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Emerging Technologies and its Adoption: A Booster for Garment Development and Expansion in Tasar Silk Industry of Jharkhand with Special Reference to the Artisans and Weavers of Ranchi

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Abstractt: ***The Tasar silk Industry has proved its potential in raising sustainable income and employment in the rural sector of Jharkhand State (India) and is a growing activity in the primary sector which aims more income to the artisans and workers of this industry. This paper entitles an artisanal industry that concentrates on the study regarding the impact of technologies on sericulture in selected area.***

Sericulture is an agro-industrial activity aiming to produce silk though rearing of silkworm. It involves the raising of food plants (Terminalia arjuna, Terminalia tomentosa, Shorea robusta etc) for silkworm, rearing of silkworm for production of cocoons, reeling and spinning of cocoons for production of yarn for value added benefits such as processing and weaving. The knowledge of technology has found to have greater impact on improving the productivity, production and manufacturing of Tasar Silk Fabric in terms of agriculture as well as its allied activities. This study finds out significant positive impact of knowledge about advanced technology and its adoption on the development of the sector by the artisans so that the Tasar Silk Garment Industry grows and benefit its stakeholders.

Keywords : Tasar Silk Garment Industry, Sericulture, Tasar Fabric, Innovation, Clothing

I. INTRODUCTION

Tasar silk, now known as Tasar (Kuchai) silk has given livelihood to many rural, especially tribal families of the Jharkhand State. It is mainly because of the fact that the Tasar silk worm insect's host food plants Terminalia tomentosa, T. arjuna and Shorea robusta are naturally-growing forest trees of Jharkhand and its adjoining States.

The abundant and prolific growth of the leaf of these trees, which are the food of the tasar silk insect Antheraea mylitta (Drury) and the suitable environmental conditions of the forest area are most conducive for this Industry to grow and provide livelihood opportunities for Sericulture development.

The establishment of the Central Tasar Research & Training Institute at Piska Nagri, near Ranchi way back in the year 1964 has done and is doing remarkable research and training for the growth of this Industry!. The increasing wealth of knowledge through research in this Premier Institute of the Country regarding all aspects of the technology development in Tasar silk Industry has benefitted all the stakeholders.

Prospect of the likings and acceptability of the garments prepared from the Tasar (Kuchai) silk fibres by the consumers is linked with the working conditions of the people associated with its producing Industries: the artisans/craft persons associated with garment manufacturing.

II. OBJECTIVE

To create innovative contemporary apparel designs, as per the trend forecast in terms of color, pattern, silhouette etc.which involved design concepts, design approach and design goals; thereafter evaluate the effectiveness of those designs. keeping also in mind the local traditional art/paintings etc., in the ethnic wears in different colors as per the general liking of respondents including stoles and dupattas with embroideries, on the Tasar silk fabric, with a view to promote the attraction of Tasar Silk apparel/garments among the public in general and youth in particular.

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III. LITERATURE REVIEW

Silk has been used in clothing from ancient times, for about the last 5000 years in China [1] and in India from the Vedic (6500 B.C) to the modern period through the Ramayana (Wild silk was used for thread in the Indus/Saraswati civilization during 2,450 B.C) and Mahabharata periods.

Famous for its use in clothing since early times, 'silk' produced by the 'silk worm' is now finding new applications as a useful biocompatible material in photonic device, tissue engineering and regenerative medicine [2]. In addition to the commonly understood 'silk' produced by the 'silk worm', the spider's cobweb thread is also called 'silk' which has strong mechanical strength.

As the major Silk Industry of the world for fabric and textiles use only the silk thread produced from the insect growing naturally only on the leaf of Mulberry tree, the focus for research in silk, from ancient times till date, has remained improving in all aspects in the cultivation and silk production of this particular silk species, namely Bombax mori in captivity and domestication, as well as in improving all aspects in the cultivation techniques of the specific food plant species namely Mulberry (Morus alba).

The other types of silk worm insects are those which have their food plants other than the Mulberry tree. They are therefore grouped as Non-mulberry silk. These are the silk from the forest, called 'Tasar' 'Vanya' or 'Forest' Silk [3,4]. Mulberry silk has been extensively explored and used for centuries in textiles. During the last few decades, it has also found its use in biomedical applications. Innovative and multidirectional use of non- mulberry silk from being a textile commodity to biomaterials is relatively new. Within a very short period of time, the combination of load bearing capability and tensile strength of non-mulberry silk has been equally envisioned for bone, cartilage, adipose, and other tissue regeneration. Scientific exploration of non- mulberry silk in tissue engineering, regenerative medicine, and biotechnological applications promises advancement of sericulture industries [5,6,7].

Decorative patterns of clothing silk fabrics in the Qing Dynasty have been described in detail by Herbert [8]. Based on analysis of the relationship between fashion style and structure of silk clothing, it was found that fashion style in that period of time had a significant impact on the structure, design and making of silk fabrics. On the contrary, decorative patterns of fabrics influenced the style and tailoring techniques. Different fashion styles were analyzed, and main as well as part decorative patterns were described. Characteristics method of fabric patterns in application were clearly demonstrated, by which the elements and utilization of silk clothing decorative patterns in the Qing Dynasty were summarized.

IV. METHODOLOGY

The apparel made up of Tasar (Kuchai) silk would definitely be liked more, if such garments are prepared as per the innovative contemporary designs, and trend forecast in terms of colour, pattern, silhouette etc, and incorporation of local traditional art/paintings for value-addition. What steps should be taken so that the apparel made up of Tasar silk may become attractive? One approach is Design Goal Approach i.e. attempts to Create Design Concepts as per Contemporary Design on core with Tasar (Kuchai) silk for its value-addition, keeping in mind the likes/dislikes of the apparel design, choice and range of colour, pattern, embroidery, as well as the local traditional art/paintings etc., as per the general likings of the youth in particular and the public in general.

