of proposalsis presentedbelow.

First, the full technical characteristics of each of the four fibres need to be considered carefully. Second, in all cases fibre extraction methods need to be improved in order to minimise waste. Third, a census of local textile processing arrangements and garment manufacturing facilities in thevarious producing countries should be made and sources of investment for re-equipment schemes identified. Fourth,recent innovations (say over the past three decades) in other types of fibre processing should be assessed andconsideration given to adjusting this technology to make it suited to the characteristics of these other ‘minority’ fibres. Fifth, the potential for blending each of the four fibres with other natural fibres, including organiccotton, should be explored. Sixth,ensure that product development (other than simple basic products) isdesign- and market-led, and of relevance to global demand. Seventh, recognise the substantial market challenge in order to stimulate demand. The marketingof sustainability as a product feature needs to be addressed. Eighth, transportation and general infra-structure needto be considered also.

All of these potential developments require substantial investment and the attention of highly knowledgeable andskilled personnel, in agriculture, textile processing, garment manufacture, textile design, fashion design and interiordesign, product development, business, marketing and retailing. In the short- to medium-term, the best way forlower-income countries to gain such access would be to solicit the attention of various international agencies and,subsequently, to develop a series of partnerships with large multi-national companies (especially those withknowledge of fibres, textile production, garment manufacture and possible also retailing) as well as further andhigher educational colleges (in order to assist in setting up relevant industrial training centres). The aim is that the partners (with technical, design and marketing expertise) from the higher-income countries winthe sustainability badge, while producers from the lower-income countries expand production, improve the welfareof producing communities and increase GDP. Up to the moment analysis and comments on the current state of the‘minority’ fibre industries as well as sustainability in the textile and clothing industries is provided by SpecialReports and other commentary in Textile Outlook International; a recent example is the Textile OutlookInternational editorial entitled ‘Overcoming Obstacles to Environmental Sustainability in the Textile and ApparelIndustrial [5].

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