

Original Article

## NANDANA HAND BLOCK PRINTING: A STUDY OF TARAPUR'S TEXTILE CRAFT THROUGH THE LENS OF INDIAN KNOWLEDGE SYSTEMS

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### ABSTRACT

India's textile crafts are living repositories of indigenous knowledge, combining technical skill, ecological wisdom, and cultural meaning built up over centuries. Nandana hand block printing, practiced by the Chippa community in the Tarapur and Ummedpura villages of Neemuch district, Madhya Pradesh, is among the least documented of India's resist-printing traditions, overshadowed by better-known crafts such as Ajrakh, Bagh, and Dabu. This paper examines Nandana through the framework of Indian Knowledge Systems (IKS), showing how the craft integrates material science, hereditary pedagogy, symbolic design, and environmental care into a single, coherent tradition. Drawing on a systematic review of published literature, reports, and documented artisan practice, this study traces Nandana's historical evolution, the Chippa community's knowledge transmission, the indigenous chemistry of dyes and mordants, the symbolism of block-carved motifs, and the ecological logic of the production process. It also highlights the threats facing the craft, that is, declining artisan numbers, industrial competition, and few documentations, alongside emerging revival efforts. The paper argues that Nandana should be understood not as a decorative technique but as a dynamic, community-owned knowledge system with its relevance in sustainable design and heritage conservation.

**Keywords:** Indian Knowledge Systems, Nandana Print, Tarapur, Chippa Community, Resist Printing, Natural Dyeing, Sustainable Textiles

### INTRODUCTION

India's textile traditions represent living repositories of indigenous knowledge, developed through centuries of empirical observation, experimentation, and intergenerational transmission. Long before the emergence of formal scientific disciplines, communities refined spinning, weaving, dyeing, and printing techniques using locally available fibres, natural dyes, and simple tools, preserving practices that proved technically effective and environmentally sustainable Bhatia (2017). These traditions extend beyond craftsmanship, integrating material science, ecological understanding, cultural values, and hereditary learning. Such characteristics align closely with the concept of Indian Knowledge Systems (IKS), which recognizes knowledge preserved through practice, oral transmission, and lived experience as systematic and intellectually rigorous Mahadevan et al. (2022).

India's textile heritage reflects this integration of science, culture, and sustainability. Cotton cultivation, spinning, and weaving flourished during the Indus Valley Civilization, while travellers from Greece, Rome, Persia, and China documented the exceptional quality of Indian textiles Gillow and Barnard (2008). Across the country, regional traditions such as Ajrakh in Gujarat, Kalamkari in

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Andhra Pradesh, Bagh in Madhya Pradesh, and Dabu in Rajasthan evolved according to local ecological conditions, available raw materials, and community practices, demonstrating sophisticated knowledge of natural dyeing and resource management [Karolia \(2019\)](#), [Karolia and Buch \(2008\)](#).

Among these traditions, Nandana hand block printing, practised for nearly four centuries in Tarapur and Ummedpura of Neemuch district, Madhya Pradesh, remains one of the least documented. Historically associated with the Bhil and Bhilal communities rather than royal patronage or export markets, Nandana developed as a community-based textile tradition distinguished by its double-sided indigo resist printing, intricate motifs, and multi-stage natural dyeing process [Chishti \(2010\)](#), [Chattopadhyay \(2005\)](#). Its floral, botanical, and geometric motifs symbolise prosperity, fertility, protection, and social identity, making textiles important carriers of cultural memory as well as functional objects [Singh \(2018\)](#). The production process including harda treatment, mordanting, resist printing, repeated indigo dyeing, washing, and finishing depends on artisans' sensory judgement of humidity, paste consistency, and dye behaviour, reflecting generations of accumulated empirical knowledge rather than instrument-based measurement [Samanta and Agarwal \(2009\)](#).

Equally significant is the ecological foundation of the craft. Nandana employs locally grown cotton, plant-based dyes, biodegradable resist materials, and manual production techniques, resulting in relatively low resource consumption and minimal environmental impact [Gulrajani \(2001\)](#), [Mishra and Jain \(2024\)](#). These practices emerged from practical adaptation to local ecological conditions rather than from modern sustainability discourse, illustrating how traditional textile systems embodied principles now associated with circular economy and sustainable production [Verma and Joshi \(2024\)](#).

