

Indigenous Textiles of Odisha: Cultural Continuity, Design Anthropology, and Sustainable Practices

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ABSTRACT

The indigenous textiles of Odisha represent centuries of cultural memory, identity expression, and ecological wisdom embedded within the practices of the Kotpad, Dongria Kondh, and Kurukh communities. These textiles are characterized by distinctive weaving traditions, natural dyeing practices, symbolic motifs, and community-based production systems that have evolved through intergenerational knowledge transfer. Although these crafts reflect sustainable, low-impact production rooted in local ecology, their survival is increasingly challenged by modernization, market dilution, and reduced youth participation. This manuscript critically examines the cultural, socio-economic, and environmental dimensions of Odisha's indigenous textiles, employing ethnographic fieldwork, archival analysis, and design anthropology methods. By applying frameworks of heritage preservation and sustainability theory, the study highlights how these textile traditions exemplify regenerative craft practices and contribute to debates on ethical fashion. A strengthened methodology, theoretical grounding, and discussion connecting literature with field data provide a comprehensive narrative. The study concludes by offering pathways for safeguarding cultural heritage while promoting sustainable livelihoods for indigenous weaving communities.

Keywords: Indigenous textiles, heritage crafts, design anthropology, natural dyes, sustainability, Odisha, Kotpad, Dongria Kondh, Kurukh.

INTRODUCTION

Odisha hosts one of India's richest repositories of indigenous textile heritage, shaped by more than 62 tribal communities who have preserved weaving and dyeing traditions over generations. These textiles are not merely utilitarian objects; they are cultural artefacts through which communities narrate identity, spirituality, social order, and ecological relationships. The vibrant colour palettes, distinctive motifs, and intricate weaving techniques of Odisha's indigenous textiles—such as Kotpad natural-dyed fabrics, Dongria Kondh embroidered shawls (Kapdaganda), and the lesser-documented Kurukh textiles—exemplify deep-rooted cultural symbolism.

These textiles, derived from highly localized knowledge systems, are an understanding of plant-based dyes, recognition of ecological cycles, and disciplined weaving skills transmitted across generations. Through centuries, these craft practices evolved organically in response to community needs, environmental conditions, and ritual significance. However, in the contemporary context, indigenous textiles face mounting pressure from mass production, synthetic materials, fragmented markets, and declining intergenerational transmission.

Through a comprehensive analysis of cultural significance, historical roots, ecological practices, and contemporary relevance, this manuscript seeks to reposition Odisha's indigenous textiles within discourses of sustainable fashion, design anthropology, and cultural heritage preservation. The study develops a unified narrative: that reviving and strengthening these textiles is not only an act of craft documentation but a strategic intervention toward environmental sustainability and cultural resilience.

Problem Statement

Although the indigenous textiles of Odisha have immense cultural, ecological, and socio-economic significance, there exists limited systematic research that connects these dimensions. Current documentation often isolates textiles as either aesthetic craft objects or anthropological curiosities, failing to analyse them through frameworks of sustainability, regenerative design, and heritage preservation. Moreover, modern market forces threaten the authenticity through imitation, synthetic dyes, and undervaluation of artisan labour. Younger generations are increasingly disengaged from traditional weaving due to unstable incomes and a lack of institutional support.

The absence of an integrated, interdisciplinary study that positions Odisha's indigenous textiles within cultural, economic, and ecological debates creates an urgent need for research. This study addresses the gap by providing a comprehensive analysis grounded in fieldwork, literature, and theoretical frameworks.

Research Objectives:

The study is guided by the following objectives:

- To document the cultural, symbolic, and ritual significance of Kotpad, Dongria Kondh, and Kurukh textiles.
- To analyse traditional ecological knowledge and sustainable practices inherent in natural dyeing, fiber preparation, and community-based production.
- To study socio-economic and livelihood patterns of weaving families and understand challenges faced by artisans.
- To assess the impact of modernization and market competition on textile continuity and authenticity.
- To explore contemporary relevance in the global sustainable fashion landscape.
- To propose strategies for cultural preservation, design innovation, and sustainable value-chain strengthening.

Theoretical Framework

Heritage Preservation Theory

According to UNESCO's framework for intangible cultural heritage, traditional crafts represent dynamic, living practices that embody cultural knowledge, social identity, and community memory. Odisha's indigenous textiles, used in rituals, ceremonies, and everyday life, align with this framework as markers of social continuity. Kotpad textiles used during rites of passage, and Dongria shawls used in matrimonial rituals, exemplify how textiles maintain cultural identity.

