

Matters of Materials: Taxonomy, Housing Preferences and Transformations of the Rural Dwellings in India

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Abstract

The built habitat of India is undergoing rapid transformations as developmental processes of modernisation and globalisation reach remote rural landscapes. While this has led to the homogenization of architecture and related cultural identities across the region, it has also shifted the aspirations of the rural populace. People are moving away from *sustainable* vernacular buildings made in natural materials in favour of a '*pakkā makān*'.

This paper traces the transformation of the built habitat in rural India and examines the shift in relation to the binary construct of *kacchā* (translated as raw or unbaked, untenable, unrefined) and *pakkā* (translated as cooked, solid or concrete, refined) materials. The rural vernacular dwelling is labelled as *kacchā* as they are built with 'raw' natural materials like earth, bamboo and thatch. They are being replaced with *pakkā* houses made of industrial materials such as brick, cement and concrete. This research conceptually connects the building materials and the materiality of dwellings in rural India to housing preferences of the people as indicative of human values.

The research employs a mixed method analysis, collecting data from three rural contexts, Poonch (Jammu and Kashmir), Birbhum (West Bengal) and Barmer (Rajasthan), using observations, semi-structured interviews, and spatial-material mapping of the rural households. Apart from recording the housing preferences of 387 respondents, perceptions of *kacchā-pakkā* were collected through narratives of lived experiences.

The data reflects perceptions of poverty, intensive maintenance, lack of development but thermal comfort being associated with *kacchā*, and linkages of durability, social alleviation, maintenance-free and being progressive or modern with *pakkā*. The reasons for preferences reflect the play of values of convenience, social identity, social power and conformity to being modern. The house has become the most visible instrument of subaltern modernity. In that vein, the *pakkā* rural house is imbued with the agency of representation of modernity for those who have the capacity to aspire.

Keywords: *Kacchā-pakkā*, Rural Housing, Housing Preference, Human Values, Subaltern Modernity

Introduction

In the last three decades, rural India has seen unprecedented developments and transformations. As commerce and infrastructure develops, mobility networks strengthen and digital media becomes more accessible to distant villages, they are no more 'remote'. Rural contexts find themselves in the final stage of the post-independence project of development planning designed to restructure the 'foundational logic' of rural life to make it more compatible with 'modernity' (Jodhka, 2018). At present, the hinterlands experience all at once: the transformative forces of industrialisation, capitalism, globalisation and digitalisation. These forces of transformation inevitably impact the material landscapes of rural India, manifesting in the change of building materials and construction methods in rural housing.

With the shift in material culture, the village may cease to remain the site of traditional life or be emblematic of the ancient ethos of India, as is popularly believed. Traveling across the country, it becomes obvious that the traditional rural vernacular dwellings are either disappearing or are morphing into hybrid forms as industrial materials make their way into the homes of rural inhabitants. Indigenous buildings are getting replaced by the ubiquitous brick and cement-concrete structures that now dot the rural landscape across the country. Scholars lament the loss of rural built 'heritage', cultural identities and traditional vernacular knowledge systems specific to place, fervently documenting, before it is all gone. Rural inhabitants continue to make their choices and these are manifesting in forms tending to homogenise the built landscape.

As discourses on sustainability, regenerative design, ecological sensitivity, net-zero energy construction and alternative development theories gain global relevance, there is a renewed interest in the vernacular built-forms and ways of building over the last two decades. Principles of vernacular architecture have been studied since the 1980s (Fathy, 1986) and were recognised as low-carbon and climate-responsive. This is recently acknowledged as a part of a broader discourse related to climate change. Vernacular architecture is inherently sustainable and holds lessons to learn from (Rasulo, 2003; Eyüce, 2007). New methodologies for understanding and the optimisation of vernacular buildings have been articulated (Meir and Roaf, 2006) to assess the future of the vernacular. There are many quantitative studies using detailed monitoring and measurements of environmental qualities or energy performance parameters substantiating such claims (Dili, Naseer and Varghese, 2010; Singh *et al.*, 2010; Jagatramka, Kumar and Pipralia, 2020). However, scholars such as Vellinga argue that 'this discourse replaces the complexity, plurality and dynamics of both vernacular architecture and concept of sustainability by reductionist, essentialist and romanticist representations and calls for a holistic, integrated and critical approach' (Vellinga, 2013).

In India, the rural way of life, social systems and vernacular cultural forms have been in congruence with the ecology of the place. This reflected in the materiality of the built habitat. With the shifting aspirations of the rural and acquiring of capital, a denial of traditional 'vernacular' forms and materiality is under way. This makes it critical to interpret the perceptions at play and reasons behind preferences of housing materiality in the villages. This paper posits that the transformation of the rural built habitat is a conscious process and is enabled by the inhabitants. It argues that the basis of the shift lies within language, and more specifically 'language in everyday use'; as language profoundly shapes our view of the world and our reality. 'Language has the capacity to make politics, to create signs and symbols that can shift power-balances and that can impact on *even* institutions and policy making' (my italics; Hajer, 2006). The language used has meanings and associations that may change over time leading to altered cognitive perceptions.

This research aims to examine the transformation of the built environment of rural India through the building taxonomy of *kacchā* (translated as raw or unbaked, untenable, unrefined) and *pakkā* (translated as cooked, solid or concrete, refined) and how that has impacted changing materiality of the dwellings. It looks at the transformations in vernacular architecture by interpreting how language and taxonomy reflect in housing preferences, and examines the reasons for housing preferences in conjunction with the categories. It reveals that the underlying perceptions are embedded in the language of everyday use. The primary research question is:

What are the materiality-based housing preferences and the related rationale behind the transformation of the dwellings in rural India with reference to the binary construct of *kacchā* and *pakkā*? To be able to answer the question, the research first looks at different material types in rural houses in the selected sites. It then explores the prevailing housing preferences and choices as reflected by the inhabitants of different age, gender, education, occupation, class and caste. Finally, the research maps the reasons or rationale reflected by the inhabitants for their housing preferences.