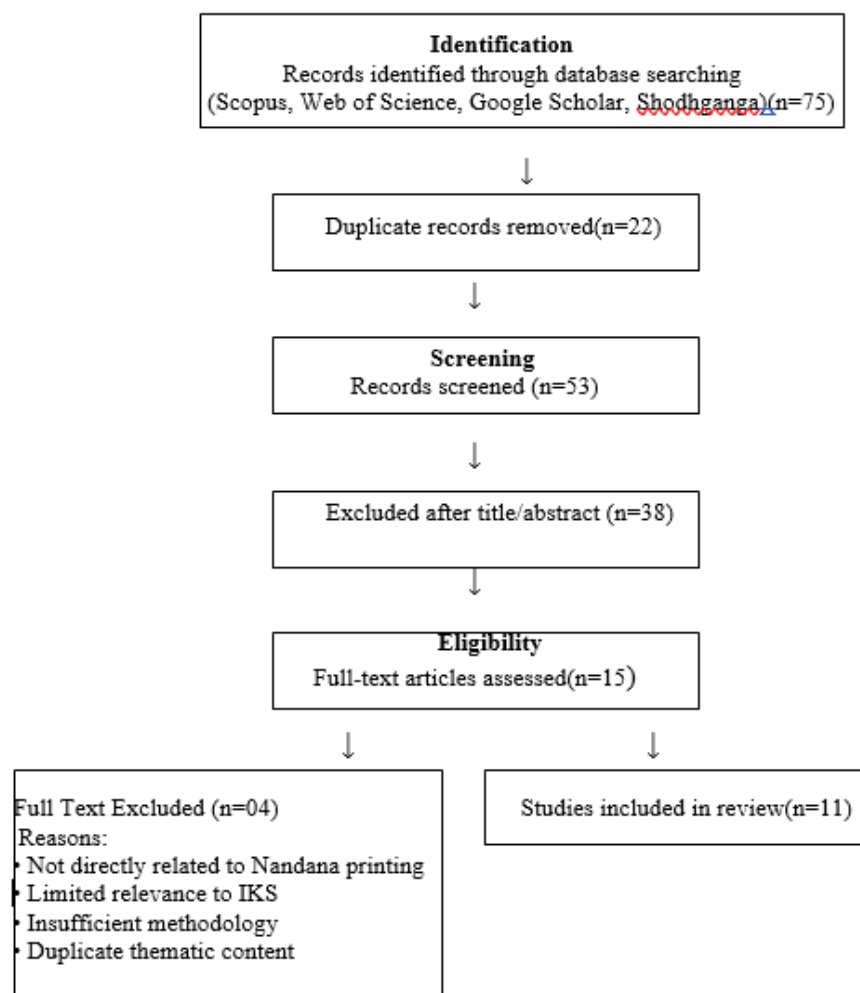
Despite its cultural and ecological significance, Nandana faces serious challenges. Machine-printed substitutes, declining economic returns, changing occupational aspirations among younger generations, and the predominance of orally transmitted knowledge have weakened the continuity of the tradition [Kumar and Singh \(2023\)](#). As hereditary artisans leave the profession without successors, specialised technical knowledge accumulated over generations risks disappearing, highlighting the importance of safeguarding intangible cultural heritage [UNESCO. \(2003\)](#).

Although research on Indian Knowledge Systems has expanded considerably, scholarly attention within textile studies has focused primarily on crafts such as Ajrakh, Bagh, Kalamkari, and Dabu, leaving Nandana comparatively underrepresented [Barnes \(1997\)](#). Existing studies generally emphasise either technical processes or regional craft documentation, with limited attention to the interconnected relationships among indigenous science, ecological sustainability, hereditary pedagogy, symbolic design, and community knowledge that define the tradition.

