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Ethnoarchaeology of Thongjao Pottery: A Living Indigenous Craft and Heritage in Manipur

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Abstract

This research paper explores the ethnoarchaeological significance of pottery (Chaphu) in Thongjao, Manipur, an ancient hand-building tradition deeply ingrained in the social, cultural, economic, and religious fabric of the Meitei community. It highlights how this craft, predominantly practiced by women without the use of a potter's wheel, serves as a living repository of indigenous knowledge, craftsmanship, and intangible cultural heritage, transmitting centuries-old techniques, material understanding, and symbolic meanings across generations. The research employs a qualitative and exploratory design combining ethnographic observation, interviews, and literature review to document traditional production methods, symbolic meanings, and the material culture of *Chaphu*. Findings reveal that this hand-building tradition is linked to rituals, livelihood, and gender empowerment. By bridging past and present through ethnoarchaeology, this research highlights the importance of preserving traditional knowledge systems that are both ecologically sustainable and culturally significant. The paper critically examines the challenges threatening its continuity, including industrial competition, environmental degradation, and declining youth interest. Finally, it proposes comprehensive strategies for revitalization, emphasizing educational integration aligned with India's National Education Policy (NEP) 2020, market diversification, cultural tourism, and digital preservation efforts to safeguard this invaluable intangible cultural heritage.

Keywords: Thongjao Pottery, Indigenous Knowledge Systems (IKS), Ethnoarchaeology, Cultural Heritage, Manipur

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1. Introduction

As a tangible creation of humankind, pottery represents one of the oldest arts known to humanity. It has always been an integral and inseparable part of human culture. It emerged from the fundamental necessity for domestic articles as human societies transitioned from savagery to barbarism and communal life. The study of pottery is crucial for understanding the form of a civilization, shedding light on the food habits, religious and social customs, technological advancements, and economic conditions of a people. Humans learned to store food, cook, and keep things cool after discovering fire. It has changed human life significantly and led to notable cultural shifts in communities. Singh (1979) states that pottery was invented and developed thousands of years ago in various parts of the world (G. Singh, 1979).

Manipur, strategically located in Northeast India, possesses a rich cultural heritage where the ancient art of pottery holds profound significance, deeply reflecting the state's unique cultural tapestry (Blogs, 2023; Moirangthem, 2018). The history of pottery in Manipur dates back to the early Neolithic period, as evidenced by archaeological discoveries that demonstrate its long-standing existence and cultural dynamism. Manipur's geographical position at the intersection of South, East, and Southeast Asia has allowed it to assimilate significant cultural influences from various ancient ceramic traditions (Dikshit & Hazarika, 2012; Vidyani & ManiBabu, 2017). In Manipur, pottery is intrinsically linked to its people's social, cultural, and religious life, serving as an indispensable household item since time immemorial. The state is renowned for its distinctive pottery types, including blackware from Longpi/Nungbi, greyware from Ningthemeha Karong, and redware from villages such as Thongjao and Chairel. A defining characteristic of Manipuri pottery is that it is predominantly crafted by women, often without the use of a potter's wheel (Ningthoujam & Rashida, 2022; Shah, 2025; M. K. Singh & Devi, 2017).

Among the pottery-making villages in Manipur, Thongjao village stands out, widely recognized as the "Land of Pottery" (Angjoy, 2025; Hanghal, 2023; Singh, R.K., & Devi, 2014). Thongjao is among the few remaining pottery clusters that have preserved their traditional techniques without significant mechanization. The residents claim that it is the only village in Manipur that continues to practice this age-old craft. Pottery serves not only as the primary source of livelihood for over 95% of the population but also as a symbol of pride and dignity for the community. According to the 2011 Census, Thongjao comprises 435 families, with 990 males and 1,029 females (Hanghal, 2023). Pottery making practices in Thongjao are deeply integrated into the Meitei community's social, cultural, economic, and religious life, serving as a core element of their identity and worldview (Ningthoujam & Rashida, 2022; Singh & Devi, 2017). The uninterrupted continuity of pottery traditions in Thongjao makes it a living testament to indigenous knowledge systems, passed down through generations.

This study highlights the importance of ethnoarchaeology in connecting contemporary ethnographic practices with past archaeological contexts (Devi & Panjwani, 2014; M. K. Singh & Devi, 2017). Documenting Thongjao pottery is crucial in preserving the intangible cultural heritage that is threatened by modernization and environmental changes. Furthermore, the study supports integrating traditional crafts into education, aligning with India's NEP 2020, and promotes cultural pride and sustainability.

2. Review of Related Literature

Ethnoarchaeology, as a research strategy, plays a critical role in archaeological inquiry by examining the relationship between human behaviour and material culture in living contexts to interpret the archaeological record (M. K. Singh & Devi, 2017). Coined by Jesse Walter Fewkies in 1900 and later used in the title of a paper by Joseph Bauxer in 1957, it is also known as "Action Archaeology" or "Living Archaeology" (Gould, 1968). Its primary objective is to bridge the gap between past archaeological data and contemporary ethnographic accounts, providing crucial analogies for understanding prehistoric and protohistoric societies. Scholars such as Kramer (1985) and London (2000) have employed ceramic ethnoarchaeology to address specific archaeological problems and analyse regional variations in pottery traditions (Kramer, 1985; London, 2000).