The introduction here lays the background and defines the overarching research enquiry. The research is then structured into four parts. The first part includes the literature review on vernacular transformations and perceptions, and the conceptual framework that elaborates on the guiding concepts for the research. These include the building taxonomy of *kacchā* and *pakkā* and the concepts of housing choice, housing preferences, and human values that guide the housing preferences with reference to literature by Sylvia Jansen and S.H. Schwartz. The second part lays out the research methodology explaining the qualitative and quantitative methods employed for data collection and analysis. The third part of the research forms the core of the research with the findings from the field. Rural districts in three different states in northern India are selected as the sites for field work. These include Poonch in Jammu and Kashmir in the North, Barmer in Rajasthan in the West, and Birbhum in West Bengal in the East. The three sites offer a diversity of bio-climatic contexts and a triangulated comparison for inferences. This part includes three subsections enumerating the prevalent housing types in terms of materials – *kacchā*, *pakkā* and hybrid forms, housing choices and preferences, reasons for housing preferences and embedded human values. The final part culminates the paper with a critical analysis of the findings from the field through discussions and conclusions. It elucidates on the nature of the transformation of the rural built landscape and the cultural shift within the rural mindscape.

Literature Review: Vernacular Transformations and Perceptions

Henry Glassie's classic book *Vernacular Architecture* conceptualizes the distinction between vernacular technologies in contrast to industrial systems of production. Vernacular technologies involve local materials and touch of the hand, 'direct connections among suppliers, producers and consumers who simultaneously shape landscapes, social orders and economic arrangements, while wealth circulates in the vicinity' (Glassie, 2000). Industrial production employs imported materials and complex machinery, depending on "expansive political powers that maintain costly infrastructure of transportation and communication, while supporting through law the right of a small minority to amass great reserves of capital". Writing from a western perspective, Glassie proclaims that though it is pertinent to be clear about this distinction, the attitudes of both towards nature is the same- to treat nature as a resource. In the discussion on transformation to industrial materiality, notions of permanence are evoked as are knowledge systems required for sustaining vernacular technologies. A change in social order at a global level is coercing people to choose to 'adjust with the times', with increased 'reliance on distant producers, and participation in the international cash economy.'

Reflecting on the future of vernacular architecture, Vellinga (2020) calls for a 'dynamic approach that explicitly focuses on building traditions rather than buildings. Questioning the notions of vernacular authenticity, he points out how many buildings are somewhere between the 'real', traditional or historical vernacular, and the modern. He makes a case of viewing the vernacular as an active entity, continuously re-used, re-interpreted or adapted. Vellinga traces the discourse on 'the vernacular' reviewing the theoretical conceptualisations of the category especially in relation to globalisation, transnational migration and climate change. He reviews the literature on vernacular architecture of Southeast Asia and Oceania through historical framing into the 21st century. As his analysis of the vernacular in the contemporary closely interconnected world moves forward, at one point, he makes a declaration of the rejection of the notion of 'vernacularity' (Vellinga, 2020). He concludes with three points—going beyond oppositional models; breaking the dichotomy of the subject-object in the vernacular; and locating it as an actively adapting form based in shifting identities.

There are studies done on the interactions of vernacular architecture and its negotiations with global influences that generate complex and 'hybrid' built forms. Such studies 'view the vernacular as a strong subcurrent of modern praxis' (Sim, 2010). These reveal the cultural, social and functional identities of vernacular structures, reinstating how the vernacular is continuously evolving and lives on. A large amount of prevalent research on vernacular built-transformations tend to focus on building typologies using descriptive architectural surveys, environment-behaviour studies, data collected through observations, and architectural measured drawings. The idea is essentially focusing on generating a typology of house forms specific to a place. The building is seen as an object, spatial or material transformations are observed and recorded. This data is in the form of annotated maps, plans, elevations, sections, photographs or analytical diagrams with detail descriptions of siting, spatial layout, everyday life order, building materials, construction technology, built character and formal expression (Belz, 2013; Burele and Valsson, 2016; Narkhede, 2020; Daketi and Srikonda, 2022). The changes are attributed to urbanisation, infrastructure provisions enabling mobility and access to resources, and also migration, modern technology transfer and proliferation, availability of industrial materials and increasing globalisation characterised by digitalisation. More recently, researchers have also looked at the vernacular in the context of climate change and cultural ecology, through a systems thinking approach (Dhingra, 2021). Such transformation studies trace the 'modernising' of the vernacular world as a natural effect of development. Fewer studies focus on the attitudes of people or their perceptions of the vernacular, diluting the object-subject dichotomy.

There has been an uprise of studies that go beyond interpreting the built object and analyse vernacular spaces in terms of the socio-cultural aspects of the community as environment-behaviour studies (Rapoport, 2008) or spatial syntax methods (Kaushik, 2020). O'Rourke (2020) highlights the role of anthropologists working in collaboration with architects to develop an understanding of the socio-spatial behaviours in vernacular settings, in terms of kinship, gendered roles and preferences for lifestyles. Positioning their work in the domain of architectural history, many such scholars trace the origins of the vernacular type and examine transformations as manifested in modifying or modified forms through a study of deep culture patterns in the form of elements of everyday life (Miller, 2020). Some also focus on the temporal nature of vernacular architecture, its maintenance and rebuilding processes, and material centric studies based on the choice of the inhabitant. Another theme under analysis is the appropriation and reification of vernacular built form, with the purpose of identity formation or active adaptation into formal contemporary architecture (O'Rourke, 2020).

As researchers focus on the community, they use ethnographic methods and interview members of the rural community to collect narratives of places, and then position the data within the meta-narratives of modernisation, development and globalisation (Menon, 2018; Bharat, 2019). Bharat (2019) reveals aspects about the community's relationship with the natural environment and identifies causal relationships between processes and sites. Each village is seen as a 'dynamic site shaped not only by the internal processes of resident communities, but constantly negotiating economic, political and environmental forces outside of itself, revealing the trajectories of change and ethnography of everyday life. Menon (2018) discusses rapid transformation in house building practices in rural India, 'as communities discard traditional (kuccha) building materials and use modern (pucca) ones'. Using an ethnographic approach, Menon charts the use of concrete and its understanding by various members of the village community based on identities of caste, class, gender, ethnicity, age and profession. The research findings are framed conceptually as a 'sociomaterial assemblage', indicating a dynamic relationship between the social and material aspects of concrete use making it a dominant and ubiquitous practice, which he calls a *puccafication* of social life (Menon, 2018).