This study addresses this gap by examining Nandana hand block printing through the framework of Indian Knowledge Systems. It argues that Nandana should be understood not merely as a regional textile craft but as an integrated knowledge system in which indigenous material science, ecological wisdom, cultural symbolism, and intergenerational learning function together. Specifically, the study contributes by (i) documenting the historical and cultural evolution of Nandana, (ii) analysing its indigenous technical knowledge and ecological practices, (iii) examining the role of the Chippa community in preserving hereditary knowledge, and (iv) positioning Nandana within the broader discourse on sustainable textile heritage and Indian Knowledge Systems.

## METHODOLOGY

This study adopted a qualitative systematic literature review (SLR) to examine Nandana hand block printing through the lens of Indian Knowledge Systems (IKS). The review followed the PRISMA 2020 flowchart guidelines to ensure a systematic and transparent selection process. Literature published up to March 2026 was retrieved from Scopus, Web of Science, Google Scholar, and Shodhganga using keywords such as Nandana printing, Indian Knowledge Systems, Chippa community, natural dyes, and resist printing. After removing duplicates, studies were screened based on predefined inclusion and exclusion criteria. Peer-reviewed articles, books, theses, government reports, and credible institutional publications relevant to Nandana, indigenous textile knowledge, and sustainability were included, while non-scholarly and irrelevant sources were excluded. The selected literature was analysed using thematic analysis under six themes: historical evolution, indigenous technical knowledge, knowledge transmission, motifs and symbolism, sustainability, and contemporary challenges. A PRISMA flow diagram summarizes the literature selection process.

**Figure 1**

**Figure 1 PRISMA 2020 Flow Diagram Illustrating the Literature Selection Process for the Systematic Review (Adapted from Page et al., 2021)**

Because research on Nandana printing is limited, books, government reports, and institutional publications were included alongside peer-reviewed journal articles to provide comprehensive coverage of the topic.

## **HISTORICAL AND GEOGRAPHICAL CONTEXT OF TARAPUR**

Nandana printing developed over several centuries in Tarapur and Ummadpura, in the Jawad tehsil of Neemuch district, Madhya Pradesh. Neemuch district is situated at the Malwa plateau, with fertile black cotton soils and abundant dye-yielding flora, which provided an ideal base for textile production, and locally available harda, indigo, tamarind seeds, clay, jaggery, and iron-rich earth let artisans build an entirely local dyeing and resist-printing technology.

Documentary evidence of its origins is scarce; oral histories place the practice at roughly four to five centuries, transmitted through community memory rather than written records. Its emergence is closely tied to the migration of the Chippa community, hereditary printers and dyers found across Rajasthan, Gujarat, and Madhya Pradesh, whose name likely derives from the Hindi *chhapna*, "to print." As Chippa families migrated across western India, printing methods and dyeing knowledge spread with them, letting regional styles diverge while sharing common technical roots. The name Nandana itself is linked, in artisan oral testimony, to the indigo dye vat central to the process: Chippa informants in Tarapur reported that this vat was traditionally called a *naand* in Hindi, meaning a pot or hollow receptacle, and that repeated dipping of cloth in the *naand* gave the craft its name [Chunari Geneva. \(2020\)](#).

Though related to Dabu, Ajrakh, and Bagh, Nandana developed its own identity shaped by the Bhil and Bhilal communities it served, catering to local tribal life, weddings, festivals, and harvests with motifs and colours signaling identity and community association. Tarapur's relative isolation preserved its techniques largely intact but limited its commercial reach, and as industrial printing expanded through the twentieth century, machine-made cloth replaced handcrafted textiles, leaving only a small number of hereditary practitioners today. Tarapur remains one of the few centers still practicing Nandana in its traditional form, with artisans holding irreplaceable knowledge in dye chemistry, block carving, and symbolic design.

### NANDANA AS AN INDIAN KNOWLEDGE SYSTEM

Indian Knowledge Systems treat nature, society, technology and culture as interconnected rather than separate domains. Traditional crafts express this holistic theory well, fusing empirical science, creativity, and community values in their everyday practice. Nandana exemplifies this: it is not merely a printing technique but a living system of accumulated experience and indigenous understanding.