The origins and development of pottery itself have been a subject of scholarly debate. While Singh (1979) suggests that pottery was invented and developed independently in various parts of the world over thousands of years, Morgan's framework links its emergence to the advent of sedentary life and the harnessing of fire. Herskovits proposes that existing containers, such as baskets and gourds, may have inspired early pottery forms. Scott emphasizes the shared characteristics between coil-built pottery and basketry. The earliest use of the potter's wheel originated in Mesopotamia. At the same time, hand-building techniques from the Neolithic era continued in many non-literate cultures across Europe and Asia.

In the Indian context, ceramic ethnoarchaeological studies have made significant contributions to understanding craft production and distribution. Researchers such as Bose (1982) and Ghosh and Bhattacharya (1997) have explored various aspects of traditional pottery across different regions (Bose, 1982; Ghosh & Bhattacharya, 1997). Carol Kramer's notable research on Hindu and Muslim traditional earthenware potters in Rajasthan provides valuable insights into ceramic production, distribution, and stylistic characteristics within specific communities.

For Manipur, archaeological and ethnoarchaeological research has provided a rich understanding of its pottery traditions. O.K. Singh's extensive explorations and excavations of prehistoric sites in Manipur, particularly his work on Neolithic Culture, have laid the foundation for knowledge about ancient pottery in the region (O. K. Singh, 1991). M. Manibabu Singh's (2005) study on the pottery of Andros further contributes to this regional understanding (Manibabu, 2005). The ethno-archaeological study by Singh and Devi (2017) on Thongjao village specifically aims to bridge contemporary practices with past archaeological accounts, revealing striking similarities in raw materials and techniques between prehistoric ceramics and modern Thongjao pottery in Manipur (M. K. Singh & Devi, 2017). Devi and Panjwani's (2014) ceramic ethnographical study at Thongjao and Ningthemcha Karong further reinforces the continuity of hand-made pottery methods from prehistoric times to the present day (Devi & Panjwani, 2014).

Archaeological excavations at various sites in Manipur, including Machi Cave, Khangkhui Cave, Tharon Cave, Napachik, Laimenai, Andro, Nongpok Keithelmanbi, Phunan, Sekta, Chairel, and Shuganu, have yielded diverse pottery assemblages (Joykumar Singh, 2015; Ningthoujam & Rashida, 2022; O. K. Singh, 2008). Cord-impressed and beater-impressed pottery, which is widely distributed across East and Southeast Asian Neolithic contexts, was also identified in Northeast India, demonstrating regional cultural affinities. The continuity of cord-marked pottery traditions from the prehistoric to the modern periods in Manipur is well-documented (M. K. Singh & Devi, 2017; O. K. Singh, 1998). These studies collectively highlight Thongjao pottery's unique position as a living link to Manipur's ancient past, offering invaluable insights for archaeological interpretation and cultural preservation.

3. Methodology

This study adopts a qualitative, exploratory, and ethnoarchaeological research design to examine the traditional craft of pottery (*Chaphu*) in Thongjao, Manipur. Following Creswell's (2009) qualitative framework, the research emphasizes interpretive depth, contextual understanding, and cultural relevance, making it well-suited for exploring the rich traditions and social meanings associated with Thongjao pottery. The study combines ethnographic fieldwork, oral histories, and literature review to document the material culture, production technology, and socio-cultural significance of this indigenous practice. Fieldwork was conducted in Thongjao village, where women artisans continue the ancient tradition of non-wheel, hand-built pottery, a distinctive matriarchal practice in India. Guided by ethnoarchaeological principles, the research links living pottery traditions to ancient ceramic practices identified in archaeological sites such as Koutruk, Nongpok Keithelmanbi, Khamaran, Khangabok, Andro, Napachik, Laimanai, Phunan, Kangla Fort, and Sekta, revealing a profound continuity of cultural knowledge and craftsmanship.

Data were collected through observation, semi-structured and informal interviews, and visual ethnography to capture both the technical and symbolic aspects of pottery-making. Interviews were conducted with six master artisans, namely, Salam Premila Devi (45 years), Leimapokpam Bhorot Singh (46 years), Abujam Binarani Devi (55 years), Samjetshabam Kamala Devi (52 years), Shamchetshabam Thoibi Devi (58 years), and Nganthoi Kabrabam (56 years), who represent intergenerational custodians of this craft. The research documented each stage of the process, from clay collection and preparation to shaping, finishing, and open-kiln firing, supported by photographs, sketches, and video recordings. Secondary data were drawn from archaeological and ethnographic literature, government reports, and policy documents such as India's National Education Policy (NEP) 2020, which emphasize cultural preservation and sustainable livelihoods. All qualitative data, including interviews, field notes, and visual materials, were analyzed using thematic and comparative methods grounded in theory, ensuring validity through triangulation of data sources. Ethical standards, including informed consent, participant confidentiality, and collaborative validation, were strictly observed. Overall, this integrated methodology combines ethnography, archaeology, and heritage studies, highlighting Thongjao pottery as a living expression of indigenous knowledge and sustainable cultural heritage.