Contemporary discourses discuss vernacular modernism with 'a role of the vernacular in the modern' (Umbach & Hüppauf, 2005), understanding it to be integral to the project of modernity. Studies on vernacular architecture or traditional settlements also focus on their role in the reconstruction of history and the evolution of the concept of national identity (Alsayyad,

1995). Gabriele Weichart discusses the architectural changes to buildings, changes of ownership or of meaning within the broader narrative of de-territorialization of the *joglo*, a prestigious form of Javanese vernacular, now transported to Bali for commercial reasons (Weichart, 2020). She studies 19 Balinese sites where the *joglo* had been transformed and incorporated into hotels, guest houses, restaurants or art galleries; as touristic markers. The paper raises a pertinent theoretical question, whether such transformations destroy the former Javanese cultural heritage of the *joglo* through de-contextualization of the “heritage - culture - place”, or is it a valid adaptation under conditions of cultural change (Memmott and Ting, 2020). The paper also discusses how distinctive vernacular buildings have become objectified through a process of appropriation and reification by the State, becoming national symbols in theme parks.

There also exists a segment of research that highlight perceptions of materials and technologies in relation to vernacular transformations. Stevenson (2006) highlights that people have a tacit knowledge of materiality, and describes appraisal of materials in terms of subsistence, protection, identity and understanding of function. He brings forward several relevant themes—a sense of place derived through materiality when the materials have embedded meaning, the idea of emotional attachments to materials enabling sustainable resource use, understanding construction materials as part of a cultural ecosystem; and using technology to minimise processing and maximise potential of materials (Stevenson, 2006). Additionally, Bosman and Whitfield (2018) make a case for built environment practitioners to ‘explore the role of undocumented psychological perceptions within communities’. Using Klineberg’s understanding of social psychology within the vernacular construct, it is discerned that perceptions are linked to both behaviour of a culture and the individual. This results in social behaviour through imitation and conformity (Bosman & Whitfield, 2018).

A research on the perception of users towards the impact of modernization on vernacular housing in Iran with a focus on construction materials and technologies has been carried out (Ghafouri, 2016). The framework used to demonstrate technologies and materials of the past and present typologies is based on the building elements such as foundations, floors, walls, roofs and attachments. This is done as per tangible parameters of durability, cost and time of construction and intangible parameters of harmony, continuity, friendliness, aesthetics and energy to investigate and analyse the level of acceptability and adaptability of the elements based on the resident’s perception. The study examines three past and three present typologies and interviews of 167 residents and 18 experts. The research indicates that the key to acceptance of continuities or adaptations of the vernacular is possible through “awareness of strategic components rather than a particular typology holistically”. It also recognizes the role of experts to keep local people informed about the overall sustainability related issues, availability of innovative materials and the impact of choice of materiality to enable progress on a path of modernization that is contextual.

Focusing on the *Rawshan* (a vernacular window feature), public perceptions on vernacular architecture (Alelwani, Ahmad and Rezgui, 2020) have been examined. It analysed the interaction of the occupants living in traditional buildings with the window and as the interface with the outside world for patterns of comfort and satisfaction and subcodes; privacy, thermal comfort, ventilation and light control, aesthetics and spatial use. The research also assessed the level of awareness of the design qualities, familiarity of the element being vernacular and part of a ‘secular’ architectural tradition and views on causes for decline in the use of *Rawshans* and possibilities of revival. Based on the high level of acceptance for reviving the *Rawshan*, this research makes a case for reviving the use of vernacular precedents postulating that this may also resolve the identity crisis in Middle Eastern architecture. At the same time, it argues that the revival must include environmental design considerations and not just be an aesthetic element.

A study of people’s acceptance of vernacular houses in Ghantasala, Andhra Pradesh (Sadhu and Ramesh, 2019) focused on understanding the degree of people’s attachment or satisfaction level toward vernacular elements to assess the social acceptance of vernacular architecture more broadly. It used ‘Critical- T’ test analysis, looking at the t-statistic, the t-

distribution values and the degrees of freedom to determine the probability of difference between the set of data for attachment to the traditional house before modifications and attachment to the transformed vernacular house after modifications. Although the analysis concluded that there is greater acceptance and attachment for traditional vernacular house rather than the modified ones, transformation is a reality in each of the cases. The rest of the study examines the causative factors for the transformation.

This research paper posits language at the core of changing notions of materiality and hence vernacular transformations. Inquiring about the change of material use in vernacular dwellings in the rural context of India immediately evokes the binary terms *kacchā-pakkā*. The traditional vernacular dwelling is labelled as *kacchā* and the newer constructions in brick, cement and concrete as *pakkā*. This research explores the connections between narrative positions people take and the reasons they formulate for the transformations, and their housing preferences reflecting their values and identity. It reveals that the transformations are a conscious process, an outcome of a continuous mediation of everyday social life. *Kacchā-pakkā* provides a base model that denotes many of the prevailing binaries, as vernacular-modern, traditional-modern, rural-urban, backward-progress and so on and deconstructing these assists in breaking down oppositional models. This research also dilutes the dichotomy between the subject and object, where the house represents the people, ‘embodying culture and having agency’ (Vellinga, 2020) and not being a passive object of study. This research examines vernacular architecture as “actively evolving, combining and adapting as part of identity formation”. It is viewed as a project always in the making, actively designed by the inhabitants through their evolving cultural identities and the constraints of construction.

Conceptual Background

The research is based on the interpretation of the house as the core artifact of material culture. It is embedded with the understanding that all *materials* of study lead to the discovery of the system of beliefs, attitudes and values of the family that lives in it. The house or housing has been a frequent object of study within many disciplines of study. However, the manner in which the actual *building material* of the house determines the culture of the family that resides within, is not discussed much. With that perspective, this research examines how materials and materiality is experienced in the context of the house. It unveils how properties of materials—how they flow, mix and mutate—not just tell their own stories but rather reflect cultural and practical lived experiences of the people along with their values.