Knowledge is transmitted almost entirely through experiential learning. Children absorb skills gradually first through observation, later through increasingly complex responsibilities, acquiring the reasoning behind each technique alongside cultural identity, through repeated observation rather than written instruction.

Empirical observation underlies every stage of production. Artisans judge paste consistency, dye maturity, and fibre behavior through sight, touch, and smell, applying methods refined across generations rather than standardized measurement. Harda treatment illustrates this: it enhances dye uptake and fastness, a mechanism mastered through experimentation long before its chemistry was understood.

Nandana also fuses technology and aesthetics: block design determines motif clarity, and dye concentration shapes tonal variation, making technical precision and artistic expression inseparable. The carved wooden blocks function as material archives of design history as much as production tools.

Here, knowledge is collectively rather than individually owned, with improvements emerging through shared family experimentation. The tradition is also dynamic; artisans have adapted motifs and products for contemporary markets while retaining core principles. Thus, Nandana is an integrated system of material science, design, and cultural continuity, whose survival is a matter of preserving an intellectual heritage relevant to sustainable production today.

### THE CHIPPA COMMUNITY AND KNOWLEDGE TRANSMISSION

The continuity of Nandana depends on the Chippa community, hereditary printers and dyers whose expertise in textile preparation, natural dyeing, block printing, and resource management has been sustained across Rajasthan, Gujarat, and Madhya Pradesh. Knowledge is transmitted through family-based apprenticeships, where children gradually learn each stage of production through observation and practice. This process passes on not only technical skills but also values of resource conservation, precision, and honesty. Knowledge is collective, with dye recipes and printing techniques preserved orally and adapted to local water quality and seasonal conditions. However, industrialization, changing aspirations among younger generations, and the absence of systematic documentation threaten this living tradition. Although researchers and NGOs have begun recording artisan knowledge, the long-term survival of Nandana ultimately depends on sustaining the Chippa community and its intergenerational knowledge transfer.

Field-based studies further illustrate how hereditary knowledge continues to be transmitted within Chippa families despite growing economic pressures. [Karolia and Mogha \(2025\)](#) document that artisans in Tarapur and Ummedpura begin learning the craft during childhood through observation and gradual participation in textile preparation, printing, and dyeing. While production systems vary from small household workshops to larger family enterprises, all depend on orally transmitted technical knowledge accumulated over generations. Similarly, [Edrisi et al. \(2021\)](#) highlight the economic challenges facing Nandana artisans, including low wages and rising material costs, which threaten the continuity of hereditary craftsmanship. These studies demonstrate that the resilience of Nandana depends not only on preserving technical skills but also on sustaining the community-based systems through which knowledge is transmitted across generations.

### MATERIALS, MORDANTS, AND INDIGENOUS TECHNICAL KNOWLEDGE

Nandana's technical sophistication lies in its systematic use of natural fibres, plant-derived chemicals, mineral mordants, and organic resist materials, refined through centuries of empirical observation outside any formal scientific institution.

- 1) **Cotton:** Cotton is the preferred fibre for its affinity with natural dyes and its capacity to withstand repeated washing and printing, reflecting the black-cotton-soil agriculture of central India. Cotton fabric absorbency affects print outcomes; therefore, artisans select fabric weight by design complexity and pre-printing treatments that remove starch and dust to improve dye fixation.