4. Objectives of the Study

Based on the research design and data collection strategy, the specific objectives of this study were:

1. To explore the traditional processes, cultural practices, and knowledge systems embedded in Thongjao pottery making.
2. To analyse the socio-cultural, religious, economic, and environmental values associated with Thongjao pottery as an indigenous craft.
3. To evaluate the current challenges affecting the transmission and survival of Thongjao pottery traditions in the community.
4. To propose pedagogical frameworks and actionable strategies for incorporating Thongjao pottery and related indigenous knowledge into educational curricula in alignment with NEP 2020 goals.

5. Findings and Discussions

5.1 Traditional Processes, Cultural Practices, and Knowledge Systems

Thongjao pottery, locally known as Chaphu, is a deeply ingrained part of Manipur's cultural and daily life, characterized by its adherence to ancient techniques passed down through generations (Blogs, 2023; Hanghal, 2023). "Pottery" is a vessel made of clay baked to a specific temperature and crafted by an artisan known as a *Chaphu (Potter)*. Thongjao artisans use unique, non-wheel hand-building techniques, relying on skill and deep indigenous knowledge of clay.

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The process typically begins with shaping a lump of clay into a slab, which is then molded to form a cylinder, referred to as chapfu houba (Devi & Panjwani, 2014; Shah, 2025). This cylindrical form is placed on a stool or a wooden log, known as a *legsusm*, to facilitate further development (Devi & Panjwani, 2014). For shaping the rim and neck, the potter uses a thick, soft wet cloth, called *phunanphadi* or *ngabong phi*, wrapping it around the open rim and gripping it firmly while rotating around the pot herself, as if she were the wheel. This rotational movement, performed alternately in a clockwise and anticlockwise direction, creates fine striations that can be easily mistaken for those made by a potter's wheel, highlighting the exceptional skill of the artisans of Thongjao. The pot's body is refined through beating, where a rectangular wooden beater, known as a *phujae* or *dabber*, is used on the exterior. At the same time, a stone anvil, *known as a nungmacha, is held in plac*e for support. This synchronized beating and internal support ensure the pot acquires its desired shape, size, and consistent wall thickness (Chingkheinganba, 2017; Devi & Panjwani, 2014; Hanghal, 2023; Shah, 2025). On the other hand, it also employed building techniques such as coiling and pinching to create *chaphu*.

Raw materials are locally sourced, primarily from deep pits (10 to 12 feet deep) under dried-up ponds or lake beds, from which a pliable, black clay called *Leitan Leimu* is extracted (Blogs, 2023; Chingkheinganba, 2017; Hanghal, 2023; M. K. Singh & Devi, 2017). Traditionally, men used to take the laborious task of digging and transporting this clay. The main clay is mixed with a whitish clay known as *Leikok* and finely winnowed sand, *Nungjreng*, to improve plasticity, reduce cracking, and control shrinkage. The proportions, typically around 8 parts clay to 2 parts sand/temper, may vary based on the vessel's intended use (Ningthoujam & Rashida, 2022). The clay preparation process involves drying the raw lumps, pounding them with a *leibakshuk* (pestle) to remove impurities, soaking them in water and thoroughly kneading (*totpa*) them by hand or foot until they are smooth, free of air bubbles and pliable (Hanghal, 2023; MyGov Blogs, 2023; Phanjoubam, 2017; Devi & Panjwani, 2014; Singh & Devi, 2017). Thongjao potters demonstrate a deep empirical understanding of material science, adjusting mixtures based on desired thermal resistance and porosity. The local clay sources are known to regenerate, allowing for sustainable practice, and potters follow seasonal rotations and community taboos to ensure resource regeneration.

The tools used are simple, locally sourced, and often natural, considered extensions of the potter's body and knowledge. Key tools include -

a) **Yangkok** (a circular winnower made of bamboo splits),
b) **Upak** (wooden plank),
c) **Leibakshuk** (wooden pestle),
d) **Phunan Fadi** (wet cotton fabric or wet rag),
e) **Phujei** (wooden paddle),
f) **Nungmacha** (stone anvil),
g) **Kang/kang-gin** (seed of Entada phaseoloides),
h) **Kongreng maku** (bivalve shell of oyster),
i) **Legsum** (wooden stand),
j) **Ubak meikoi** (circular wooden disc, known as 'turn'),
k) **Bamboo scraper**: Approximately 2cm x 10cm, used for scraping, and
l) **Charu Sumjit (**Straw broom**)**: Used in the firing process.

