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Visual Language and Cultural Symbolism in Ritual Art: A Comparative Study of Mandana and Alpana

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ABSTRACT

Ritual floor and wall paintings transform domestic surfaces into spaces of devotion across South Asia, yet the Mandana tradition of Rajasthan and the Alpana traditions of Bengal and Bangladesh are generally studied separately. This qualitative comparative documentary study examines how ecology, material practice, visual grammar, semiotic logic, ritual function, gendered transmission and contemporary commercialization shape their similarities and differences. A purposively selected corpus of eight documentary sources on the traditions was analyzed alongside visual sources and Peirce's icon-index-symbol framework. Comparative thematic coding produced five findings. First, local materials are associated with distinct visual grammars: Mandana uses mineral pigments and geometric organization, whereas Alpana uses rice paste and a continuous freehand line. Second, Mandana privileges convention-dependent symbolic geometry, while Alpana relies more strongly on iconic and indexical signs such as fish, vegetation and Lakshmi's footprints. Third, formal divergence coexists with functional convergence because both traditions operate as domestic devotional practices concerned with auspiciousness, protection and petition. Fourth, both depend on intergenerational transmission among women and are vulnerable to changes in domestic architecture and community life. Fifth, commercialization can support visibility and livelihood while detaching motifs from ritual context. The comparison offers a focused semiotic account and identifies preservation as a problem of sustaining practice, meaning and transmission, not merely conserving motifs.

INTRODUCTION

Long before museums and galleries began collecting South Asian folk art, women across the subcontinent created complex visual traditions on household floors, thresholds and walls. Kolam, rangoli, muggulu, Mandana, Alpana and related practices developed in distinct regions, yet they share an association with domestic space, ritual observance and auspiciousness (Dutta, 2011). This study focuses on two geographically distant but materially comparable traditions: Mandana in Rajasthan and Alpana in Bengal and Bangladesh. Both employ temporary designs made on earthen domestic surfaces but their visual vocabularies differ markedly.

Mandana and Alpana are predominantly associated with women's practice and with rites of passage, seasonal observances, household protection and good fortune (Asia InCH, n.d.; Dutta, 2011; Singh & Pant, 2024). A Mandana courtyard and an Alpana threshold, however, initially appear to belong to different aesthetic systems. Mandana is commonly described through angular geometry, grids and mineral pigments, whereas Alpana is associated with rice paste, continuous freehand lines and recognizable vegetal, animal and devotional motifs. This contrast raises the central research question: how do two ritual art forms that share a broad cultural and domestic matrix develop different visual languages and what do those languages reveal about material conditions, social transmission and sacred meaning?

Existing scholarship documents the traditions primarily within separate regional fields. Design researchers discuss

Mandana in relation to geometric syntax and material practice; historians, folklorists and cultural commentators discuss Alpana in relation to brata observance, Bengali cultural identity and institutional transformation. Within the selected corpus, sustained comparison between Mandana and Alpana remains limited. Consequently, it remains unclear how far the divergence between Mandana's geometric structure and Alpana's freehand line reflects ecology and available media, differences in cosmological or petitionary emphasis or an interaction between these factors. Scholarship also tends to treat the decline and revival of each practice as a separate regional issue, even though both face parallel pressures from urbanization, changes in domestic architecture, weakening household apprenticeship and commercialization.

The analysis uses Peirce's categories of icon, index and symbol to translate descriptive design scholarship into a comparative conceptual framework (Peirce, 1931–1958, 1940/1955).

The study contributes theoretically by re-examining Dutta's (2011) distinction between geometry-dominant and line-dominant floor-painting traditions through a semiotic lens. Building on Dutta's (2011) concern about the loss of ritual meaning through commercialization, it contributes a comparative account of why safeguarding requires attention to surfaces, materials, ritual contexts and intergenerational learning as well as motifs. The evidence does not support direct policy prescriptions but it provides a basis for future fieldwork, documentation,

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educational design and culturally sensitive craft-revival initiatives.

Objectives of the Study

The following objectives guide the study:

1. To examine the historical and etymological backgrounds of Mandana and Alpana as regionally distinct manifestations of the wider pan-Indian practice of ritual floor and wall painting.
2. To compare the formal visual vocabularies of the two traditions, including geometry, line quality, motif range, application medium and color palette.
3. To interpret the sociocultural and cosmological meanings encoded in the visual grammar of each tradition.
4. To examine the ritual functions of Mandana and Alpana within their community contexts, particularly devotional practice, household protection and wish fulfilment.
5. To analyze the gendered systems of transmission in both traditions, including the role of informal female-led apprenticeship in their continuity and documentation.
6. To identify the contemporary pressures created by urbanization, scarcity of traditional media and commodification, as well as the ways communities adapt to changing conditions.
7. To synthesize the commonalities and divergences between Mandana and Alpana in order to address the gap in direct comparative research identified in the literature review.