Kacchā-Pakkā as a Building Taxonomy

Kacchā-pakkā is a primordial form of categorisation in the Indian context, a prevalent pair of terms in everyday thinking. The binary reflects several meanings and pervades myriad forms of material culture, reflecting in more than just materials and construction processes in buildings. The terms have a fluctuating relation amongst themselves, shifting from being a gradable pair, being complementary, in duality, or in polar opposition. In relation to the built environment, the two words symbolise two different ideologies of thinking, building and dwelling (Heidegger, 2001). The binary construct of the terms *kacchā* and *pakkā* can be interpreted to reveal how specific material conditions of the registers in which architectonic forms is understood—such as image, metaphor, performance, ruin, diagnostic or symbol—enable human relations (Buchli, 2013) associations and values.

Linguistically, the terms *kacchā* and *pakkā* are adjectives and are hence qualitative in nature. The terms act as prefixes to other words denoting any physical, material, social and philosophical object or process, giving it a set of attributes that determine its meaning, character and relative value. The varied meanings within the lexical field for *kacchā* and *pakkā* can be interpreted within four broad contexts of use and characterisation—processes, materiality, social relations, and human attributes. For instance, as process-based characterisation, like in the context of food, *kacchā* denotes unripe (fruits / vegetables), raw (meat / pulses), uncooked (rice) and *pakkā* denotes ripe, cooked (boiled, baked, roasted, fried). Other characterisation includes denoting the state of material with *kacchā* and *pakkā* reflecting raw and processed

material respectively, for instance unslaked and slaked lime, unbaked and baked brick, unfired and fired pitcher, and so on.

In the context of the built environment, the terms have become embedded in the building taxonomies. They are often used to describe the material or strength of a building or the nature of formality and/or urbanity within the built habitat. The terms *kacchā* and *pakkā* have been used to qualify houses since the pre-colonial times, as houses built in earth or sun-dried brick were commonly designated as *kacchā* and houses constructed with burnt brick or stone with lime and terrace plastered roof as *pakkā*. Through colonial and post-colonial modes of knowledge production and dissemination, the fluctuation between the two terms has been crystallised into a true binary as polar opposites (Cloke and Johnston, 2005), where *pakkā* assumes superiority leaving the term *kacchā* as the inferior one (Yule and Burnell, 1886).

In contemporary use, the application of the binary for building materiality also appears to be in polar opposition, specifically within the taxonomy and political agendas of the government. This becomes apparent through the state rhetoric, for instance through the promise of a *pakkā* house in the ‘Housing for All 2022’ agenda, that reinforces the separation between the binary. It is also reflected in state actions as *kacchā bastis* or ‘informal’ self-built settlements in the urban areas are often demolished as being illegal. Buildings made with natural materials such as mud, wood or bamboo are considered to be *kacchā* and perceived as substandard; communities inhabiting such structures are also looked down upon and assumed to be poor. Table 1 below indicates the interpretation of *kacchā* and *pakkā* at various scales of the built environment ranging from building materials, buildings, small scale settlements like villages and larger urban settlements. The research here investigates the role of this binary construct as a fundamental ordering code for thinking about the habitats and the dwellings within, both in matter and mind. It reflects on how the materiality of the rural dwellings have arguably led to a shift in the housing preferences and the human values they express.

Table 1: *Kacchā-Pakkā* Binary as interpreted in the built environment in India.

Source: Author.

Built Environment	<i>Kacchā</i>	<i>Pakkā</i>
BUILDING MATERIALS	Raw/ unprocessed; materials that are used in their natural state to build with, like mud or earth, sundried mud-blocks, wood, straw, grass, reed, wood, and undressed stone without mortar	Cooked/ processed; those materials that are industrially produced or manufactured, like baked bricks, cement, concrete blocks, steel bars, glass and others
BUILDINGS¹	Ephemeral/ temporary/ flimsy; most traditional vernacular rural houses made of natural materials, ‘slum’ shelters	Solid/ permanent/ stable; Historical monuments and traditional houses using lime mortar in masonry, all modern buildings using industrial materials
SETTLEMENT	Lower in the social structure- areas of the settlement within which people of lower caste/ class live	Higher in the social structure – areas of the settlement which form the seat of political power, where people of higher caste/ class reside
CITY	Unplanned/ illegal/ self-designed; <i>basti</i> (self-built settlements that are commonly called slums), the informal city	Planned/ legal/ designed by experts; the formal city, structured by government agencies

Housing Choices, Housing Preferences and Values

Housing choices refer to actual behaviour in terms of selection and adaptation of materials of the dwellings. As Jansen, Coolen and Goetgeluk, (2011) show ‘choice will always reflect the joint influences of preference, market conditions, regulations, availability, and

¹ What goes missing while doing this categorisation is that buildings’ longevity is not just due to the building materials used, but also, the building technology, construction quality and maintenance cycles.

internal and external personal factors such as lifestyle and social class'. In the Indian society, housing choice also reflects the influence of caste. On the other hand, housing preferences refer to 'relative attractiveness of the house' and are based on unconstrained evaluations of that attractiveness. In this research, the houses that people live in—the physical, built house structures as they exist—reflect the housing choices. They are often based on the ecological locale, availability of ancestral resources, financial affordability, social factors of caste and class, and family or individual lifestyles. The aspirational house—the imagined ideal house that would best represent the desired ideology of an individual—is reflected in the housing preferences. The research brings forth how material-based perceptions formed through the lives of rural inhabitants inform their preferences.

The research further builds on the concept of values as illustrated by Schwartz (2012) and their extrapolation into housing by Jansen (2014). The transformation of the built habitat in rural India and the prevalence of specific material preferences can be correlated with the dynamics of values in the community as inhabitants pursue certain goals, aspirations and values that are important to them. The house can be understood as an outcome of operationalisation of an aspired lifestyle, or one's pride, sensibilities, self-expressions and their values. Schwartz (1996) defines values as desirable, trans-situational goals that vary in importance and act as guiding principles in one's life. In the context of housing, the value orientation of a person reflects directly in the preference and choice of a dwelling; aesthetics, materiality, building expression, and other socio-spatial manifestations. Schwartz classified values into ten types representing a continuum of motivations. These include: self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence, and universalism (Schwartz, 2012). Jansen further develops the framework and classifies these values into eight groups encompassing 29 values (Jansen, 2014). There are scholars who have explored home, housing and human values, some mentioned already, but also others such as convenience, location, friendship activities, social prestige and economy (Cutler, 1947; Beyer, Mackesey and Montgomery, 1955).