- 2) **Harda:** Cotton is treated with harda (*Terminalia chebula*), whose high tannin content enhances dye absorption and deepens colour. Dried fruits are crushed, boiled, and filtered into a solution in which the fabric is soaked and dried unwashed. These tannins form complexes with metallic mordants such as iron and alum, which strengthen dye attachment to cellulose.
- 3) **Natural Mordants:** Alum (fitkari) produces brilliant reds and oranges with alizarin dyes such as madder. Iron mordant is prepared by fermenting iron scraps with jaggery and water in earthen pots over weeks, yielding black, grey, brown, and olive shades depending on tannin concentration and exposure time. Lime regulates pH and improves fibre-mordant interaction, with artisans balancing the quantity by experience to avoid weakening the fabric.
- 4) **Natural Dyes:** Indigo requires fermentation and develops its blue colour only after oxidation on exposure to air, a transformation artisans learned to manage by monitoring colour and smell. Madder yields rich reds with alum, and turmeric provides bright yellow with modest fastness. Additional colours come from pomegranate rind, catechu, henna, and myrobalan, chosen by season and mordant compatibility.
- 5) **Resist Paste, Blocks, and Process Control:** The resist paste combines black clay, wheat flour, gum, and lime; too thick blurs impressions, and too thin bleeds beyond the design. Wooden printing blocks, carved from durable hardwood, embody years of design refinement and often survive as family heirlooms. With no instrumentation, artisans regulate drying time, dye concentration, and fermentation by observation, adapting seasonally.
- 6) **Printing Process:** The Nandana printing process roughly involves twelve discrete operations: fabric preparation with castor oil and soda ash, washing and sun-drying, an initial block impression using alum and natural gum, a first wash to fix the motif, dyeing for red shades with alizarin and dhawda flowers, starching, wax-resist printing with berja or rajan resin over teakwood blocks, repeated indigo dipping, wax removal by boiling, overprinting with lime and gum paste, a pomegranate-rind dye bath to fix blacks and greens, and a final sequence of alum, soda, and sun-fixing. Each motif requires as many as four separate impressions to build up its layered coloration, and a single length of Nandana-printed cloth can take roughly 10 days to complete a labor intensity that helps explain why artisans' daily returns remain modest even where finished cloth commands a reasonable market price [Karolia and Mogha \(2025\)](#). Collectively, these operations demonstrate the sophisticated empirical knowledge embedded within Nandana, where artisans regulate chemical reactions, dye fixation, and colour development through sensory observation rather than standardized instrumentation.

## BLOCK CARVING, MOTIFS, AND CULTURAL SYMBOLISM

The distinctive visual identity of Nandana printing lies in its rich hand-carved wooden blocks and symbolic motifs. More than decorative patterns, these motifs reflect the cultural beliefs, social traditions, and ecological understanding of the communities that have practiced the craft for generations. Each design serves as a visual language through which identity, tradition, and collective memory are preserved and communicated.

- 1) **Wooden Printing Blocks:** Nandana printing uses different categories of wooden blocks for each stage: outline blocks define a motif's structure, filler blocks add color and texture, and resist blocks protect selected areas during dyeing. Creating them is itself a specialized craft; block makers draw on detailed knowledge of wood selection, carving, and pattern repetition to ensure consistent impressions and the rhythm essential to hand block printing. Many of the blocks used in Nandana printing are themselves sourced from specialized carving centres outside the region, particularly Pethapur in Gujarat, emphasizing that even a highly localised craft depends on trans-regional networks of specialized artisanship.
- 2) **Motifs as Expressions of Culture:** The motifs used in Nandana are rooted in the everyday lives, beliefs, and natural surroundings of the local communities. Rather than serving only ornamental purposes, they embody cultural narratives that have been transmitted across generations. Among the most prominent are Mirch, Champakali, Amba, Jalam Buta, and Dholamaru, each carrying its own significance.
- 3) **Mirch:** Symbol of rural life inspired by the shape of a chilli, the Mirch motif reflects the close relationship between textile design and the region's agrarian lifestyle, illustrating how ordinary elements of rural life become enduring design inspirations. The stem is mostly printed in Ochre and the chili in red and white.
- 4) **Champakali:** Youth and femininity derived from the bud of the champa flower, Champakali symbolizes youth and femininity. This motif was traditionally associated with unmarried girls, demonstrating how clothing once marked social identity.
- 5) **Amba:** Prosperity and new beginnings inspired by mango blossoms, the Amba motif represents fertility and prosperity and was commonly printed into garments for weddings and ceremonial occasions, making Nandana textiles important cultural artifacts tied to life-cycle rituals. The amba buta is usually in two sizes: bada amba and chita amba. It is traditionally given to the sisters by brothers on Raksha Bandhan, Diwali and Teej festivals.