After shaping, the pots undergo a drying phase in a shed for approximately four to five days, a period that is significantly extended during the monsoon season due to increased humidity (Devi & Panjwani, 2014; Ningthoujam & Rashida, 2022; Phanjoubam, 2017). The firing process is traditionally conducted in open kilns, constructed from bamboo pillars and open on all sides. Locally available biomass fuels, such as paddy husk, straw, wood, and cow dung cakes, reflect a low-carbon, renewable method (Ningthoujam & Rashida, 2022; Vidyani

& Manibabu, 2017; M. K. Singh & Devi, 2017). Pots are meticulously stacked without space between them, and the fire, ignited at the base, burns slowly for two to three days (Devi & Panjwani, 2014; Ningthoujam & Rashida, 2022). The distinctive scarlet tan colour of Thongjao pottery is achieved through a deliberate reduction firing process, where oxygen supply is strategically restricted towards the end of the firing cycle. This process chemically reduces iron oxides in the clay, resulting in deeper hues. Black pots are produced by enclosing them in larger vessels filled with husks and sawdust to absorb carbon from the smoke, resulting in a permanent black stain (M. K. Singh & Devi, 2017). A solution of *Shahi Kuhi* (bark extract from *Pasania pachyphyla*) tree is sometimes applied or sprinkled to hot spots to give strength and colour to the pots (a lustrous black sheen).

Decoration and finishing involve burnishing the surface with bamboo splits, *kongrengmaku* (bivalve shells), or *kang* seeds to create a shiny, polished mark, typically on the shoulder. Master potter Neelmani Devi's pots were renowned for their exceptional shine, even on the interior, a testament to her meticulous burnishing (Shah, 2025). Incised and dabbed patterns, often floral and geometric designs like *nga maru mayek* (herringbone), *tomloi mayek* (quadrilateral), and *walong mayek* (parallel lines), are impressed using the incised side of the phujae (Singh, M.K., & Devi, N. A., 2017; Devi & Panjwani, 2014). Cord-marked impressions in prehistoric Manipuri pottery persist in modern Thongjao ware, indicating continuity in technique. However, tripod wares found at prehistoric sites are absent in current Thongjao pottery.

Thongjao potters produce a diverse range of vessel types for both domestic and ritualistic purposes. Thongjao pottery includes a wide array of domestic earthen wares such as *Pun (*water pot*), Khujai (*water pot*), Isaiphu (*a sacred ritual water jar*), Sanabun* (water jars), *Kharung* (liquor pots), *Chengphu* (rice pots), *Ngari Kharung* (fermented fish packing pot), *Hidak Phu* (hookahs), *Kambi (*circular flat-based pot*),* and other cooking vessels, storage jars, and lamps (M. K. & Devi, 2017). Knowledge transmission is primarily oral and intergenerational, passed from mothers to daughters through observation, storytelling, and hands-on practice. Women are the key custodians of this tradition, preserving both technique and cultural meaning across generations (M. K. & Devi, 2017).

5.2 Socio-Cultural and Religious, Economic, and Environmental Values

Pottery in Thongjao is profoundly and intrinsically entwined with Manipur's social, cultural, and religious life, particularly for the Meitei community. It is an established and indispensable component of Meitei traditions, reflecting a deep cultural embeddedness vital for its resilience (Ningthoujam & Rashida, 2022). In Meitei rituals, earthenware holds sacred significance. The *Chaphu* symbolizes purity and is central to ceremonies (M. K. & Devi, 2017). The pot metaphorically represents the womb in Meitei cosmology (Shah, 2025). Decorative motifs such as spirals and wavy lines convey beliefs about fertility and protection. Its special designs and patterns show stories from the local people, their beliefs about the supernatural, and everyday life. The *Chaphu* pot, in particular, embodies communal memory and cultural continuity. Notably, women are the primary artisans, representing a unique form of gendered empowerment in a craft typically male-dominated in other regions of India (M. K. & Devi, 2017). Thongjao pottery plays a profound role in Meitei rituals, embodying purity, fertility, and spiritual connection. Ceremonial uses include:

i. ***Chaphu-Uyan Thinba ceremony:*** A pre-natal ritual for a pregnant woman's first child during her seventh month, using seven new *chaphu*. A special *chaphu* is used during the *Laichang* ceremony to honour and appease the deity of salt, *Lai Thumleima*.
ii. ***Laichang****:* This ceremony uses a specific chaphu (earthen pot) to appease Lai Thumleima, who is revered as the deity of salt.

iii. ***Ipalthaba or Yupalthaba ritual:*** After delivery, the newborn's umbilical cord is buried in a new earthen pot, symbolizing the child's deep connection to the earth and its roots.

iv. ***Thawai-Mi Kouba (soul-calling) ritual:*** Performed to recall the soul of a sick person, involving a live *ngamu* fish in an earthen pot with other offerings.

v. ***Nahaiphu****:* It is a small earthen pot containing holy water. It is used for spiritual purification by sprinkling water with Tairel and Pongphai leaves on occasions such as Eepanthaba, Laiharaoba, and Sanamahi Khurumb, among others.