LITERATURE REVIEW

The selected literature approaches South Asian ritual floor and wall painting through design, folklore, cultural history and heritage concerns. Das and Sudha (2020) survey several Indian folk-painting traditions, while Dutta (2011) discusses floor painting across regions, including Mandana and Alpana. These broad accounts provide a comparative starting point, but sustained analysis of the relationship between the two traditions remains limited within this corpus. The review establishes their historical and material contexts, evaluates evidence on ritual function, transmission and commercialization, and explains the semiotic basis of the present comparison.

Historical and Material Context of Mandana

Mandana is associated with eastern Rajasthan and parts of Madhya Pradesh, particularly with Meena communities and, in related forms, with Bhil and Shrimali Brahman communities (Suhag & Rawat Sharma, 2021). The term is generally connected with mandan, meaning to decorate (Dutta, 2011). Accounts link the practice to seasonal observance, agricultural cycles, weddings and the renewal of mud-walled dwellings. Claims that Mandana motifs descend directly from pre-Vedic or Indus Valley forms remain difficult to verify; Dutta (2011) discusses these proposed connections, while Suhag and Rawat Sharma (2021, p. 40) report the publication of Mandana

designs in the 1901 Jaipur Mardumshumari report. That documentary reference does not establish an uninterrupted lineage from prehistoric motifs. Traditional surfaces and media include cow-dung plaster, local clay, red ochre, lime and chalk, applied with twigs, cotton-thread tools or reed brushes (Singh & Pant, 2024; Suhag & Rawat Sharma, 2021). These materials help explain the contrast between white pigment and earthen grounds seen in surviving examples.

Figure 1 shows the relationship between the earthen support, contrasting pigment and the circular-square organization of a Mandana composition.

Historical and Material Context of Alpana

Alpana developed across the deltaic region of Bengal, including present-day West Bengal and Bangladesh and is closely associated with brata observances and seasonal domestic ritual. Dutta (2011) discusses the proposed Sanskrit derivation from alimpana, meaning to plaster or coat but also considers a non-Sanskrit origin; Asia InCH



Figure 1: Mandana on an earthen surface at Shilpgram, Udaipur, combining a square-centred floral unit, triangular bands, dots, curved vines and an enclosing circular boundary.

Note. Adapted from Mandana art work at Shilpgram, Udaipur, by Chinmayisk, 2015b, Wikimedia Commons (https://commons.wikimedia.org/wiki/File:Mandana_art_work_at_shilpgram,_udaipur.JPG). CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/>). Image cropped.

(n.d.) presents an indigenous derivation associated with ali, meaning an embankment or wall. The etymology is therefore treated here as debated rather than settled. Asia InCH (n.d.) presents Alpana as part of an extensive Bengali brata tradition, while the conference abstract by Das (2013) describes it as loka shilpa embedded in rural social and cultural life. The conventional medium is a white paste made from rice, applied to an earthen or cow-dung-plastered surface with the fingers or a small cloth tool. The resulting designs are composed through

continuous freehand movement rather than a measured grid. Alpana also acquired an institutional and public history through Santiniketan and the work of artists associated with Kala Bhavana, which helped move it from an unnamed domestic practice into wider artistic and cultural discourse (Biswas, 2025).

Figure 2 locates Alpana within a broader Bengali ritual-sign environment that includes wall painting, doorway motifs, shraddha-related signs and brata-associated graphic units.

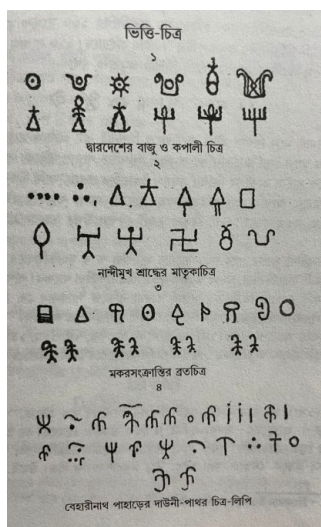


Figure 2: Bengali reference plate showing bhitti-chitra, doorway motifs, Nandimukh shraddha matrika signs, Makara Sankranti brata signs and a comparative stone-script sequence.

Note. Reproduced from Banglar brata o alpana [Ritual vows and alpana of Bengal], edited by K. Choudhury, 2015, Dey's Publishing.