- 6) **Jalam Buta:** This motif features interconnected floral forms symbolizing growth and continuity, reflecting the intimate relationship between artisan communities and their natural environment and the ecological consciousness embedded in traditional aesthetics.
- 7) **Dholamaru:** This motif represents a romantic theme, combining two designs, named after the legendary Rajasthani love story of Prince Dola and Princess Maru. The evolving nature of Nandana printing shows that traditional crafts continuously adapt to new influences and market preferences while preserving their identity.
- 8) **Motifs as Carriers of Indigenous Knowledge:** Beyond visual appeal, each motif functions as a repository of indigenous knowledge, preserving stories and social values within textile design. Through repeated use in daily and ceremonial life, these motifs have become embedded in the community's collective memory, making Nandana textiles enduring mediums for transmitting cultural knowledge as a living Indian Knowledge System.

Figure 2

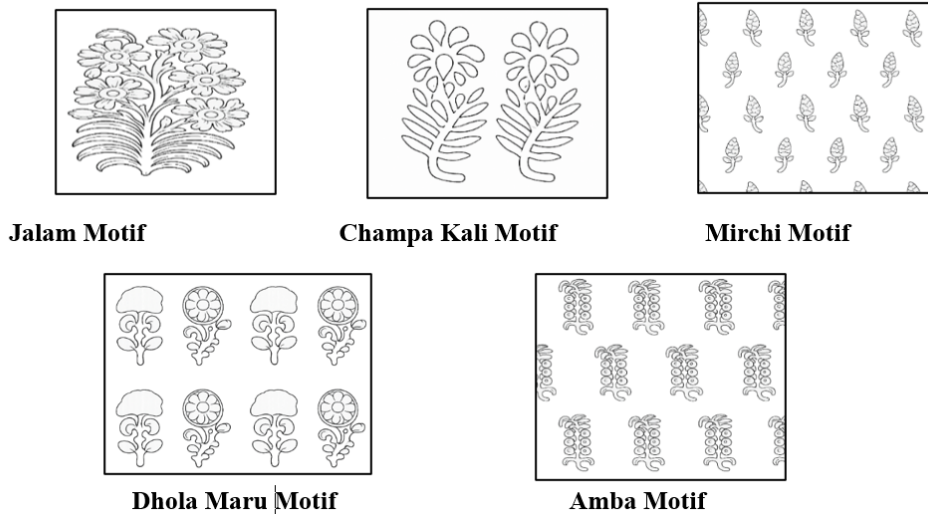


Figure 2 Schematic Motifs of Nandana Prints

## TRADITIONAL ECOLOGICAL KNOWLEDGE AND SUSTAINABILITY

Nandana exemplifies how indigenous production systems achieved environmental responsibility long before sustainability became a global concern, relying on natural fibers, biodegradable materials, and low-energy manual processes. Viewed through Traditional Ecological Knowledge (TEK), the cumulative understanding that communities develop through prolonged interaction with their environment, Nandana treats environmental preservation as inseparable from artistic and technical practice.

Cotton, the principal fiber, is renewable, biodegradable, and sourced locally. Natural dyes, such as harda, indigo, pomegranate rind, catechu, and turmeric, are drawn from regional biodiversity and regenerate naturally, producing far less pollution than synthetic alternatives.

Water is treated as a shared resource: settlements historically located near rivers or wells, soft water was preferred for dye reaction, and rinse water was reused where possible. In Tarapur and Ummedpur specifically, this water dependence centers on the Gambhiri river, whose mineral content is reported to affect the vibrancy of the indigo and alizarin dyes produced along its banks, illustrating how site-specific hydrology, and not merely a generic preference for soft water, has shaped the technical character of this particular printing tradition. Production is manual and seasonally timed to lower environmental impact, while waste is reduced through reuse: leftover dye is reused for lighter shades, damaged cotton becomes cleaning cloth, and worn blocks are repaired instead of discarded.

Artisans adjust drying and fermentation to humidity and temperature, not machines. Natural dyeing also supports dye-plant knowledge, although climate change, urbanization, and synthetic dyes now threaten it; even so, Nandana remains a strong model of ecological, economic, and cultural sustainability.