vi. ***Naopham Chaphu phumba ritual:*** In Meitei Sanamahi tradition, burying the placenta (*Naopham*) and umbilical cord (*Khoiree*) after childbirth holds deep cultural and spiritual meaning. These are wrapped in banana leaves and placed in an earthen pot, along with symbolic items such as a coin (Taret Senja), white rice (representing silver), and red rice (representing gold). Sacred leaves are burned to purify the pot before it is buried. The pot is buried 14 inches deep in the *Yenakha* (house periphery), with the location based on the child's gender. Prayers are offered to *Goddess Pitai-Khomdaibi*, as the cord is believed to guide the soul to heaven after death.

vii. ***Nahut-Nareng (ear-piercing) ceremony***: During this ceremony for a young child, a new earthen pot is used as a container for the offerings, signifying purity and auspiciousness (Merathaba Meetei & Umavati Devi, 2021)**.**

These rituals underscore the deep symbolic value of the *Chaphu* as a receptacle for life, spiritual essence, and blessings. The "sacred economy" of Thongjao pottery reflects a system where production and exchange are intertwined with spiritual beliefs and social reciprocity. The craft's deep spiritual connection is further reinforced by the Panthoibi myth, where Panthoibi, the Meitei goddess of war, prosperity, love, and fertility, is also revered as the patron deity of potters and weavers (Shah, 2025). One version of the myth states that Panthoibi, observing human need, shaped a pot by imitating a local flower (*nura khudonglei*), thus gifting the art to Manipuri women. Another narrative suggests she was taught by the supreme goddess Leimarel Sidabi, imbuing pottery with divine origin and sanctity. This myth elevates pottery-making from a mere craft to a sacred art, performed by women as a continuation of a divine legacy.

Economically, for most residents of Thongjao, pottery making is the primary occupation and main source of income, their livelihood, and a means to support their children's education (MyGov Blogs, 2023; Ningthoujam & Rashida, 2022). It plays a crucial role in the socio-economic and religious aspects of the state, contributing substantially to household economies, especially where alternative employment opportunities are limited. Thongjao pottery is an integral part of a sacred economy, where its role in rituals and festivals is vital. It means there is always a demand for it, even if it is limited to a specific area (Hanghal, N., 2023; Singh, G., 2022). In addition to selling crafts directly, producing crafts also indirectly creates jobs and economic activity through the supply chain of raw materials.

Environmentally, Thongjao pottery is intrinsically sustainable and eco-friendly. The traditional methods, characterized by hand-building and open-air kilns, result in lower energy consumption and a reduced carbon footprint compared to modern industrial processes. In contrast, the durability of the finished pottery reduces waste. Thongjao potters demonstrate a deep, practical understanding of natural resource management. They practice selective clay extraction and seasonal rotation of collection sites to allow for regeneration, reflecting indigenous environmental ethics that view nature as a partner in the creative process rather than a mere commodity (Altieri, 2004). The entire pottery-making lifecycle, from sourcing materials to disposal, is essentially zero-waste, with broken pots often repurposed, embodying principles of a circular economy long before the term was coined. Traditional methods use biodegradable materials, low-carbon open firing, and natural pigments, further exemplifying sustainable practices.

5.3 Challenges to Continuity and Survival

Thongjao pottery faces numerous challenges threatening its continuity and transmission from generation to generation. A few main challenges are -

a) **Industrial Competition and Market Pressures:** The craft is facing a significant decline in demand due to intense competition from mass-produced alternatives made of plastic, steel, aluminum, and machine-made ceramics (AIACA, 2018; Hanghal, 2023). These modern products are often cheaper, more durable, lighter, and easier to clean, eroding the market for traditional earthenware, particularly among younger generations who prioritize convenience. Thongjao potters cannot compete with the economies of scale, production speed, and low pricing of industrial manufacturers, leading to a shrinking market base and reduced profitability. Furthermore, limited market access, primarily relying on local weekly markets or direct sales within the community, restricts their reach to a broader consumer base (MyGov Blogs, 2023; Ningthoujam & Rashida, 2022). The fragile nature of earthenware also makes long-distance transportation challenging and expensive, leading to breakage and eroding profit margins further. The craft also battles negative stereotypes, with some consumers perceiving traditional pottery as unsophisticated or unhygienic compared to its modern counterparts. It leads to an overall decline in demand for everyday utilitarian items, low production rates, high raw material costs, and exploitation by intermediaries (Hanghal, 2023; MyGov Blogs, 2023; Ningthoujam & Rashida, 2022).

b) **Environmental and Resource Degradation:** The sustainability of Thongjao pottery is intimately tied to the local availability of natural clay. However, this delicate balance is threatened by environmental degradation (AIACA, 2018). Rapid urbanization and infrastructural development are encroaching upon traditional clay sourcing areas, leading to their shrinkage and degradation. Potters are forced to travel longer distances, increasing labour and production costs. Over-reliance on natural resources and insufficient environmental management exacerbate the problem. While the biomass fuels used for open-kiln firing are renewable, their management requires care to prevent localized deforestation. Perhaps most critically, climate change, particularly erratic rainfall patterns, disrupts the drying process of pots, leading to product loss, production delays, and significant financial setbacks for artisans. Prolonged dry spells also affect the moisture content of clay deposits, making extraction more difficult. The high cost of electricity and lack of infrastructure in rural areas further limit the feasibility of transitioning to electric kilns as an adaptation strategy.