Ritual Function and Gendered Transmission

Both bodies of literature describe floor painting as an efficacious ritual practice rather than as decoration alone. Asia InCH (n.d.) interprets brata-associated Alpana through petitionary and imitative logic: the represented form directs attention toward a desired condition or outcome. Dutta (2011) similarly connects Alpana motifs with wish fulfilment and auspicious presence. Mandana scholarship emphasizes protection, the avoidance of ill omen and the preparation of domestic space for seasonal and life-cycle rituals (Singh & Pant, 2024; Suhag & Rawat Sharma, 2021). Although the two literatures use different vocabularies, they agree that making the image is itself part of ritual performance.

The sources support an association between ritual painting and women's informal learning but they provide different levels of detail. Suhag and Rawat Sharma (2021) explicitly describe the transmission of Mandana from mothers or other elder women to daughters. Dutta (2011) discusses intergenerational female transmission across floor-painting traditions. Das (2013), in the available conference abstract, notes that Alpana makers work without formal training; that abstract does not

establish the specific stages of household apprenticeship. Together, these accounts support comparison of informal transmission, while evidence about caste, class, religion and migration remains uneven. Mandana is discussed in relation to particular communities, whereas the Alpana sources describe a broader Bengali ritual context. This difference limits direct social comparison.

Ephemerality is also central to ritual function. Rice paste, chalk, clay and mineral pigment are applied to surfaces that are walked across, exposed to weather, replastered or deliberately remade for the next observance. The image therefore belongs to a recurring sequence of preparation, making, use, disappearance and renewal. Dutta (2011) explicitly describes floor paintings as transient works that wear away through activity or weather and are replaced by new designs. Read together with the Mandana literature, these accounts suggest that durability is not the original measure of artistic success. The present comparison interprets repeated making as a possible means of sustaining memory and participation, while the completed image marks a particular ritual time. This distinction becomes important when evaluating contemporary preservation projects that value the survival of the motif but may overlook the value of remaking it.

Decline, Revival and Commercialization

Recent scholarship addresses decline and commercial revival together. Suhag and Rawat Sharma (2021) associate the decline of Mandana with urbanization and the replacement of absorbent earthen walls and courtyards by hard concrete surfaces. They also describe the transfer of Mandana motifs to cardboard, textiles, books and ready-made templates. Singh and Pant (2024) emphasize the economic possibilities created when motifs enter fashion, furnishing and product design. These accounts emphasize visibility, survival and economic opportunity. They can be read alongside earlier criticism of the separation of motifs from ritual meaning.

Biswas (2025) describes a parallel expansion of Alpana into public, political and commercial settings, including large-scale street installations associated with Durga Puja and other public events. Such transformations can expand recognition and participation, yet they can also alter scale, authorship, material and function. Dutta (2011) had already raised concerns about commercialization, mass reproduction and the loss of the meanings attached to floor painting. The present study builds on that concern by comparing what commercial and public adaptation may retain or alter in the visual form, ritual practice and transmission of Mandana and Alpana.

Semiotic Framework for Comparative Reading

Peirce's distinction between icon, index and symbol provides a vocabulary for comparing resemblance, factual connection and conventional meaning (Peirce, 1931–1958, 1940/1955). Dutta (2011) discusses geometric and recognizable motifs, while the Mandana and Alpana sources relate such forms to culturally specific ritual

purposes. A semiotic reading can connect these formal descriptions with the different relations through which images acquire meaning. Its limits must also be explicit: resemblance alone does not establish a motif's ritual significance, and a painted footprint is not a physical trace of a deity. In this study, its indexical reading concerns the ritual evocation of arrival described in the sources, rather than evidence of literal presence. The framework therefore supports a contextual comparison without assigning one fixed category to every motif or substituting visual interpretation for practitioners' accounts.

Research Gap

Three needs emerge within the selected corpus. First, broad surveys and region-specific accounts offer limited sustained comparison of Mandana and Alpana across material practice, visual grammar and ritual function (Das & Sudha, 2020; Dutta, 2011). Second, these descriptions can be connected more explicitly through a semiotic framework that distinguishes visible resemblance from culturally assigned meaning. Third, Dutta's (2011) existing critique of commercialization can be developed through a cross-case comparison of continuity in motif, practice and meaning. The contribution of this study lies in that integrated comparison, rather than in claiming to discover the loss of ritual context for the first time. As a documentary study, it cannot resolve the separate need for interviews and observation with current practitioners.

MATERIALS AND METHODS

Research Design and Documentary Corpus

The study used a qualitative comparative documentary design rather than original fieldwork. Its logic follows the interpretive and comparative orientation described by Marshall and Rossman (2015). The core documentary corpus comprised eight documentary sources relevant to Mandana, Alpana or the wider context of Indian folk and floor painting: Asia InCH (n.d.), Biswas (2025), Choudhury (2015), Das (2013), Das and Sudha (2020), Dutta (2011), Singh and Pant (2024), and Suhag and Rawat Sharma (2021). Peirce's writings supplied the semiotic framework (Peirce, 1931–1958, 1940/1955). Two open-license Shilpgram photographs supplied visual evidence for Mandana, while selected plates from Choudhury (2015) illustrated the Alpana motifs discussed in the textual sources.