## NANDANA IN COMPARATIVE PERSPECTIVE

Comparing Nandana with Ajrakh, Dabu, and Bagh places it within India's wider block-printing landscape. All four depend on natural dyes, biodegradable resist materials, and manual printing, but Nandana stands out for its continued dependence on strictly

local raw materials and limited commercialization, which has preserved traditional practice with less industrial modification than elsewhere. Ajrakh and Bagh have benefited from extensive academic research, government support, and international exhibitions; Dabu has similarly been revived through designer collaborations. Nandana, by contrast, remains comparatively undocumented and commercially marginal, reflecting differences in historical visibility rather than any lesser artistic value, making focused documentation especially urgent.

**Table 1**

| <b>Table 1 Comparative Perspective of Nandana, Ajrakh, Dabu &amp; Bagh</b> |                                                                                                              |                                                                                        |                                                                           |                                                                                        |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Aspect</b>                                                              | <b>Nandana</b>                                                                                               | <b>Ajrakh</b>                                                                          | <b>Dabu</b>                                                               | <b>Bagh</b>                                                                            |
| <b>Region</b>                                                              | Jawad (Tarapur & Ummedpura), Neemuch District, Madhya Pradesh                                                | Kutch (Gujarat) and Barmer (Rajasthan)                                                 | Bagru, Akola and Pipar, Rajasthan                                         | Bagh, Dhar District, Madhya Pradesh                                                    |
| <b>Community</b>                                                           | Chippa                                                                                                       | Khatri                                                                                 | Chippa                                                                    | Khatri                                                                                 |
| <b>Printing Technique</b>                                                  | Resist and mordant block printing with repeated indigo dyeing (traditionally producing double-sided effects) | Multi-stage resist and mordant block printing (Ajrakh process)                         | Mud-resist ( <i>Dabu</i> ) block printing followed by indigo dyeing       | Mordant block printing using alum and iron, followed by alizarin dyeing                |
| <b>Traditional Colour Palette</b>                                          | Indigo blue, red, black and white/cream                                                                      | Indigo blue, madder red, black and white                                               | Indigo blue, black, white and earthy brown                                | Red, black and white/cream                                                             |
| <b>Natural Dye Materials</b>                                               | Natural indigo, alum, iron acetate, myrobalan, alizarin/madder                                               | Natural indigo, madder/alizarin, pomegranate rind, iron acetate, alum, myrobalan       | Natural indigo, mud resist (clay, lime, gum, wheat chaff), iron black     | Alum, alizarin, iron acetate, myrobalan                                                |
| <b>Characteristic Motifs</b>                                               | Mirch, Champakali, Amba, Jalam Buta, Dholamaru, floral sprays, creepers, geometric forms                     | Eight-pointed stars, rosettes, jaal, trellis, Islamic geometric patterns, floral vines | Floral butis, paisley ( <i>kairi</i> ), creepers, jaal, geometric repeats | Chameli, Leheriya, Saj, jasmine, floral vines, geometric borders                       |
| <b>Traditional Products</b>                                                | Lugda, Odhani, Turban cloth, Sarees, Dupattas, Dress materials, Home furnishings                             | Ajrakh shawls, Dupattas, Stoles, Sarees, Kurtas, Yardage, Home furnishings             | Sarees, Dupattas, Dress materials, Scarves, Bed covers, Home furnishings  | Sarees, Dupattas, Dress materials, Stoles, Bed covers, Cushion covers, Table linen     |
| <b>Distinctive Feature</b>                                                 | Double-sided indigo appearance created through repeated resist and mordant printing                          | Complex 14–16 (or more) stage printing with exceptional geometric precision            | Characteristic cracked ( <i>Dabu</i> ) effect created by mud resist       | Bold red-and-black designs with crisp white highlights produced through mordant dyeing |

The comparison highlights Nandana's distinctive contribution to Indian Knowledge Systems by demonstrating how indigenous technical knowledge, ecological adaptation, and hereditary learning operate as an integrated system. Its continued reliance on natural materials, community-based knowledge transmission, and low-impact production also reinforces its relevance to sustainable textile scholarship, illustrating how traditional crafts can inform contemporary approaches to responsible and heritage-based fashion.