For the purpose of this research, reference is made to the value frameworks as proposed by the scholars, and they are adapted to create a framework for rural India with relevant seven value groups encompassing 17 values that play a role in the rural built environment. The first housing value type is 'self-direction' defined by Schwartz (2012) as independent thought and action-choosing, creating and exploring. It reflects in self-dependence in the process of building a home, in creative freedom and an expression of the self as one engages with the process of building one's dwelling, and in the need for expansion and privacy in the house as opposed to shared spaces. The second housing value type is 'tradition' understood as respect, commitment and acceptance of the customs and ideas of one's culture (Schwartz, 2012), which reflects in the lineage, ancestral or communal memories and cultural symbolism that the house embodies. The third is 'universalism' described by Schwartz as understanding, appreciation, tolerance and protection for the welfare of all people and for Nature. It is reflected in the spatiality and aesthetics of the house, its materiality and incorporating *others* (non-human included) in everyday living, as a result of unity with Nature.

The fourth value type is 'convenience' that can be described as the state of proceeding with a task without difficulty and in terms of utility of the house as its spatial and temporal order, the maintenance processes of the house for its upkeep, ensuring longevity and durability of the house structure. The fifth house value type is 'security' with a defining goal of safety, harmony and stability of society, of relationships and self. It includes the physical safety that the house provides as a shelter and the physical comfort and hygiene that it endows. The sixth is social identity, that can be described as moving along social expectations and norms, which encompasses the notion of self-portrayal through the house to fit into society, using the house as a socio-cultural reflection of one's projection and self-identification as a member of a larger society. The seventh and the last housing value group is 'social power', defined as the social status and prestige, and control or dominance over people and resources. This includes social status in terms of caste or class, internal pressure for social recognition and prestige, and external societal pressures for public image, as embodied in the house.

Research Methodology

This is a descriptive research that employs mixed methods combining qualitative and quantitative data collection and analysis. It looks at the physical transformations of the dwellings through a phenomenological mode of inquiry based on the lived experience of the inhabitants. Each of the homesteads with all house structures were mapped spatially and materially. Material mapping included recording the material for all building elements- floor (outside and inside), walls including surface treatment, roof including structure, stairs, and openings. Based on the materials used, the houses were categorised within the kacchā-pakkā gradation. This research also attempts to evoke a comprehensive account of people's experience of the kacchā-pakkā, to bring out their changing conception of homes through nuanced, in-depth, semi-structured interviews and their analysis. Questions around what is a 'good' house and why led to the specific inquiry on housing preference, an aspirational imaginary. The housing preference capitulated the rationale, the reasons for the particular preference. This further conceded a discussion on interrelations with human values. The findings are supported by systematic observations of the built environments of the dwellings for spatial mapping. The data collected through conversations and interviews are coded quantitatively to interpret housing preferences, reasons for preferences and human values that determine the preferences. The findings are then synthesised for a critical discussion.

The three sites for fieldwork represent three distinct bioclimatic zones of India and hence three different kinds of place-based vernacular architecture, allowing triangulation of data for validity. The states of Jammu & Kashmir, West Bengal and Rajasthan respectively fall in the cold-temperate, warm-humid and hot-dry climate zones of India. The sites also represent a material and cultural diversity reflected in the varied physical and social spaces in the houses. The researcher's prior first-hand experience of engaging with the sites for a prolonged time and observing the transformation of the habitat to trace the changes and continuity, became another criterion for selection.

For data collection in the three sites, sampling was undertaken in two sets. The first sample unit consisted of the physical house structure and the materiality of the homestead. A total of 121 households were identified and studied in the three sites to incorporate the manifestations of the phenomenon of Kacchā and Pakkā in the built habitat. The second sample unit was the inhabitants comprising the family members living in the houses. Stratified random sampling approach was employed ensuring a coverage of all house types and demographic diversity for the two sets of samples. Over 380 participants with varied profiles in terms of age, gender, occupation, class and caste were engaged to incorporate varied positions. In the district of Poonch in Jammu & Kashmir, a total of 35 houses were studied. An equal stock of kacchā and pakkā structures were identified, 10 houses each. 15 hybrid houses were selected with 9 being hybrid within the house structure, 1 being hybrid in homestead and 5 that are hybrid in both ways. In the Birbhum district of West Bengal, a total of 46 houses were studied, consisting of 12 kacchā houses, 4 houses hybrid in materiality, 14 being hybrid in the homestead, 12 being hybrid in materiality in both the house structure and the overall homestead, and 4 fully Pakkā structures. A total of 40 houses were studied in the rural district of Barmer, Rajasthan. The district showed a clear dominance of pakkā structures over the kacchā type, with the homesteads studied representing little to no kacchā houses, 12 hybrid households in terms of materiality, 10 having hybrid materials in both the house structure and the overall homestead and 2 in both, and 19 being mostly or fully pakkā.

Findings from the Site

Kacchā, Hybrids, Pakkā and the Lived Experience-

As per the Census of India's 'Atlas of Houses, Household Amenities and Assets' 2011, the selected rural sites represent different stages of material transformation while also holding a substantial stock of semi-permanent or Kacchā houses. The rural district of Poonch in Jammu and Kashmir indicated 10–20% households having permanent census houses in 2001 which has increased to 20–30% by 2011. The rural district of Birbhum in West Bengal had a mix of areas with 10–20% and 20–30% households having permanent census houses in 2001, which have

increased to 20-30% and 30-40% range respectively in 2011. Similarly, the rural district of Barmer in Rajasthan designated 20-30% households as having permanent census houses in 2001, which had increased to the 30-40% range by 2011. The Census data validates that the physical built spaces of house structures as well as homesteads are transforming to Pakkā as the contemporary vernacular houses exceed traditional vernacular dwellings, becoming the norm. *Why is it becoming the norm? Why are the traditional vernacular rural dwellings being rejected completely or partially?* This study finds some answers to these questions through a thorough examination of the house types and conversations with the inhabitants.