Design Anthropology

Design anthropology interprets objects as embodiments of cultural logic. Indigenous textiles encode cosmology, societal values, and environmental relationships through motifs, colors, and techniques. For instance, Dongria Kondh triangular motifs symbolize mountains and deities, while Kurukh animal motifs represent a connection to the natural world. This lens allows interpretation of textiles as living cultural scripts.

Sustainability Theory

Frameworks such as Fletcher's *Design for Change* and McDonough & Braungart's *Cradle to Cradle* emphasize localized production, natural materials, and low-energy processes. Odisha's textiles naturally align with these principles:

- Zero-waste production
- Natural dyes (Aal, Hibiscus, Kusum, Palash)

- Locally sourced fibres
- Community-based production units
- Long product life cycles

These characteristics justify the use of the term “sustainable practice” in describing indigenous textiles.

LITERATURE REVIEW

Research shows that Odisha’s textile culture dates to prehistoric and early historic periods (Deo, 2016). Trade routes linking ancient Kalinga to Southeast Asia influenced design exchanges and technical innovation (Mohanty, 2018). Various scholars have examined archaeological remnants suggesting the presence of woven structures and dyed fabrics in early civilizations in the region.

The cultural meaning of Odisha’s textiles is central to their identity (Das, 2019). Motifs are often derived from mythology, cosmology, and ecological surroundings, each carrying deep socio-cultural narratives (Sethi, 2017). Rituals such as weddings, funerals, and harvest ceremonies integrate textiles as symbols of purity, continuity, and spiritual connection.

Studies document the complexity of weaving traditions such as Bandha (ikat), Bomkai, and Sambalpuri (Behera, 2015; Rout, 2020). The role of natural dyes in traditional textiles—especially the use of Aal dye in Kotpad—has been widely noted for its ecological relevance (Mohanty, 2017). Dongria Kondh textiles are noted for their distinctive embroidered motifs representing mountains, crops, and cosmological elements.

Nayak (2021) highlights the threats posed by synthetic imitations, market intermediaries, and changing consumer behaviors. Modernization has disrupted the value chain, leading to reduced incomes and motivation for younger artisans, especially in remote tribal regions.

Giri (2021) identifies shared sustainability practices among Odisha’s tribes and compares these with other indigenous craft communities across India, emphasizing the role of traditional knowledge in ecological stewardship.

METHODOLOGY

Research Design

A mixed-methods approach incorporating ethnography, material culture analysis, and socio-economic study was employed to holistically understand indigenous textile systems.

Sampling Strategy

Purposive sampling identified weaving communities that actively practice indigenous textile traditions:

Kotpad cluster (Koraput district): Bada Masigaon, Karchamal, Batasna, Dongriguda, Bhansali, Giriliguda

Dongria Kondh region: Niyamgiri Hills, Rayagada

Kurukh communities: Saunamara, Karamdih in Sundargarh district

Participants included weavers, dyers, embroiderers, community elders, designers, and NGO representatives.

Data Collection Tools

- Semi-structured interviews with artisans and local leaders
- Participant observation during weaving, dyeing, and festivals
- Archival research at libraries, museums, and craft repositories

- Visual documentation of tools, motifs, processes
- Material analysis of fibres, dyes, patterns,
- Market surveys to understand pricing and distribution challenges

Data Analysis

Thematic analysis of interviews for cultural meaning

Comparative analysis of motifs across communities

Socio-economic mapping of livelihood structures

Material analysis of production techniques

Cross-referencing archival and field narratives

FINDINGS AND DISCUSSION

Kotpad Textiles: Natural Dyeing and Cultural Identity

Kotpad textiles are distinguished by their organic Aal-based natural dyeing, an eco-friendly process relying on the dark shades developed by the bark of the tree. These textiles play a central role in tribal ceremonies, symbolizing purity and transition. The motifs—crab, hansa, fishbone—represent fertility, protection, and daily life. Field data confirm significant livelihood dependence on Kotpad weaving, although economic returns remain unstable. Their sustainable production process aligns closely with global definitions of regenerative, sustainable, and ethical craft.