## CHALLENGES, REVIVAL, AND FUTURE PROSPECTS

Despite its significance, Nandana faces mounting pressure from changing socioeconomic conditions, industrial competition, and weakening hereditary transmission, requiring a response that combines heritage conservation, artisan empowerment, and market development.

The number of artisans is falling as younger family members choose urban jobs, while cheap machine-printed copies have reduced the demand for hand-printed cloth. Jawad once had several hundred printing families in the 1960s, but very few families still practice the craft today, marking a steep decline in survival. Documentation remains far less than for Ajrakh, Bagh, or Dabu, leaving academic recognition and museum visibility weak, combined with the fact that much knowledge exists only in oral form and

risks disappearing unless field surveys are prioritized. Many consumers are also unaware of Nandana's cultural value; a gap in education and storytelling could help close this.

Economically, the craft's many labor-intensive stages make production costly, while artisans contend with unpredictable prices and dependence on intermediaries, making fair remuneration harder without direct market access.

Nonetheless, revival efforts are emerging. Researchers, designers, and NGOs are increasingly documenting artisan knowledge and building digital platforms that raise visibility. Government programmes, such as the National Handloom Development Programme, the Samarth scheme, and cluster development initiatives, offer a template for targeted support; Geographical Indication recognition could strengthen authenticity claims and commercial value. Institutional support mainly comes through state bodies and exhibitions (Madhya Pradesh Hastashilp Evam Hathkargha Vikas Nigam Limited, and periodic exhibitions organized through DC Handlooms and Hastashilp Melas), but it does not reach all artisans equally. Smaller household units still depend on limited channels, while larger, better-funded units are better able to use exhibitions and designer collaborations.

The global shift toward sustainable fashion is a further opportunity, since consumers increasingly seek products that are ethical, handcrafted, and qualities that Nandana already possesses. Digital tools and e-commerce could further aid preservation while connecting artisans directly to consumers. Ultimately, Nandana's future rests on balancing preservation with innovation, documentation, interdisciplinary research, and cross-sector collaboration together offer the clearest path forward. Preserving Nandana is an investment in cultural diversity and community resilience, not just a regional textile technique.

## LIMITATIONS

This study is based on a systematic review of published literature and documented institutional sources. Because scholarly literature on Nandana hand block printing remains limited, books, government reports, and credible institutional publications were included to ensure comprehensive coverage. Although these sources provide valuable insights, the absence of primary fieldwork and artisan interviews limits direct validation of contemporary practices. Future research incorporating ethnographic documentation, material analysis, and community-based studies would further strengthen understanding of this indigenous textile tradition.

## CONCLUSION

Nandana hand block printing is one of India's lesser-documented textile traditions, preserved for centuries by the Chippa community in the villages of Tarapur and Ummedpura. Viewed through Indian Knowledge Systems, it emerges as a living repository of indigenous science, environmental ethics, and community-based learning. Every stage of production reflects a systematic understanding built through generations of empirical observation, which contemporary textile science increasingly corroborates. The tradition's fusion of craft and ecology is equally significant: biodegradable materials and manual production anticipated circular economy principles long before those terms existed. Its cultural dimension matters too, since carved blocks and hereditary knowledge sustain community identity while declining artisan numbers and weakening transmission place this heritage at real risk.

Even so, the craft's prospects are not bleak. Rising interest in sustainable fashion and cultural heritage creates real opportunity for revival through collaboration among artisans, designers, and institutions. Comparison with Ajrakh, Dabu, and Bagh confirms that Nandana's limited documentation reflects historical circumstance rather than lesser value. Preserving Nandana means preserving a living knowledge system that enriches India's cultural identity and textile wisdom. The findings also provide a foundation for future interdisciplinary research, heritage policy, and sustainable design initiatives aimed at safeguarding India's lesser-documented textile traditions.

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