The primary data collected from 121 households across the three sites represents all house types with 18% of the studied households being Kacchā houses, 11% hybrid in materiality within the house structure, 20% being hybrid materiality within the homestead, 16% having hybrid materials in both the house structure as well as the overall homestead, and 35% being fully Pakkā. The kacchā dwellings require to be maintained frequently at various levels. *Lipai* or the plastering of the earth walls and floors has to be done every month or two to retain its surface quality and it is generally done by the women of the house making it a gendered process in terms of maintenance. The topmost roofing layer generally made of thatch or reeds, as in the case of dwellings in Birbhum and Barmer, requires to be replaced every year; the earth roof of the dwellings in Poonch needs to be repaired every few months for it to stay leakproof. At times, a large part of the walls needs to be reconstructed as shared by men in Poonch and Birbhum and the entire *jhumpa* (earthen dwelling) needs to be replaced in Barmer. These processes are taken care of by men.

Since the entire family ends up making some contribution to the maintenance processes of the kacchā dwelling, their lives and the life of the dwelling become intrinsically woven into one another. On the other hand, the pakkā house requires little maintenance as the walls are made in cement plastered brick or stone and the roof is either in concrete, stone or manufactured sheet material like asbestos or metal. Depending on the quality of the earth construction and the maintenance regime followed, the kacchā dwelling may be strong enough to last centuries (at least in Poonch and Birbhum, where 75- to 250-year-old earth houses still exist). Yet, if the structures are not well made or maintained, then they get effected by natural disasters like floods or cloudbursts. This has led to the perception that the kacchā is not strong enough and through common binary thinking, the pakkā begins to stand for permanence. Convenience and security here become the key.

Besides material perceptions that the inhabitants associate with kacchā and pakkā as they maintain them or regenerate them, there are several secondary level associations that exist in relation to the kacchā-pakkā binary. The kacchā is understood as inferior, old, backward and denotes poverty. The pakkā gives social sanction raising status, denotes wealth and stands as a symbol of 'moving with the times', making progress and being modern. The pakkā house has become an instrument of social representation; only those who can afford to own it have any social worth, others face social rejection. Most respondents recognise a good property of the kacchā, that it is always thermally comfortable and is in that sense climate sensitive. Fewer respondents discuss other properties including phenomenological aspects such as the tactile quality of mud surfaces attributing a sense of being grounded or rooted-to-the-earth. Some spoke of the regenerative capacity of the traditional earthen dwelling, as it does not leave non-biodegradable waste and allows for homing creatures like bees or birds, that makes it ecologically sensitive. Inhabitants also reflected that the earthen dwelling becomes the core of the community that facilitates the preservation of social relations, as multiple community members come together for building or rebuilding, accounting for socio-cultural sustainability.

The data reflects that even though kacchā and pakkā exist as a binary pair in the thinking of the inhabitants, in the context of the manifestation of this thinking in the building of the house, the binary breaks down into a continuum of transformation. The making of the home as well as the physical space of the house is reflected to be an ongoing and continuous process. In this process of transformation, the traditional rural vernacular understood as the kacchā undergoes changes and is slowly becoming more pakkā or industrial and hence, the modern vernacular. This expresses itself in the coexistence of the kacchā and the pakkā in every

household in different degrees, reflecting a kacchā-pakkā continuum along a *degree of pakkāfication* of the vernacular dwelling.

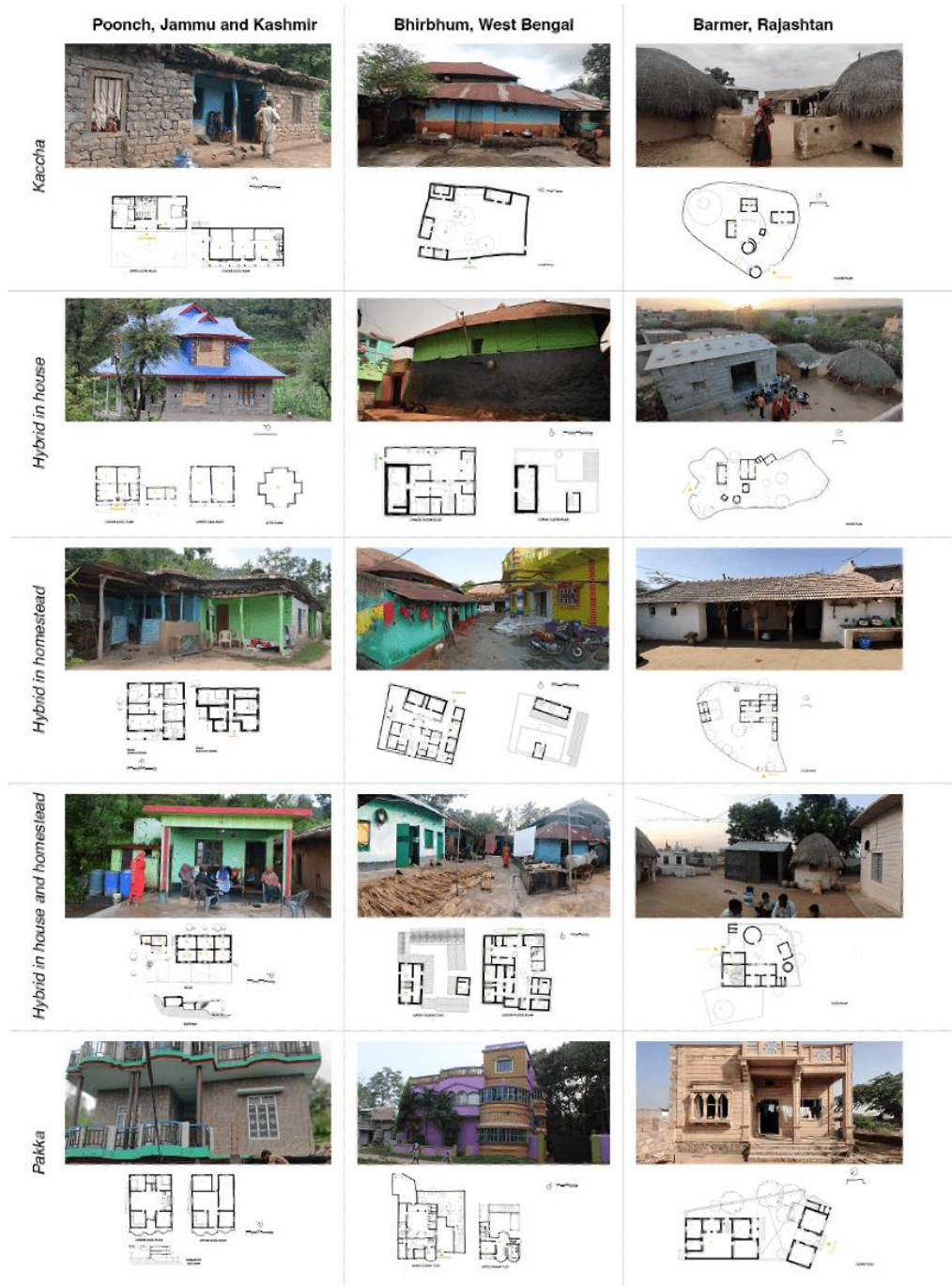


Fig. 1: Housing material types across the three sites.