Source Selection

Sources were selected purposively when they provided direct descriptive or analytical evidence concerning at least one of the following categories: historical context, materials and technique, geometry and line, motif vocabulary, ritual function, gendered transmission or contemporary transformation. Peer-reviewed research was preferred where available. The online conference abstract by Das (2013), an intangible-cultural-heritage entry, a published visual compendium and a journalistic feature were retained as contextual sources. The abstract

was used only for statements explicit in its published text, not as a substitute for a full ethnographic paper. The heritage entry and journalistic feature were likewise distinguished from research articles when weighing the evidence. Generic online motif lists and claims without identifiable contextual support were not used as evidence for the comparative findings. This was a focused narrative corpus, not a systematic review claiming exhaustive database coverage.

Data Extraction and Comparative Analysis

Each source was read and entered into a comparative extraction matrix organized by tradition and theme. The categories were origin and setting; surface and medium; line, geometry and color; recurring motifs; ritual purpose; mode of transmission; and contemporary pressure or adaptation. Evidence for Mandana and Alpana was first summarized separately and then compared within each category. Recurrent similarities and differences were consolidated into five cross-case findings. The procedure separated descriptive background, which is presented in the Literature Review, from analytical outputs, which are reported in the Results and Discussion.

Analytical claims were developed in three passes. The first pass recorded source-specific descriptions without attempting synthesis. The second compared the two traditions category by category and marked whether a statement was supported by more than one source, by a single contextual source or by visible evidence in the selected images. The third examined the provisional themes through the Peircean framework and tested them against disconfirming examples, such as iconic animal forms within Mandana or convention-dependent sacred meanings within Alpana. The final five findings were retained because they explained recurring contrasts without requiring either tradition to be internally uniform. This staged procedure also prevented an attractive visual resemblance from being treated automatically as historical or religious proof.

Semiotic and Visual Analysis

Peirce's categories of icon, index and symbol were used as analytical tools. A sign was treated as iconic when its form resembled its referent, indexical when it involved a factual connection, with ritual indications of presence interpreted cautiously in their cultural context, and symbolic when its meaning depended mainly on cultural convention (Peirce, 1931–1958, 1940/1955). The images were examined for visible formal features such as grids, radial organization, continuous line, recognizable objects and footprint motifs. Interpretations of religious meaning were assigned only when supported by the documentary corpus; visual form alone was not treated as proof of a fixed cosmological meaning.

Methodological Limitations

The study has three limitations. First, the corpus is small and purposive, and its sources vary in genre and

evidential depth. In particular, a conference abstract and contextual web sources cannot provide the detail of full ethnographic studies. Second, the findings depend on published interpretations and cannot verify practitioners' present-day understandings through interview or observation. Claims concerning ancient origins, Tantric symbolism and cosmological coding must therefore remain provisional. Third, the study compares broad regional traditions and cannot represent every local, caste, religious or household variation. These limitations restrict generalization and direct policy claims but they

do not prevent a transparent comparison of patterns documented across the selected sources.

RESULTS AND DISCUSSION

The comparative thematic analysis produced five interrelated findings. The results are interpretive patterns derived from the documentary corpus rather than measurements or original field observations. Table 1 summarizes the cross-case outputs. The subsections that follow present the evidence for each finding and discuss its implications in relation to prior scholarship.

Table 1: Cross-Case Synthesis of Analytical Findings

Finding	Comparative result	Principal evidence
Ecology and materiality	Mandana is organized through mineral pigment, earthen contrast and geometric construction; Alpana through rice paste, continuous line and recognizable motifs.	Dutta (2011); Singh and Pant (2024); Suhag and Rawat Sharma (2021); Figures 1, 3 and 4
Semiotic mode	Mandana privileges convention-dependent symbolic geometry; Alpana relies more strongly on iconic and indexical forms.	Asia InCH (n.d.); Dutta (2011); Peirce (1931–1958, 1940/1955); Figures 5–7; Table 2
Ritual function	Formal divergence converges in domestic functions of auspiciousness, protection, devotion and petition.	Asia InCH (n.d.); Dutta (2011); Suhag and Rawat Sharma (2021); Figure 8
Gendered transmission	Both traditions depend on female-led household apprenticeship and are vulnerable to changes in architecture and community life.	Dutta (2011); Suhag and Rawat Sharma (2021)
Commercial transformation	Commercial and public adaptation can sustain visibility and livelihood while detaching motifs from ritual context.	Biswas (2025); Singh and Pant (2024); Suhag and Rawat Sharma (2021)

Finding 1: Ecology and Materiality Shape Distinct Visual Grammars

The first finding is that material environments are associated with different visual grammars. This relationship should not be treated as simple environmental determinism; rather, available surfaces and media create different practical possibilities. Dutta (2011) distinguishes geometry-dominant, or *akriti pradhan*, traditions associated with hill and desert regions from line- and floral-dominant, or *vallari pradhan*, traditions associated with the Gangetic plain. The comparison supports the usefulness of this distinction for Mandana and Alpana while also showing that it remains a proposed classification rather than an empirically tested rule across all regional traditions.

