

# Exploring the Use of Feathers in Traditional Handloom

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**Abstract** – There has been a focus on design innovation and interventions to sustain and enhance the cultural heritage of handloom textiles, especially in the textile industry of Sri Lanka. Renowned for its traditional handloom weaving, the industry faces the challenge of aligning with mass production and fast production cycles, while maintaining its cultural heritage. The traditional designs and textiles do not meet contemporary market demands nor the target audience of today. While studying the handloom machines used by the artisans for an academic project, it was discovered that making changes to the same warp by making alterations to the weft would sustain the continuity of the handloom while producing entirely different textiles. Furthermore, this practice is more sustainable and efficient as opposed to using one warp to produce just one type of textile. This research seeks to innovate within this sector by introducing a natural feather-based handloom textile, utilising feathers as a primary material. The objective is to transform locally sourced feathers, a byproduct of the poultry industry typically discarded as waste, into valuable, eco-friendly textiles that enhance both the environmental and economic landscape of Sri Lanka. Furthermore, this is an artisanal and culturally valued textile substitute to natural fur-based textiles which are less ethical to animals, which also highlights the craftsmanship of the rapidly declining artisanal communities. The methodology adopted in this research is systematic and multi-staged, focusing on both material preparation and the adaptation of traditional weaving techniques. The first stage involves the collection and treatment of feathers to ensure hygiene and durability, making them suitable for use in textiles. The feathers are then transformed into feather rope structures, a process in which the feathers are carefully twisted into ropes that can be incorporated into handloom weaving. This preparation stage is crucial, as it ensures that the feather material is both workable and compatible with traditional weaving techniques. Following this, experimentation with various traditional handloom techniques to effectively integrate feathers into the fabric was carried out. This involves adjusting loom settings and exploring different weaving patterns to accommodate the unique characteristics of feathers. The feather trims were guided by hand and were tightened using the plain-weave technique. This not only ensured the feathers were locked in place in the weave, resulting in

longevity but also allowed a smooth and comfortable surface texture to be woven in without any unevenness in the textile. By collaborating with local artisans, the study emphasises a participatory approach, ensuring that the innovation respects and values the artisan's knowledge of heritage craftsmanship to build contemporary textiles. The collaboration with local artisans plays a critical role in this research, as their expertise and familiarity with traditional techniques are invaluable. Engaging with the artisans through trial and error allowed for a co-creative process that led to the discovery of new techniques and applications for feather-based textiles that match quality, comfort, and durability. Preliminary findings revealed that it is possible to achieve a distinct aesthetic appeal using feathers due to the natural colouration and texture of feathers which appeared more or less similar to fur textiles. The natural characteristics of feathers, including their lightweight structure, softness, and muted hues, enhance the aesthetic and functional qualities of the textiles, making them appealing for a variety of applications. Furthermore, their marketability will appeal to both local and international markets seeking sustainability and uniqueness, expanding to garments as well as home decor products such as rugs. The design further amplifies the market appeal of feather-based handloom textiles, especially among consumers seeking eco-friendly, culturally rich, and ethically produced goods. The innovation holds significant potential for the local textile industry by creating value from poultry industry waste, introducing a new revenue stream that supports both sustainability and local craftsmanship. Artisanal communities and their livelihoods stand to benefit from increased demand for their skills, as the production of feather-based textiles requires their expertise in handloom weaving. Environmentally, it supports waste reduction and promotes the use of natural, biodegradable materials, aligning with global sustainability goals. The feather-based textiles offer a sustainable alternative to synthetic and fur materials, reducing the environmental impact associated with conventional textile production. Additionally, the use of locally sourced feathers minimises the carbon footprint involved in raw material transportation, contributing to the eco-friendliness of the entire process. In conclusion, by combining sustainable practices with cultural heritage preservation, this research contributes to a textile model that is environmentally, economically, and ethically viable. This research offers a pathway for traditional craftsmanship to coexist with contemporary design, fostering a textile industry that honours its cultural roots while embracing sustainable innovation.

**Keywords:** Handloom textiles, cultural heritage, feather-based textiles, sustainability, artisanal craftsmanship

## Exploring the use of feathers in traditional handloom

**Figure 1**

*Rope structures made by twisting natural feathers.*



*Note. Created by the author*

**Figure 2**

*Incorporation of the feather ropes into the handloom manually using the identified technique.*



*Note. Created by the author*

**Figure 3**

Final garment produced for the collection using the tested-out contemporary heritage handloom innovation.



Note. Created by the author

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