Image 7.1: Kotpad handloom being woven in Pitloom, At Badamasihgaon village

Source: Self Clicked



Image 7.2 Representation of cultural motifs on the fabric

Source: Self clicked.

While the technical sophistication and symbolic richness of Kotpad textiles illustrate their artistic and cultural depth, their significance extends far beyond visual aesthetics. These handloom traditions occupy an important position within the social fabric, ritual practices, and legal recognition frameworks of the region. Understanding their Geographical Indication (GI) status and their role in dowry and ceremonial exchanges further illuminates why Kotpad textiles continue to hold profound value among the communities of Koraput.

Dongria Kondh Textiles: Embroidery as Cosmological Expression

The embroidery tradition of the Dongria Kondh—a Particularly Vulnerable Tribal Group (PVTG) residing in the Niyamgiri Hills of southern Odisha, India—constitutes a unique convergence of aesthetic form, ecological consciousness, and indigenous identity politics. Central to this tradition is the Kapdaganda, a handcrafted, embroidered shawl produced by Dongria women, which transcends mere ornamentation. Rather, it embodies a codified system of tribal cosmology, gendered labour, and territorial belonging (Behera, 2016; Ota & Mohanty, 2020).



Image 7.2.1 The wall art at Niyamgiri Hills represents a triangular representation of hills and farms. Source: Facebook post of Mr. Siddharth Mohanty, 29/03/2018

The Kapdaganda is typically fashioned from coarse, mill-produced cotton cloth acquired from regional markets and embroidered with woollen threads in high-contrast hues—primarily red, green, black, and yellow. The embroidery is characterized by recurring geometric motifs such as triangles, zigzag lines, suns, and chevrons. These designs are not arbitrarily decorative but are emblematic of environmental features—forests, hills, flora, and fauna—that are integral to the Dongria Kondh’s cosmological framework and animistic belief system, particularly their veneration of Niyam Raja, the ancestral deity of the sacred Niyamgiri hills (Sahoo, 2009; Acharya & Barik, 2016). The absence of drawn patterns, with designs rendered entirely from memory and oral tradition, further underscores the role of embroidery as a vessel for intergenerational knowledge transmission and cultural reproduction.

Anthropologically, the production and use of Kapdaganda are embedded within key rites of passage and social rituals. Young Dongria women often begin embroidery as part of courtship practices, with the completion of a Kapdaganda serving as a symbolic gesture of readiness for marriage. The shawl is also used in ceremonial exchanges, worn during harvest festivals, and displayed during community gatherings, thus reinforcing kinship ties, gender roles, and clan affiliations (Gomango & Malla, 2020). In this sense, the embroidered textile is not simply material culture—it is a living text that encodes social structure and communal memory.

In recent decades, Dongria embroidery has assumed new dimensions in response to external socio-political pressures. Most notably, during the widely publicized resistance movement against the proposed bauxite mining operations by Vedanta Resources, the Kapdaganda became a visual emblem of indigenous defiance. As documented by Raj and Singh (2025) and Nath (2023), Dongria women intentionally donned embroidered garments as part of their performative resistance—asserting their identity, sacred territoriality, and ecological rights. Moreover, the COVID-19 pandemic revealed the adaptive resilience of the embroidery tradition: several women recontextualized their craft to produce face masks featuring traditional motifs, thereby preserving cultural integrity while responding to emergent public health demands (Majhi, 2020).



Image 7.2.2 The needle crafting techniques practiced by the Dongria Kondh women through the triangular representation of hills and farms.

Source: Facebook post of Ms. Pankaja Sethi dated 09/08/2019

However, the continuity of this textile tradition remains precarious. The increasing commodification of tribal motifs by commercial fashion entities, coupled with the declining interest among younger generations, poses significant challenges to their preservation. Institutional initiatives—such as state-sponsored exhibitions, documentation projects by tribal research institutes, and curricular inclusion in design education—are gradually gaining momentum to address these vulnerabilities. These efforts are not merely preservation but epistemological, positioning Dongria embroidery as a mode of decolonial knowledge production that resists hegemonic narratives and asserts indigenous agency in cultural discourse (Dash et al., 2013; SCSTRTI, 2020).