Source: Author.

The Inhabitants, Housing Choices and Housing Preferences

Across the three sites, out of a total of 387 respondents, 17% resided in kacchā houses, 48% resided in hybrid houses, and 35% resided in pakkā houses. This represents their current choice of material-based housing type. Across all the respondents, 66% of the inhabitants expressed a preference for a pakkā house, 27% expressed a preference for a house hybrid in its materiality, and only 7% expressed a preference for a kacchā house. Amongst those owning and residing in a kacchā house, the almost 70% preferred a pakkā house instead. Likewise, 78%

of those currently owning a pakkā house expressed the preference to be in the same or a bigger pakkā house. Figs 2 (a, b, c, d) represent housing preference data across the three villages.

The preference for a pakkā house over a kacchā house was seen across the three sites in varied degrees. In the Poonch district, 47% of the respondents' housing preference was a pakkā house, a bungalow type with a lower storey made of concrete blocks, a concrete roof and a top storey made of wooden structure and a metal sheet roof. 43% of the respondents expressed the preference for a hybrid form with the lower storey made in the traditional dry-stone masonry with earth plaster, the earth flat roof and the top storey of the 'bungalow' type, recognising the need for a natural climatic response, as Poonch is in the cold zone. Only 7% of the respondents preferred kacchā houses and these were mostly older inhabitants attempting to preserve their home as a container of memories and desiring no change. Among the 28 inhabitants residing in a kacchā house, 15 wanted a pakkā house. Only 14 people out of 45 of those living in hybrid houses desired a pakkā house, with 28 expressing that hybrid is best suited for their context. Out of the 30 pakkā house inhabitants, 19 wished to continue in the same, explaining that they are exploring mechanical means of heating.

In Birbhum, 24% of the respondents lived in a kacchā house, 68% in a hybrid house, and 8% in a pakkā house. Contrary to their choices, 70% of the respondents expressed a housing preference for a pakkā house, a structure made of brick in cement mortar with a concrete roof. 23% of the respondents expressed preference for a hybrid form and 7% preferred a kacchā house; both categories recognising the qualities of traditional natural materials, the earthen walls and breathable thatch roof being climatically responsive. None of the people currently

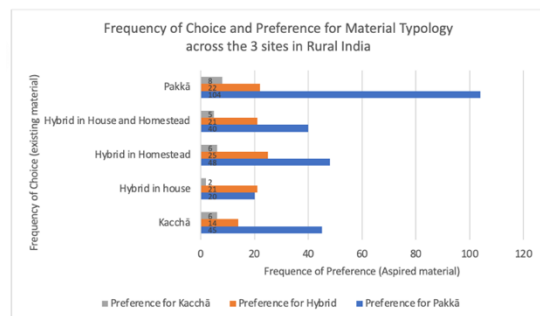


Fig. 2: (a) Preference for material typology across the three sites in rural India. Source: Author.

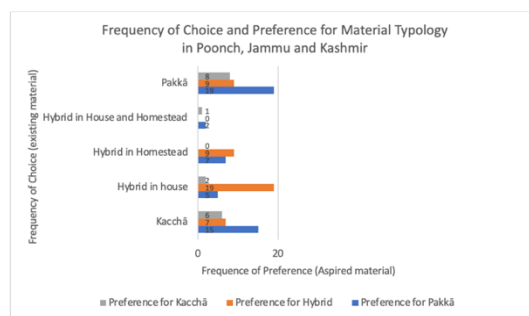


Fig. 2: (b) Preference for material typology in Poonch, Jammu and Kashmir. Source: Author.

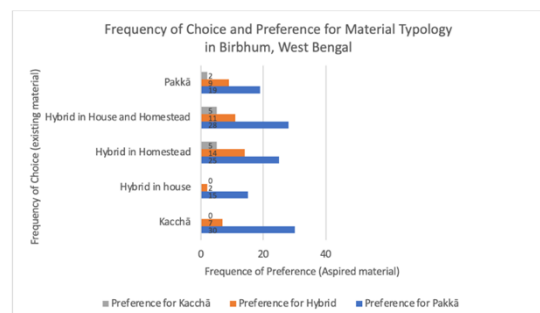


Fig. 2: (c) Preference for material typology in Birbhum, West Bengal. Source: Author.

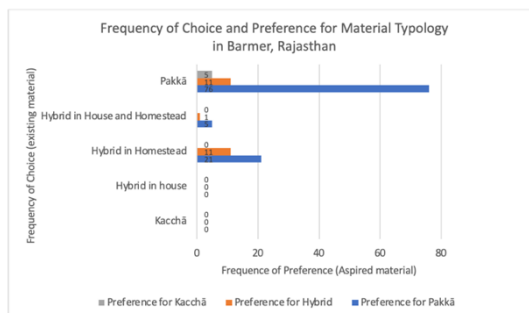


Fig. 2: (d) Preference for material typology in Barmer, Rajasthan. Source: Author.

residing in a kacchā structure expressed any preference for a kacchā house; 81% of them wanted a Pakkā house while the rest expressed a preference for a hybrid structure. Out of the 105 respondents currently living in a hybrid house, 68 desired to live in a pakkā house. Amongst those currently residing in a pakkā house, 75% expressed a preference for a pakkā house itself as a few others are now recognising the quality of the traditional dwelling or a hybrid modification.