Mandana exemplifies geometry-dominant organization through triangles, squares, circles, grids and radial bands (Dutta, 2011). Dutta (2011) interprets opposed triangles through masculine and feminine principles, while Suhag and Rawat Sharma (2021) discuss Vedic yajna altars among auspicious motifs. These are source-specific cultural interpretations rather than meanings demonstrated by geometry alone. Such readings demonstrate the importance assigned to convention and cosmology, but they are not consistently validated through interviews with practitioners. Figure 3 nevertheless confirms visible formal characteristics: concentric organization, repeated border units, dots and a strong geometric scaffold.

Figure 3 illustrates the grid-based and radial structure of a Mandana design.



Figure 3: Circular Mandana showing radial organization, repeated triangular and crescent-like border units, dotted edging and a floral centre.

Note. Adapted from Mandana art work at Shilpgram, by Chinmayisk, 2015a, Wikimedia Commons (https://commons.wikimedia.org/wiki/File:Mandana_art_work_at_shilpgram.JPG). CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/>). Image cropped.

Alpana corresponds more closely to the line-dominant model. Its basic formal unit is a continuous freehand line made without a measured grid. Lotus blooms, rice stalks, creepers, fish and the footprints of Lakshmi emerge as recognizable forms within that line (Asia InCH, n.d.; Dutta, 2011). Figure 4 demonstrates the resulting curvilinear, object-based and calligraphic quality. A conventional chromatic contrast is documented in the sources: Suhag and Rawat Sharma (2021) describe red and white in Mandana, while Asia InCH (n.d.) describes rice-paste Alpana. These are characteristic practices rather than exclusive palettes; Dutta (2011) also records variation in materials and colors. The finding therefore links formal difference to the interaction of medium, surface, bodily technique and inherited convention.

The evidence also indicates that material and formal categories operate as tendencies, not boundaries. Both traditions can incorporate floral, animal and domestic-object motifs and both depend on contrast between a prepared ground and a lighter painted line. What differs is the organizing emphasis. In the Mandana examples, recognizable units are subordinated to symmetry, enclosure and repeated geometric bands; in the Alpana examples, a continuous line preserves the identity of fish, footprints, vessels, plants and other referents. This distinction helps explain why copying an isolated motif cannot fully reproduce either visual system. A motif acquires force through its placement, relation to neighboring forms, scale, surface and occasion. The comparative result is consequently about compositional grammar rather than a catalogue of supposedly exclusive symbols.

Figure 4 presents representative examples of Alpana's continuous-line and object-based vocabulary.

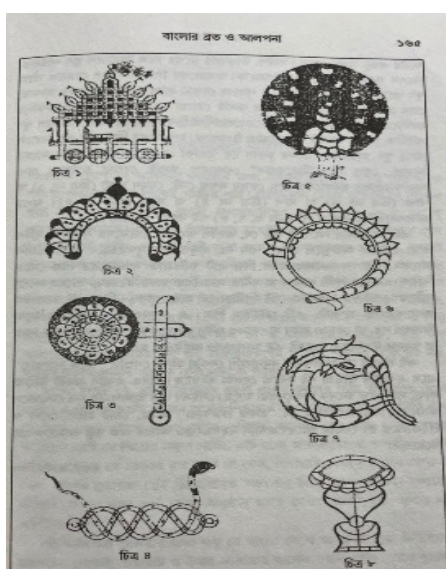


Figure 4: Bengali Alpana motifs showing floral, circular, serpent-like, zoomorphic and ritual-object forms constructed through continuous line.

Note. Reproduced from Banglar brata o alpana [Ritual vows and alpana of Bengal], edited by K. Choudhury, 2015, Dey's Publishing.

Finding 2: The Traditions Privilege Different Semiotic Modes

The second finding is that the two traditions organize sacred meaning through different dominant semiotic modes. Peirce distinguishes an icon, which resembles its referent; an index, which is grounded in a factual connection; and a symbol, whose meaning depends on convention (Peirce, 1931–1958, 1940/1955). Both Mandana and Alpana combine these modes but the comparative evidence suggests a difference in emphasis rather than an absolute division.