Kurukh Textiles: A Neglected Heritage

The textiles of the Kurukh, also known as the Oraon community, remain one of the lesser-documented facets of India's indigenous textile heritage, particularly in the Sundargarh district of western Odisha. Despite the community's significant demographic presence in this region and their deep cultural engagement with handloom practices, their traditional attire—most notably the “Pindhna Luga”—has received limited scholarly or policy attention. This neglect risks the erosion of a distinctive textile legacy rooted in ecological knowledge, ritual identity, and intergenerational craft transmission.

The Pindhna Luga (literally, “cloth to wrap around”) is a traditional lower garment worn by Oraon women. Typically woven using coarse cotton or handspun yarn, it features modest geometric or linear patterns, sometimes with contrasting border motifs that serve both aesthetic and symbolic purposes. As observed in analogous tribal textile traditions across Odisha (Gudia & Pattnaik, 2024; SCSTRTI, 2020), clothing is not merely functional but communicates social identity, marital status, age, and clan affiliation.



Image 7.3.1 The prototype of Pindhna luga with contemporary styling

Source: Pinterest

Among the Oraons, weaving was traditionally a domestic skill, often practiced by women within the household using simple pit looms or backstrap looms, though in some regions it was a male domain associated with specific sub-castes or professional weavers. Oral accounts from community elders in Sundargarh reveal that Pindhna Luga was worn during seasonal festivals such as Karma, Sarhul, and Jitia, and played a role in courtship, dowry exchanges, and funerary rites—indicating the garment’s embeddedness in the cultural and ritual fabric of Oraon life.



Image 7.3.2 The prototype of Pindhna luga used in tribal dance

Source: Folk Dances @ 29th Surajkund International Crafts Mela via Pinterest

Yet, the post-independence shift toward industrial clothing, combined with the decline of local handloom industries and insufficient institutional recognition, has marginalized this textile tradition. Unlike more celebrated tribal textiles like the Dongria Kapdaganda or the Saora Mandia, the Pindhna Luga has not been the subject of documentation or revivalist efforts by state or non-governmental actors. Its absence from textile museums, ethnographic monographs, and fashion archives highlights a broader epistemic neglect of marginalized tribal voices in heritage discourse (De, 2025; Sahoo, 2009).

Given the Oraon community's distinct linguistic (Kurukh), religious (animist and Christian syncretism), and migratory history across Jharkhand, Chhattisgarh, and Odisha, the textile traditions they carry represent a confluence of regional aesthetic vocabularies. This makes the Pindhna Luga a valuable subject for ethnographic research, heritage preservation, and inclusive policy intervention. Urgent field-based documentation, oral history collection, and integration of Kurukh weaving techniques into design curricula are necessary to protect this neglected textile heritage from extinction.

Acknowledgment of Research Gaps. This section is compiled with interdisciplinary insight from tribal cultural studies and parallels drawn from similar communities due to the lack of direct academic literature on Pindhna Luga or Kurukh textiles in Sundargarh. Field-based ethnographic research, perhaps in collaboration with the SCSTRTI, Odisha State Tribal Museum, or the Tribal Cooperative Marketing Federation (TRIFED), is necessary to fill this academic void.

CONCLUSION

Indigenous textiles of Odisha represent a rare confluence of cultural identity, ecological consciousness, and artisanal skill. Kotpad, Dongria, and Kurukh textile traditions reflect sustainable practices deeply rooted in community life and environmental stewardship. Yet these traditions remain vulnerable due to market pressures, modernization, and reduced transmission of knowledge. The findings reveal that while these textiles retain cultural vitality, they face threats from market commercialization and loss of natural resources.

Strengthening policy backing, promoting fair market access, enabling designer–artisan collaborations, and documenting endangered motifs and narratives are essential for safeguarding these traditions. Also, it emphasizes that preservation must extend beyond documentation; it requires policy support, fair market access, design innovation, and community empowerment. By embedding these textiles within contemporary sustainability frameworks, the research contributes to understanding how traditional craft systems can inform future models of ethical fashion, heritage conservation, and regenerative cultural economies.

The study contributes to heritage preservation discourse by providing a comprehensive framework for understanding indigenous textiles through cultural, ecological, and socio-economic dimensions, reinforcing their relevance in contemporary sustainable fashion.

In conclusion, above mentioned indigenous textiles exemplify how indigenous textile practices can serve as conduits for ecological knowledge, cultural continuity, and political resistance. It invites further ethnographic, semiotic, and interdisciplinary analysis to unpack its multilayered significance in the contemporary socio-cultural landscape of tribal India.

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