c) **Socio-economic and Intergenerational Barriers:** A declining interest among younger generations jeopardizes the future of Thongjao pottery (Hanghal, 2023; Ningthoujam & Rashida, 2022). The allure of urban employment opportunities and modern digital lifestyles, coupled with the perception that white-collar jobs offer higher prestige, better remuneration, and improved working conditions, diverts youth from traditional pottery. The average income from pottery, around Rs 7000-8000 per month, is often insufficient to sustain a household (Hanghal, 2023; G. Singh, 2022). The craft is usually perceived as a "dying art" with limited prospects, discouraging young individuals from investing the time and effort needed to master its complex skills (Ningthoujam & Rashida, 2022). Historically, the traditional educational curriculum in Manipur has largely neglected vocational training in indigenous crafts, detaching formal learning from traditional knowledge systems. This lack of exposure to the cultural, historical, and economic value of their heritage crafts in schooling makes younger generations less likely to pursue them as careers. The gendered burden on women artisans, who balance craft work with physically demanding household responsibilities, often leads to their work being undervalued in the informal economy, making it difficult for them to invest in skill upgrades or market access. Furthermore, a growing interest among young people in Western art and culture contributes to the decline in awareness of Indian traditional handicrafts (H. Singh & Agrawal, 2021).

5.4 Pedagogical Frameworks and Actionable Strategies for Educational Integration

Recognizing the multifaceted challenges, a comprehensive strategy is imperative for preserving and revitalizing Thongjao pottery, with a strong emphasis on educational integration and government support.

The National Education Policy (NEP) 2020 provides a transformative framework for this integration, emphasizing holistic, experiential, and locally rooted learning (Ministry of Education, 2020). NEP 2020 explicitly advocates for the revival and mainstreaming of India's traditional knowledge systems, calling for multidisciplinary and experiential curricula rooted in local contexts. It supports the inclusion of vocational education from Grade 6 onwards, offering a pathway for craft integration into formal schooling. The policy aims to empower communities and validate their cultural contributions, challenging the dominance of Western academic epistemologies by promoting alternative, community-centric learning models. Thongjao pottery embodies these goals perfectly, offering practical skills and a deep cultural understanding.

Integrating craft into the curriculum is a key strategy for enhancing student learning and achievement. Thongjao pottery can be embedded into school subjects, moving beyond extracurricular activity to become a transdisciplinary pedagogical tool.

a) ***Science (Environmental Science and Physics):*** Students can explore material properties, temperature effects during firing, the science of combustion, and clay transformation, observing scientific principles in real-life contexts.
b) ***History/Social Studies:*** The craft offers insights into historical evolution, socio-economic impact, cultural significance, and migration stories.
c) ***Art & Culture:*** Students can learn about design, motifs, aesthetic appeal, cultural symbolism, and artistic expression in relation to the culturally rich designs rooted in Manipuri mythology, nature, and daily life.
d) ***Mathematics:*** Principles of shape symmetry and measurements are evident in pottery production.
e) ***Language/Literature:*** Oral traditions, myths, and storytelling associated with the craft provide rich content.
f) ***Vocational Education:*** The craft provides practical skills and insights into traditional livelihoods. Teaching-learning materials (TLMs) should be developed based on indigenous tools, symbols, and values embedded in pottery traditions.

Preserving the traditional knowledge of Thongjao pottery requires community-based and informal learning models. Establishing village-level training centers led by local artisans, especially women, can formalize traditional mother-to-daughter knowledge transfer through structured apprenticeships. Recognizing these artisans as educators and cultural custodians is key to sustaining the craft. Integrating Thongjao pottery into secondary and higher education through case-based learning and field exposure can further support this goal. Educational modules may include student visits to Thongjao, where learners observe pottery-making, interview artisans, and explore the craft's cultural, ecological, and economic significance. This approach fosters qualitative research skills, cultural sensitivity, and promotes the principle of "learning from the community."

Policy recommendations are essential for institutionalizing and scaling up these efforts:

a) ***Curriculum Reforms:*** SCERT Manipur and NCERT should incorporate case studies of Thongjao pottery into school textbooks in subjects like Environmental Science, History,

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Art, and Language. Localized case studies and narratives about Thongjao potters should highlight women's leadership and community roles.