Mandana is dominated by symbolic geometry. A circle does not visibly resemble the universe and a triangle does not inherently represent a gendered or creative principle; such associations depend on learned cultural explanation (Dutta, 2011). Iconic animals and plants occur but they are frequently absorbed into the same geometric grammar (Suhag & Rawat Sharma, 2021). Figure 5 isolates a radial floral core, triangular and dotted borders, and a square-centred composition. These forms support analysis of visual organization but the study does not assign a fixed meaning to any isolated motif without textual evidence. Figure 5 isolates recurrent formal units used in the semiotic comparison.



Figure 5: Cropped details from the Shilpgram Mandana photographs: (a) radial floral core and concentric line work; (b) triangular, crescent-like and dotted border units; and (c) square-centred floral geometry surrounded by radial and vine-like bands.

Note. Composite of cropped details from the Chinmayisk photographs (2015a, 2015b) identified in Figures 1 and 3 and the reference list. Adapted material is licensed under CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/>).

Alpana relies more strongly on iconic and indexical signs. Fish, rice plants, lotus flowers and other motifs remain visually recognizable (Dutta, 2011). Lakshmi's painted footprints resemble feet and are interpreted in the sources as signs of auspicious arrival (Dutta, 2011). Their indexical reading here concerns the ritual evocation of movement into the household, not a physical trace or proof of the goddess's presence. In brata practice, the image participates in petition by directing attention toward a desired event or condition (Asia InCH, n.d.). Figures 6 and 7 show these modes in Lakshmi-footprint and paired-fish compositions.

Figures 6 and 7 illustrate indexical and iconic tendencies in Bengali ritual imagery.

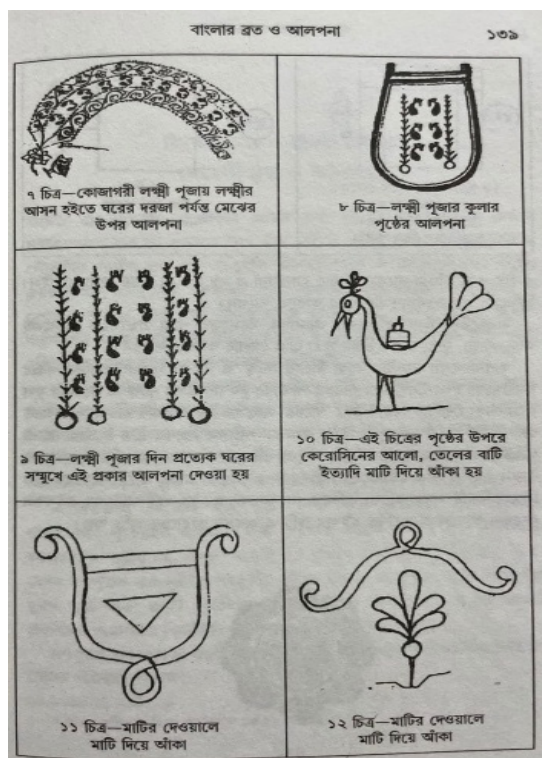


Figure 6: Lakshmi-puja Alpana and earthen-wall motifs, including inward-directed footprints, doorway forms and signs associated with auspicious household ritual.

Note. Reproduced from Banglar brata o alpana [Ritual vows and alpana of Bengal], edited by K. Choudhury, 2015, Dey's Publishing.

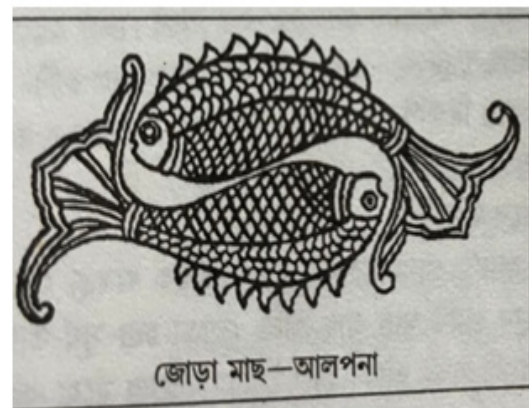


Figure 7: Paired-fish Alpana motif (jora machh), illustrating the recognizable natural forms used in Bengali ritual painting.

Note. Reproduced from Banglar brata o alpana [Ritual vows and alpana of Bengal], edited by K. Choudhury, 2015, Dey's Publishing.

The comparison does not imply that Mandana contains only symbols or that Alpana contains only icons and indexes. Instead, it identifies the dominant relation through which each visual system is made legible. Mandana typically requires knowledge of a conventionally coded geometric order; Alpana more often begins from recognizable forms and traces of desired presence. Both systems ultimately depend on culturally informed interpretation. Table 2 summarizes the distinction.