V. RESULTS AND DISCUSSION

Traditional art and culture designs are much liked by the local people. For example, in the Santhal Pargana area of the Jharkhand State, Sohrai paintings on the walls of the houses are very much liked and honoured! I have conducted research on apparel for youth, based on contemporary design, on core with Tasar (Kuchai) Silk of Jharkhand (Shashi Nag, 2021) and have observed that traditional art and paintings are much liked by the general public. In this paper, attempts have been made to create design on concepts of traditional paintings as per Contemporary Design on core with Tasar (Kuchai) silk for its value-addition.



Fig 1. Stylized deer hand painted on Tasar Silk fabric inspired from the deer (motif) of the Sohrai painting.



Fig 2. Stylized floral art hand painted on Tasar Silk fabric inspired from the flower (motif) of the Sohrai painting.

VI. CONCLUSIONS

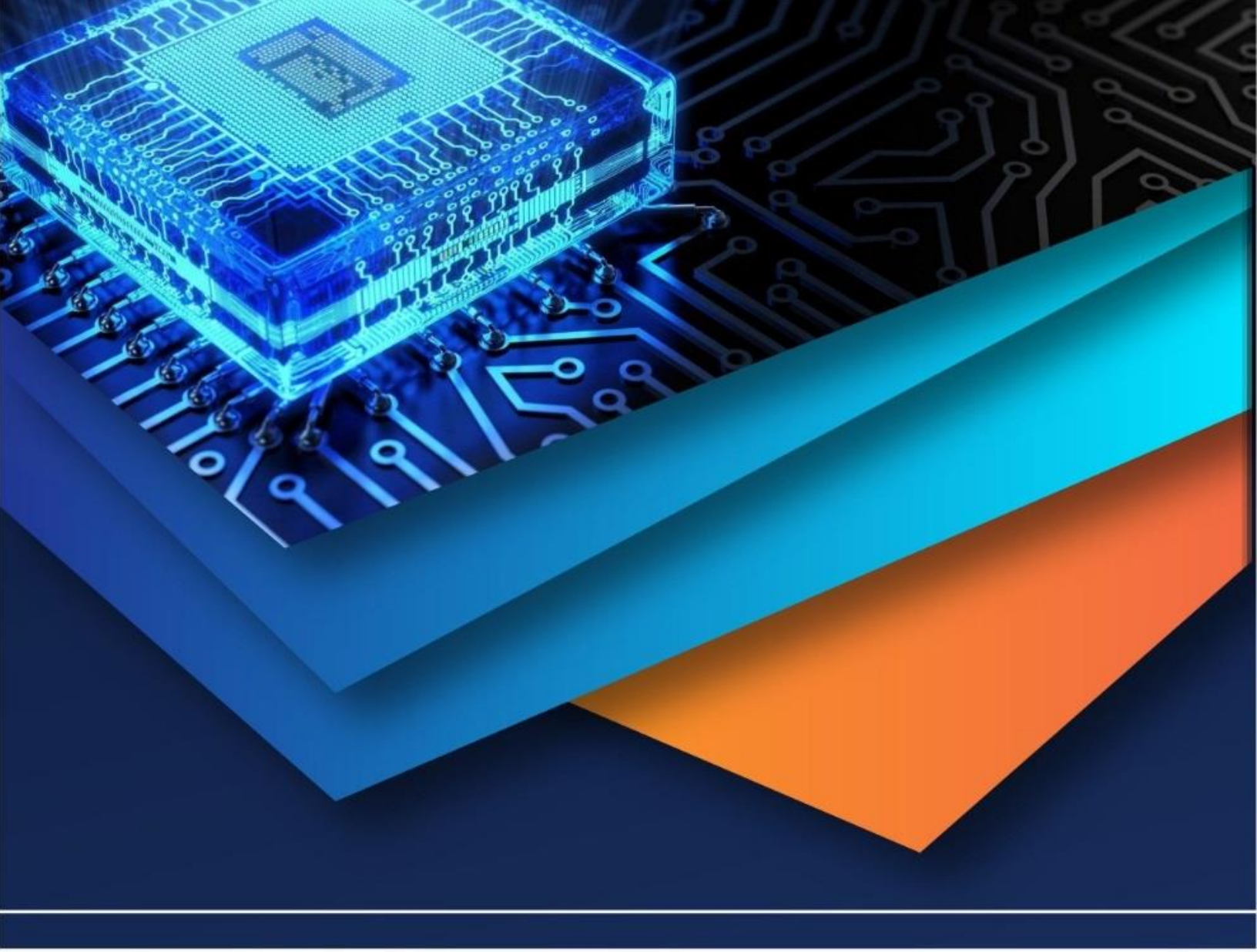
Prospect of the likings and acceptability of the garments prepared from the Tasar silk fibres by the consumers is linked with the working conditions of the people associated with its producing Industries. : the artisans/craft persons associated with garment manufacturing in and around Ranchi are aware and keen for the development of this industry. They understand that their prospect depends on the regular supply of the good quality raw materials for better quality fabric for apparel production. They, however, need better infrastructure (machines, continuous supply of electric power etc.), and should get training at regular intervals. Their working conditions (including their wages/salary/honorarium etc.) need improvement.(Nag et al. 2018, 2020). It is expected that by introducing Design Goal Approach Tasar Silk Industry would get an additional interest for the apparel of Tasar Silk.

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