

Design and Development of Eco-Friendly Banana Fibre Saree and Scarf using Archaeological Motif Inspired from Temple Architecture of Madikeri

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Abstract

This research focuses on the design and development of eco-friendly banana fibre textiles through the creation of culturally inspired motifs and their application on a saree and a complementary scarf. The study explores the integration of sustainable materials with contemporary design approaches by drawing inspiration from archaeological elements of Madikeri, particularly from Raja's Tomb and the Archaeological Museum. The design process involved motif abstraction, layout development, and digital application tailored for textile printing. The project demonstrates how traditional visual elements can be transformed into modern textile designs, promoting sustainability while preserving cultural identity.

Keywords: Banana fibre, sustainable textiles, motif design, digital printing, scarf, saree, Madikeri inspiration

I. INTRODUCTION

The increasing demand for sustainable fashion has led to the exploration of alternative eco-friendly materials and design practices. Banana fibre, a natural and biodegradable textile material, offers significant potential for sustainable textile development. This research focuses on integrating banana fibre with innovative design approaches to create contemporary textile products.

The study emphasizes the role of cultural inspiration in textile design by incorporating motifs derived from archaeological elements of Madikeri. These inspirations are translated into modern design formats and applied to a saree and a scarf, creating a cohesive and versatile product range. The project highlights the importance of combining sustainability with cultural storytelling in textile design.

II. DESIGN CONCEPT DEVELOPMENT

In the review stage, visual and contextual research was conducted to identify suitable sources of inspiration for motif development. Archaeological and architectural elements from Madikeri, particularly from Raja's Tomb and the Archaeological Museum, were studied in detail. Key features such as arches, domes, structural patterns, and surface textures were documented.

In the final stage, the collected inspirations were transformed into textile design elements. The architectural features were abstracted, simplified, and stylized to create motifs suitable for digital textile printing. The process included sketching, motif extraction, geometric simplification, development of repeatable patterns, and application into saree and scarf layouts.

III. MOTIF DESIGN AND DEVELOPMENT

Motif development played a crucial role in translating cultural inspiration into textile form. The motifs were derived from geometric and structural features observed in archaeological architecture. Variations in scale and orientation were created

to develop both primary and secondary motifs. The motifs maintained a balance between traditional influence and modern aesthetics, making them suitable for contemporary fashion applications.

IV. DESIGN LAYOUT DEVELOPMENT

The design layout was developed to create a balanced and cohesive visual composition for both the saree and scarf. The saree layout was structured into pallu, body, and border sections, while the scarf design focused on minimal central placement with decorative end panels. This approach ensured consistency in design language and enhanced the overall aesthetic appeal and usability of the products.

V. COLOUR AND DESIGN APPLICATION

The colour palette was inspired by the natural and architectural elements observed in Madikeri. Earthy and muted tones were selected to complement the organic texture of banana fibre fabric. The motifs and layouts were digitally developed using textile design software and prepared for digital printing to ensure precise reproduction and consistency.

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