Semiotic categories may also shift during interpretation. Lakshmi's footprints are iconic when recognized as the shape of feet, interpreted indexically when they evoke arrival within a ritual setting and symbolic when a community convention identifies them specifically with Lakshmi and prosperity. Similarly, a Mandana lotus can be iconic at the level of visual resemblance while its position at the centre of a composition carries a convention-dependent sacred value. The analytical advantage of Peirce's model is therefore not that it assigns one permanent label to each motif but that it separates the relations through which a motif becomes meaningful. This layered reading accounts for overlap while preserving the observed difference in dominant emphasis between the two traditions.

Table 2: Semiotic Comparison between Mandana and Alpana

Semiotic category	Mandana (Rajasthan)	Alpana (Bengal/Bangladesh)
Dominant sign type	Symbolic and convention-dependent	Iconic; with context-dependent indexical readings of ritual presence
Core visual unit	Geometric form: triangle, circle, square and grid	Continuous freehand line and recognizable motif
Representative example	Interlocking triangles and radial geometric structure	Lakshmi's footprints and paired fish
How meaning is assigned	Meaning depends on inherited cultural and cosmological conventions	Meaning begins with visual resemblance or an indicated presence

Governing emphasis	Cosmological and protective ordering	Petitionary, auspicious and imitative presence
Role of the maker	Constructs a composition within an inherited geometric grammar	Draws a recognizable presence or desired condition through continuous line
Illustrative sources	Dutta (2011); Singh and Pant (2024); Suhag and Rawat Sharma (2021)	Asia InCH (n.d.); Dutta (2011)

Finding 3: Formal Difference Converges in Ritual Function

The third finding is that formal divergence coexists with functional convergence. Mandana compositions prepare and protect domestic space, invite auspiciousness and mark occasions such as festivals, weddings and births (Singh & Pant, 2024; Suhag & Rawat Sharma, 2021). Motifs are selected in relation to the occasion, and the act of completing the design is treated as part of the household's ritual readiness. Alpana has a more explicitly petitionary articulation through brata observance. Motifs may represent a desired blessing, condition or divine presence, with Lakshmi's footprints providing the clearest example of auspicious entry (Asia InCH, n.d.; Dutta, 2011).

Figure 8 demonstrates how human, vegetal, architectural, celestial and animal signs can be assembled into a single petitionary composition. The comparison shows that neither practice can be reduced to ornament. Mandana tends to order the sacred through enclosing and

conventionally coded geometry; Alpana tends to visualize presence, movement and desired outcomes. Both nevertheless convert a household surface into an active devotional environment.

This functional convergence clarifies why context is analytically inseparable from form. The same painted line can operate differently when placed at an entrance, around a hearth, in a courtyard or beside an object of worship. Its meaning is also shaped by timing: a motif made for a wedding; a harvest observance or Lakshmi puja participates in a different network of actions and expectations. The documentary evidence does not permit reconstruction of every local sequence but it consistently locates the images within occasion-specific domestic practice (Asia InCH, n.d.; Singh & Pant, 2024; Suhag & Rawat Sharma, 2021). Results concerning function are therefore based on the relationship among image, surface, occasion and action—not on visual content alone.

Figure 8 shows the integration of multiple motifs within a single brata-related composition.



Figure 8: Sejuti Brata Alpana combining human, vegetal, architectural, celestial and animal signs within a single ritual composition.

Note. Reproduced from Banglar brata o alpana [Ritual vows and alpana of Bengal], edited by K. Choudhury, 2015, Dey's Publishing.

Finding 4: Gendered Transmission Produces Shared Vulnerability

The fourth finding concerns transmission. In both regions, the literature describes learning as a female-led household process in which technique and meaning pass through observation and repeated participation (Dutta, 2011; Suhag & Rawat Sharma, 2021). This system sustains variation and embodied knowledge but it also leaves the practices vulnerable when domestic routines, settlement patterns and building materials change. Dutta

(2011) discusses pressures associated with changing routines, while Suhag and Rawat Sharma (2021) connect declining Mandana practice with the replacement of earthen dwellings. The present comparison interprets these pressures as potential interruptions to practice and transmission, rather than as measured effects of migration or household change.

The vulnerability is therefore social as well as material. Preserving a design in a book or transferring it to a textile does not automatically preserve the relationships through

which the design was learned and activated. At the same time, scholarship should avoid treating women only as anonymous bearers of tradition. The comparative corpus provides limited evidence about individual makers, caste and class, economic agency or differences between rural and urban practitioners. Future research should document those dimensions directly rather than assuming a single, unchanged female tradition.

