



Zero Waste Fashion Innovation Inspired by Pacu Jalur Batik Motifs

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Abstract: *This work aims to create contemporary fashion using zero waste pattern techniques combined with the Batik Pacu jalur motif as an appreciation for local cultural traditions and to support sustainability in the fashion industry. The theory applied in this work focuses on sustainable design principles that emphasize waste reduction and the optimal use of resources. The methods used include exploring the Pacu jalur culture as an idea source, designing fashion patterns using zero waste techniques, and applying batik motifs inspired by the unique ornaments of Pacu jalur. The resulting work consists of three categories of fashion: ready-to-wear, ready-to-wear deluxe, and haute couture, each embracing the concepts of sustainability and cultural preservation. The presentation of this work is carried out through a fashion show, showcasing a collection that features strong and bold design elements, along with diverse embroidery and stitching techniques to enrich its visual aesthetics. This work functions not only as fashion but also as an artistic statement on the importance of cultural and environmental preservation.*

Keywords: *Zero waste, batik motif pacu jalur, contemporary fashion, sashiko.*

Introduction

Kuantan Singingi is a regency in Riau Province known for its traditional cultural wealth, one of which is *Pacu Jalur* a long boat race that originally served as river transportation but has evolved into a cultural event rich in social, artistic, and spiritual values (Ikmal, 2023). The *jalur* boats, made from large tree trunks, are decorated with wood carvings, *selembayung*, and other cultural symbols. Their creation involves ritual stages, reflecting strong magical and traditional values of the Kuantan Singingi community (Susrianto, 2018).

The aesthetics of *pacu jalur* are evident in the fusion of visual arts, music (*rarak*), dance, and clothing, making it a living and evolving cultural heritage. Motifs like *Itiak Baliak Sonjo*, *Pucuak Robuang*, and *Kaluak Paku*, commonly found on the boats, not only represent village identity but also serve as visual inspiration in contemporary design (Ikmal, 2023). With rising awareness of sustainability in fashion, the *slow fashion* approach and zero waste pattern technique are crucial in addressing environmental issues caused by textile waste. According to the Directorate General of Waste and Hazardous Waste Management, 31,861.62 kg of unmanaged textile waste was recorded in one reporting period (Ditjen PSLB3, n.d.), highlighting the need for eco-friendly and aesthetic design innovations.

Zero waste pattern is a design technique that minimizes fabric waste during production by optimizing every fabric part without leaving significant scraps (Harjani,

2019). The integration of *pacu jalur* motifs with traditional embroidery like *sashiko* results in fashion pieces that are both artistic and culturally meaningful. In contemporary visual art, clothing functions not only for utility but also as a medium of expression reflecting cultural identity, social context, and current issues. Contemporary fashion tends to be deconstructive, non-conventional, experimental, and reflective of the times (Aribaten et al., 2023). By incorporating *pacu jalur* motifs into zero waste-based contemporary fashion, this work contributes to the visual richness of fashion, cultural value promotion, and environmentally responsive design.

Methodology

This research uses a qualitative, exploratory approach suitable for art and design-based work, focusing on artistic value and cultural meaning in visual form. The creative process itself is part of the methodology, encompassing idea exploration, motif visualization, production techniques, and presentation building a design narrative rooted in local culture and expressed through a contemporary visual language. The process began with literature study on *pacu jalur* traditions in Kuantan Singingi, Riau, including origin, boat forms, cultural attributes, and symbolic values. Academic sources, books, journals, and visual documentation enriched this cultural understanding.

Visual exploration followed, including idea development, sketching, moodboards, and experimenting with the zero waste pattern technique designing garments with minimal fabric scraps. This technique responds to fashion's environmental impact, especially from fast fashion. The creative process included idea exploration, sketch development, material selection, garment construction techniques, and design realization with *pacu jalur*-inspired batik and embroidery motifs. The *sashiko* embroidery technique Japanese hand-stitching with geometric accents was used for aesthetic and sustainable value by utilizing leftover fabric. Critical reflection and descriptive analysis evaluated each stage to ensure alignment between cultural concepts, design strategies, and technical implementation. Validation involved discussions with supervisors and peers, and public testing through a fashion show.