b) ***Knowledge Resource Repositories:*** Develop open digital repositories containing videos, step-by-step craft documentation, lesson plans, and artisan interviews on Thongjao pottery, accessible via DIKSHA and state education portals.
c) ***Support Participatory Research and Innovation:*** Encourage research projects involving potters, students, and researchers. Provide grants for community-driven innovation in sustainable tools, materials, or design adaptations that preserve the traditional essence.
d) ***Economic and Entrepreneurial Support:*** The integration of pottery education with skill development schemes such as the PMKVY (Pradhan Mantri Kaushal Vikas Yojana) and start-up incubation centres within art and design colleges is recommended. Support women-led pottery enterprises through access to microcredit, market linkages, and e-commerce platforms to make the craft financially viable.
e) ***Policy Emphasis on Eco-friendly Production:*** Align with modern environmental consciousness. Encourage research into fuel-efficient open-kiln designs and alternative biomass fuels.
f) ***Artisan Recognition and Welfare:*** Create a comprehensive database of Thongjao artisans, issue identity cards, and ensure they benefit from relevant government welfare schemes. Celebrate and recognize master artisans through awards and public felicitations to elevate their social status and inspire younger generations, drawing inspiration from Padma Shri awardees like Neelamani Devi.
g) ***Cultural Tourism Development:*** Promote Thongjao as a cultural tourism destination, ensuring direct benefits for the local community through infrastructure development, training local guides, and creating authentic visitor experiences centred around pottery.
h) ***Raw Material Access:*** Guarantee a consistent supply of high-quality soil and other raw materials. Establish community-managed clay banks or subsidize transportation.
i) ***Address Seasonal Production Hurdles:*** Develop strategies for year-round production, such as improved storage/drying facilities or integrating pottery into off-season livelihoods.
j) ***Promote Awareness:*** Conduct campaigns in schools and local communities to instill pride and foster interest among younger generations.

Digital documentation and preservation are critical for safeguarding this intangible cultural heritage. It includes comprehensive digital archiving through high-resolution videos, audio interviews with elder potters, 3D scans of Chaphu forms, and detailed textual descriptions with multilingual metadata. These digital assets should be hosted on accessible platforms, such as DIKSHA, SCERT websites, and museum online collections. Documentation initiatives should be community-led and participatory, involving Thongjao artisans and training local youth in digital documentation techniques.

6. Recommendations

Addressing these challenges requires a multifaceted and integrated approach that combines economic, environmental, social, and educational interventions.

a) **Market Adaptation and Diversification:**

i. ***Reinforce Cultural and Ritualistic Value:*** Promote the irreplaceable cultural and ritualistic value of Thongjao pottery by leveraging its continued popularity at festivals and ceremonies.
ii. ***Product Diversification:*** Encourage artisans to innovate and diversify into new product lines that cater to contemporary urban and global consumer preferences, such as decorative

items, figurines, toys, wind chimes, lampshades, and gift items. It allows them to tap into niche markets where cultural authenticity is valued.

iii. ***Modern Marketing Strategies:*** Establish a strong online presence through dedicated websites, social media platforms (e.g., Instagram, Pinterest, TikTok), and e-commerce portals to significantly expand market reach.

iv. ***Improved Logistics:*** Develop specialized packaging solutions or foster collaborations with logistics providers to overcome the challenges of transporting delicate earthenware, ensuring products can reach broader markets safely and securely.

b) Raw Material Access and Environmental Stewardship:

i. ***Secure Raw Material Supply:*** Guarantee a consistent supply of high-quality clay (*Leitan Leimu*) and other essential raw materials by establishing community-managed clay banks or subsidizing transportation costs for potters.

ii. ***Sustainable Resource Management:*** Research alternative clay sources and methods for replenishing existing pits. Promote eco-friendly firing initiatives, such as exploring more fuel-efficient open-kiln designs or alternative biomass fuels, that reduce environmental impact without altering the unique aesthetic characteristics of Thongjao pottery. Community-based environmental education programs can foster sustainable harvesting practices and resource conservation.

iii. ***Policy Implementation:*** The careful implementation of the Manipur Mineral Policy is crucial to support traditional clay mining for artisans, striking a balance between environmental conservation and local livelihoods.

c) Educational Integration and Skill Development:

i. ***Curriculum Integration (NEP 2020 Alignment):*** Integrate modules on indigenous crafts, specifically Thongjao pottery, into state school curricula across various subjects, including Environmental Science, History, Art, and Language. Develop age-appropriate modules and culturally relevant teaching and learning materials, and provide specialized training to teachers to facilitate hands-on craft education.

ii. ***Community-Based Learning:*** Strengthen existing artisan communities to establish and operate informal training centers or workshops within the village, offering structured yet flexible apprenticeship programs that replicate the traditional mother-to-daughter transmission of skills.

iii. ***Field Exposure and Research:*** Develop case-based learning modules for secondary and higher education that incorporate field visits to Thongjao village, enabling students to document processes, interview artisans, and explore the various dimensions of the craft. It promotes research skills and cultural immersion.

iv. ***Formal Skill Development:*** Link pottery education with national skill development schemes (e.g., PMKVY) and start-up incubation centers in art and design colleges, formalizing traditional learning pathways and providing vocational recognition.

d) Socio-economic Support and Recognition:

i. ***Elevate Social Status:*** Celebrate and recognize master artisans through awards and public felicitations (e.g., Padma Shri awarded to Neelamani Devi) to elevate their social status and inspire younger generations.