For heritage practice, these finding shifts attention from objects to conditions of transmission. Photographing designs and archiving motif sheets remain useful but they document outputs more readily than embodied decisions: how a maker prepares the ground, varies pressure and line, selects motifs for an occasion, corrects an error, or explains a sign to a younger participant. Workshops and school programs can support continuity when experienced practitioners guide the process and when regional variations are acknowledged. Without that participation, institutional preservation risks standardizing a fluid household vocabulary and obscuring the authorship and labor of the women whose practice it seeks to protect.

Finding 5: Commercial Revival Preserves Motifs but Alters Context

The fifth finding is an ambivalent pattern of commercial and public transformation. Mandana motifs now appear on cardboard, textiles, books, canvases and consumer products, creating new forms of recognition and possible income (Singh & Pant, 2024; Suhag & Rawat Sharma, 2021). Alpana has likewise moved from household ritual into street installations, public celebrations, political display and commercial design (Biswas, 2025). These changes demonstrate adaptability rather than simple disappearance.

Adaptation, however, changes more than the support. A permanent product removes the motif from the cyclical acts of making, erasure and renewal; a public installation changes scale and authorship; a template can reduce the role of embodied freehand learning. Commercialization may therefore preserve visible forms while weakening ritual use and local interpretation. The comparative implication is that revival should be evaluated across at least three dimensions: continuity of motif, continuity of practice and continuity of meaning. Success in the first dimension does not guarantee success in the other two.

This framework does not require commercial work to reproduce domestic ritual unchanged. It instead asks who controls selection and interpretation, who receives recognition and income, and whether audiences are given enough context to distinguish adaptation from ritual use. Practitioner-led collaborations can create new products while crediting regional knowledge and supporting teaching within communities. Conversely, anonymous mass reproduction may increase visibility yet flatten distinct traditions into a generic ‘ethnic’ pattern. The evidence available here is insufficient to measure economic outcomes, but it establishes criteria that future case studies can examine: attribution, practitioner

participation, benefit sharing, continuity of technique and the accuracy of contextual explanation.

Integrative Discussion: Convergence and Divergence

Taken together, the findings place the traditions along two analytical axes: material ecology and sacred orientation. Mandana’s mineral media and earthen contrast are associated with geometric construction, while Alpana’s rice paste and finger-drawn line are associated with curvilinear and recognizable forms. At the same time, Mandana scholarship emphasizes ordering, enclosure and conventionally coded cosmology, whereas Alpana scholarship emphasizes petition, resemblance and indicated presence. These are dominant tendencies, not mutually exclusive categories.

The strongest convergence appears in function and social organization. Both practices are temporary, domestic and repeatedly remade; both connect auspicious occasions with the skilled labor of women; and both are affected by changes in architecture, time, mobility and markets. The study therefore extends Dutta’s (2011) formal classification by showing that geometry-dominant and line-dominant traditions can be interpreted as different semiotic strategies serving comparable devotional purposes. This comparative model is the principal analytical contribution of the research.

The model also resolves an apparent contradiction in the literature. Formal comparison tends to emphasize difference, whereas accounts of ritual life emphasize shared functions. Treating visual grammar, semiotic relation and ritual purpose as separate analytical levels allows both observations to remain true. At the formal level, Mandana and Alpana organize line, geometry and recognizable motifs differently. At the semiotic level, they place different weight on convention, resemblance and trace. At the functional level, they converge in transforming ordinary domestic surfaces into places of auspicious action. This layered explanation is more precise than either grouping all floor paintings as one tradition or treating every regional form as incomparable.

CONCLUSION

The study demonstrates that Mandana and Alpana should be understood neither as interchangeable examples of Indian folk decoration nor as wholly isolated regional practices. Their visual divergence is systematic. Mandana is organized primarily through mineral pigment, geometric construction and convention-dependent symbolic meaning. Alpana is organized primarily through rice paste, continuous freehand line, recognizable motifs and a stronger combination of iconic and indexical signification.

Despite these differences, both traditions transform domestic surfaces into devotional environments concerned with auspiciousness, protection and petition. Both also depend on female-led intergenerational learning, making them vulnerable when earthen architecture, household ritual and community-based apprenticeship

decline. Commercial and public adaptation offers real opportunities for visibility, livelihood and creative renewal but it can preserve motifs while separating them from the practices and meanings that produced them.

The comparison's principal contribution is a semiotic explanation of how different visual systems can perform related cultural work. It also reframes preservation: conserving an image is not equivalent to sustaining a living tradition. Future research should combine documentary analysis with field observation and interviews in Rajasthan, West Bengal and Bangladesh; examine differences of caste, class, religion and urbanization; and document how contemporary makers themselves understand symbolism, authorship and commercialization. Such research would test the interpretations advanced here and support more culturally grounded approaches to education and heritage practice.

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