Result and Discussion

The fashion collection titled “Sisa Nyawa” represents an integration of the traditional cultural values of Pacu Jalur and contemporary fashion design concepts rooted in sustainability. The collection is presented in three categories: ready-to-wear, ready-to-wear deluxe, and haute couture, applying zero-waste pattern techniques to reduce fabric waste to below 15% of the total material used. This implementation aligns with the principles of slow fashion, which emphasize ethical production, material efficiency, and environmental responsibility within the fashion industry (Harjani, 2019; Gwilt, 2016).

Cultural Representation in Design

The Pacu Jalur tradition an annual rowing event from Kuantan Singingi Regency, Riau functions as the conceptual and visual foundation of the collection. This tradition, deeply rooted in local spirituality, collective identity, and historical resistance, is interpreted

through contemporary textile art. Key motifs such as Itiak Baliak Sonjo (symbolizing unity and return), Pucuak Robuang (growth and adaptability), and Kaluak Paku (resilience and protection) are visually recontextualized through batik, embroidery, and stitch techniques to maintain their symbolic integrity while enabling reinterpretation for modern audiences.

This method aligns with Raymond Williams' (1981) idea of "residual culture" in which traditional symbols, when carried into new media or practices, sustain their relevance and help resist cultural erasure. The garments thus become a platform for living heritage, connecting wearers and viewers with the evolving identity of local knowledge.

Visual and Technical Exploration

The creator combines batik stamp techniques with embroidery and sashiko stitching to create rich visual textures. The sashiko technique, originating from Japan, is used to piece together fabric scraps and add geometric accents to the garment surfaces, creating an organic impression while strengthening the material structure. Fabric remnants not used in garment production are repurposed into accessories and ornaments using weaving techniques, demonstrating a holistic design approach to sustainability.

The collection explores the fusion of traditional textile techniques with contemporary construction through:

1. Batik cap (stamped batik) applied to natural fibers such as linen and cotton, maintaining breathability and sustainability.
2. Hand embroidery, focusing on motif articulation and symbolic storytelling.
3. Sashiko stitching, a Japanese mending technique, is used not only for surface design but to assemble fabric remnants. This technique contributes to textile strength, texture enhancement, and narrative layering.

Unusable textile scraps are repurposed into accessories using manual weaving, knotting, and layering, highlighting a zero-waste and circular design philosophy. This full-cycle utilization of materials reflects the principle of cradle-to-cradle design (McDonough & Braungart, 2002), where every part of a product has value and function.

Zero Waste Design Innovation

The zero-waste design approach extends beyond geometric patterning and incorporates both draping and conventional pattern-making techniques to produce dynamic asymmetrical silhouettes. Non-geometric lines and organic shapes become key features of this collection, evoking the fluid movement inspired by the Pacu Jalur tradition. The chosen color palette predominantly red and black carries symbolic meaning, representing energy, spirit, and the resilience of tradition.

Departing from typical square or modular zero-waste forms, Sisa Nyawa uses hybrid techniques that integrate both conventional pattern drafting and draping to generate organic, asymmetrical silhouettes. The silhouette structure reflects the fluidity and dynamism of the Pacu Jalur rowing motion, emphasizing movement and collectivity. This intentional abstraction transforms a performative tradition into an embodied garment experience.

The color palette dominated by red (spirit, courage, life force) and black (elegance, identity, resistance) serves not only as aesthetic markers but as semiotic tools that reinforce narrative coherence.

This design approach supports Rissanen and McQuillan's (2016) theory that zero-waste fashion can evolve beyond technical solutions into a site of cultural and emotional expression, challenging Western binary thinking between tradition and modernity.