ii. ***Artisan Welfare:*** Create a comprehensive database of Thongjao artisans, issue identity cards, and ensure they benefit from all relevant government welfare schemes, including essential insurance for health and product damage, providing a much-needed social safety net.

iii. ***Fair Compensation:*** Ensure that improved market linkages lead to fair compensation for artisans, making the craft economically viable and attractive to young people.

iv. ***Empower Women Artisans:*** Specifically address the challenges women artisans face, including access to credit and support in balancing craft work with household responsibilities.

e) Digital Preservation and Awareness:

i. ***Systematic Documentation:*** Prioritize comprehensive digital archiving, including high-resolution video recordings of the entire pottery-making process, audio interviews with elder potters, 3D scans of Chaphu forms, detailed textual descriptions, and multilingual metadata.

ii. ***Accessible Platforms:*** Host these digital assets on accessible platforms such as DIKSHA, SCERT websites, museum online collections, and open-access digital repositories to ensure wide dissemination and usability.

iii. ***Community-Led Documentation:*** Implement community-led and participatory approaches, involving Thongjao artisans in the documentation process and training local youth in digital documentation techniques to foster intergenerational engagement.

iv. ***Awareness Campaigns:*** Conduct targeted awareness campaigns in schools and local communities to instill pride and foster renewed interest in Thongjao pottery among younger generations.

7. Conclusion

Thongjao pottery, also known as Chaphu, is a vital expression of Meitei cultural heritage and identity, rooted in Neolithic traditions. Crafted primarily by women using hand-building techniques and open-kiln firing, its distinctive scarlet-tan pottery holds both functional and sacred significance in rituals and ceremonies. Despite its cultural richness, Thongjao pottery faces significant challenges due to industrial competition, shifting consumer preferences, environmental degradation, and declining youth engagement, which threaten intergenerational knowledge transfer and artisan livelihoods. To preserve this heritage, comprehensive efforts are required, combining cultural recognition with economic, educational, and environmental support. Initiatives such as cultural tourism, market diversification, and integration of indigenous crafts into school curricula under the NEP 2020 can aid revitalization. Ethnoarchaeological and digital documentation is also essential. Ultimately, empowering women artisans and acknowledging Thongjao pottery as a symbol of identity and spirituality are crucial for sustaining this tradition and ensuring its relevance for future generations.

8. Contributions

This research makes significant academic, cultural, and practical contributions to the interdisciplinary domains of ethnoarchaeology, indigenous knowledge systems, and sustainable heritage studies.

a) ***Firstly,*** it enriches the ethnographic documentation of Thongjao pottery, one of the last surviving non-wheel pottery traditions in Northeast India, by systematically recording its production processes, tools, and ritual contexts. Through a gender-sensitive lens, the study foregrounds the pivotal role of women artisans as primary custodians of intangible cultural heritage, preserving knowledge transmission through oral traditions and embodied craftsmanship (Singh & Devi, 2017; MyGov Blogs, 2023; Angjoy, 2025).

b) ***Secondly,*** by adopting an ethnoarchaeological approach, the research bridges the gap between archaeological evidence of prehistoric pottery assemblages in Manipur and the living practices of Thongjao artisans. This comparative framework strengthens archaeological interpretations by demonstrating technological continuity and adaptive resilience (Devi & Panjwani, 2014; O.K. Singh, 1991; Pikirayi, 2022). The findings contribute to expanding the theoretical understanding of material culture studies in South and Southeast Asia, emphasizing how traditional crafts embody both tangible and intangible heritage values.

c) ***Thirdly,*** the study provides actionable insights for policy, education, and sustainable livelihoods. Aligning with India's National Education Policy (NEP) 2020, it proposes the integration of traditional crafts into school and higher education curricula to foster heritage-based learning and skill development (Government of India, 2020). Furthermore, it highlights the potential of cultural tourism and digital documentation as strategies for revitalizing crafts and empowering rural women economically (UNESCO, 2022; Denzin & Lincoln, 2023).

d) ***Fourthly,*** the research contributes to sustainability discourses by illustrating how indigenous practices, such as Thongjao pottery, exemplify ecological wisdom through the use of locally sourced and renewable materials, as well as low-carbon production processes (Ningthoujam & Rashida, 2022; Vidyani & ManiBabu, 2017). By documenting this heritage within the frameworks of environmental and socio-cultural sustainability, the study offers a replicable model for safeguarding similar indigenous crafts across South Asia.

e) ***Finally,*** future research should prioritize collaborative methodologies that position Thongjao artisans as co-researchers, thereby fostering community ownership of heritage knowledge and ensuring that documentation directly benefits local practitioners. Applied studies targeting improved firing efficiency, sustainable clay sourcing, and market access would enhance both the community's resilience and academic understanding of sustainable craft ecosystems (Ningthoujam & Rashida, 2022). As Thongjao pottery continues to evolve, it remains an invaluable resource for examining the interrelationships among material culture, technological practice, and cultural identity, demonstrating how indigenous craftsmanship can serve as a living model of cultural resilience and ecological sustainability in the 21st century.

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