Formal Design Analysis

Formally, this fashion design demonstrates a strong treatment of core design elements such as line, shape, color, texture, balance, rhythm, and harmony. Asymmetrical lines and layered fabrics create flowing visual dynamics. The red color evokes courage and vitality, while black brings elegance and stability. The combination of tactile embroidery textures and the visual depth of batik motifs enhances both the visual and tactile experiences for the wearer.

From a formalist perspective, Sisa Nyawa demonstrates mastery in the manipulation of fashion's core visual elements:

1. Lines: The asymmetrical, intersecting lines evoke energy and unpredictability.
2. Shapes and Forms: Layered panels and irregular shapes create a sculptural silhouette.
3. Textures: Juxtaposition of smooth base fabrics with tactile embroidery and visible hand-stitching.
4. Balance and Rhythm: Strategic placement of visual weight maintains equilibrium across chaotic forms.
5. Harmony: Color, motif, and structure are cohesively interwoven to generate an integrated visual identity.

These design principles contribute to multisensory experiences visual, tactile, and symbolic offering the wearer not just a garment but a story, a landscape, and a cultural dialogue.

Comparative Analysis

This collection displays strong relevance and differentiation when compared to other works with similar themes. For example, Lulu Lutfi Labibi's "Sarambit" also implements zero-waste techniques but focuses more on loose silhouettes and drapery play. In contrast, "Sisa Nyawa" emphasizes the exploration of local motifs and embroidery techniques. Likewise, "Republik Sebelah Mata" by Sejauh Mata Memandang x Eko Nugroho features printed and embroidered motifs, but does not explicitly highlight local cultural values as this work does.

This collection can be positioned within the contemporary discourse of sustainable fashion in Southeast Asia. Compared to:

1. Lulu Lutfi Labibi's "Sarambit", which emphasizes loose-fitting, draped silhouettes and understated layering, Sisa Nyawa is more assertive in motif articulation and cultural narration.

2. “Republik Sebelah Mata” by Sejauh Mata Memandang x Eko Nugroho, while successful in merging artistic embroidery with sustainability, takes a more universal, decontextualized approach, whereas Sisa Nyawa is grounded in a localized cultural ecosystem.

The difference lies not only in aesthetic but in intentionality of cultural storytelling, placing Sisa Nyawa as an example of fashion ethnography in motion.

Fashion Show and Publication

The collection was debuted during Malenggang #3—a fashion performance organized by the Rantak Rupo collective, where fashion, sound art, and performative staging converged. The presentation fused traditional Minangkabau aesthetic codes (such as musical ornamentation and body gestures) with ambient industrial techno, drawing symbolic parallels between nature, machinery, and resistance.

The show format positions fashion as an experiential medium for social critique, echoing Bourriaud’s (1998) idea of relational aesthetics, where audiences become active interpreters of ethical, cultural, and environmental messages. Digital documentation via Instagram, short films, and e-zines expanded the collection’s reach and embedded it in the ongoing discourse of sustainable and decolonial design in Indonesia.

Conclusion

The creation of this contemporary fashion work serves as a form of integration between the traditional cultural values of Pacu Jalur from Kuantan Singingi Regency and sustainability concepts in the fashion industry through the application of zero-waste pattern techniques. The Pacu Jalur tradition, rich in symbolic, artistic, and spiritual values, is manifested through batik and embroidery motifs such as Itiak Baliak Sonjo, Pucuk Robuang, and Kaluak Paku that represent local identity in a contemporary visual expression.

The implementation of zero-waste patterning not only functions as a strategy for reducing textile waste but also acts as a conceptual foundation in creating unique, dynamic, and highly artistic garment forms and silhouettes. This work demonstrates that fashion is not merely an aesthetic expression but also a medium for conveying social, cultural, and environmental messages.

In addition to delivering visual aesthetics through the exploration of color, texture, lines, and sewing techniques, this collection contributes to the discourse of cultural preservation and the development of sustainable fashion in Indonesia. The fashion presentation and its publication through social media have expanded the outreach of its message, reinforcing the role of fashion as an educational medium and a tool for cultural reflection within the contemporary design landscape.

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