In Barmer, none of the respondents lived in a kacchā house. 30% lived in a hybrid house and 70% in a pakkā house made entirely in stone, walls in cement mortar and flat roof of

stone slabs. Of all of them, 78% of the respondents expressed a preference for a pakkā house and less than 4% wanted a kacchā house, with the rest expressing a preference for a hybrid house. 74% of those currently residing in a hybrid house expressed a preference for a pakkā house. None of the people currently residing in a hybrid house wanted a kacchā house. 83% of those living in a pakkā house said they preferred a pakkā house itself; 12% said they preferred a hybrid house and 5% of them expressed a preference for a kacchā house. The stone pakkā house becomes relatively heated in the peak summers hence requiring mechanical devices. Alternatively, people tend to use a *chappar* built in their homestead, a shed made of local twigs and branches, or a community jhompa, the traditional earthen dwelling, that is naturally cool.

Across the three regions, there was a higher preference for a pakkā house among the respondents from the younger generation, those between age 16 and 36, with 83% of them expressing a preference for a Pakkā house. This can be seen in the Fig. 3 (a). Among the respondents from the middle generation, between age 37 and 56, 61% showed a preference for a pakkā house. The older generation expressed a lower preference for a pakkā house in comparison to those younger to them, as 49% of the older people aged 57 and above wanted a pakkā house. The preference for a pakkā house was seen almost equally between the male and female respondents. Out of the 227 male respondents, 67% preferred a pakkā house. Likewise, out of the 160 female respondents, 66% preferred a pakkā house.

The preference for a pakkā house also varied among the respondents of different castes, as seen in Fig. 3(b). 95% of the respondents from a lower caste expressed the preference for a pakkā house, 5% for a hybrid, and none of the respondents for a kacchā house. Among the respondents from the tribal groups, 56% preferred a pakkā house, 36% a hybrid house, and 8% a kacchā house. The higher preference for a pakkā house was also seen among the respondents from the middle castes, as 75% of them preferred a pakkā house and the rest expressed a preference for a hybrid or a kacchā house. Among the respondents from the higher castes, 52% preferred a pakkā house while 48% were good with a hybrid or a kacchā house. Thus, the preference for a pakkā house was the highest in the lower castes, moderate in the middle castes, and the higher castes have a pakkā house preference almost equivalent to the combined preference for a hybrid or Kacchā house.

A predominant preference for a pakkā house was also seen equally across people of different occupations, with over 60 to 88 % people across different occupations expressing that they prefer a pakkā house, as represented in the Fig. 3 (c). Across different income groups, the preference for pakkā house was seen more predominantly in the lower income groups than the higher income groups. This can be seen in the Fig. 3 (d). 76% of the respondents from the economically-weaker sections desired a pakkā house, 60% from the lower-income and lower middle-income groups desired a pakkā house, while 48% from the upper middle-income and the higher income groups expressed preferences for a pakkā house. The preference for a pakkā house was also seen consistently across different degrees of education in the respondents, as seen in the Fig. 3(e). Out of the 171 respondents with no education, 62% preferred a pakkā house and only 6% preferred a kacchā house, with the rest expressing a preference for hybrid forms. Among the 152 with a school-level education, 74% expressed a preference for a pakkā house and again only 6% for a kacchā house. In the group of people with higher studies, 59% expressed a preference for a Pakkā house and 8% for a kacchā house.

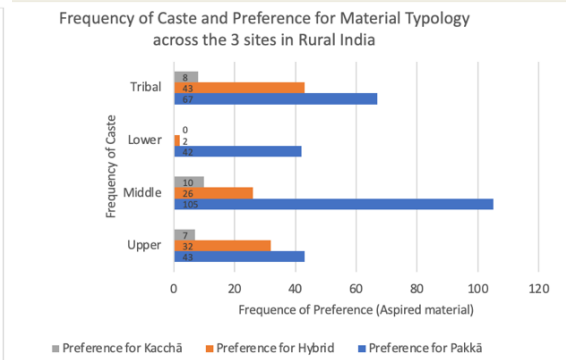
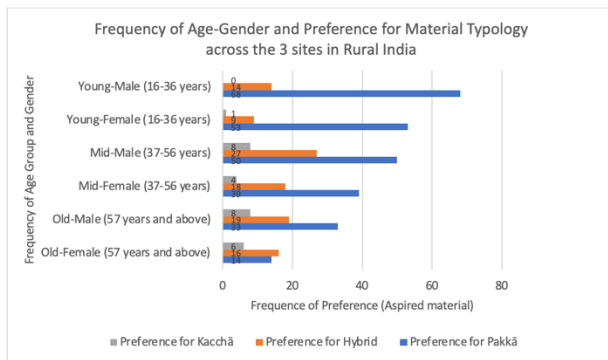


Fig. 3: (a) Preference for material typology across different age-gender groups across the three sites. Source: Author.

Fig. 3: (b) Preference for material typology across different caste groups across the three sites. Source: Author.

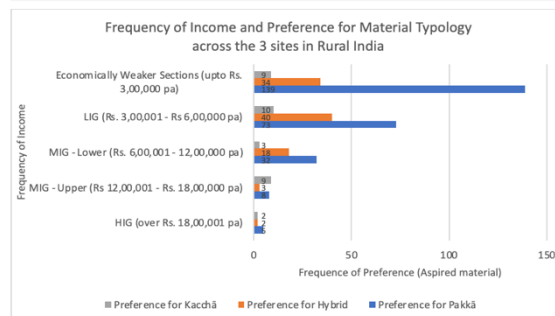
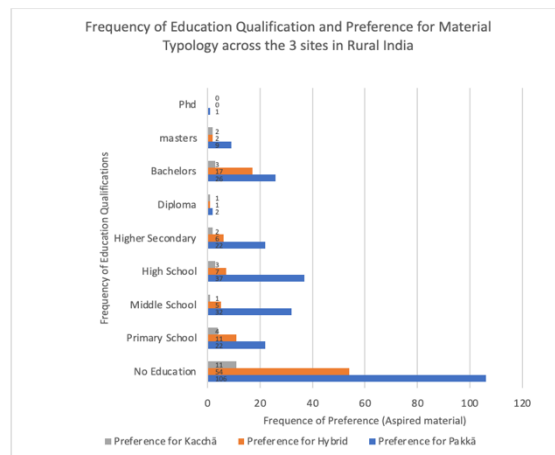
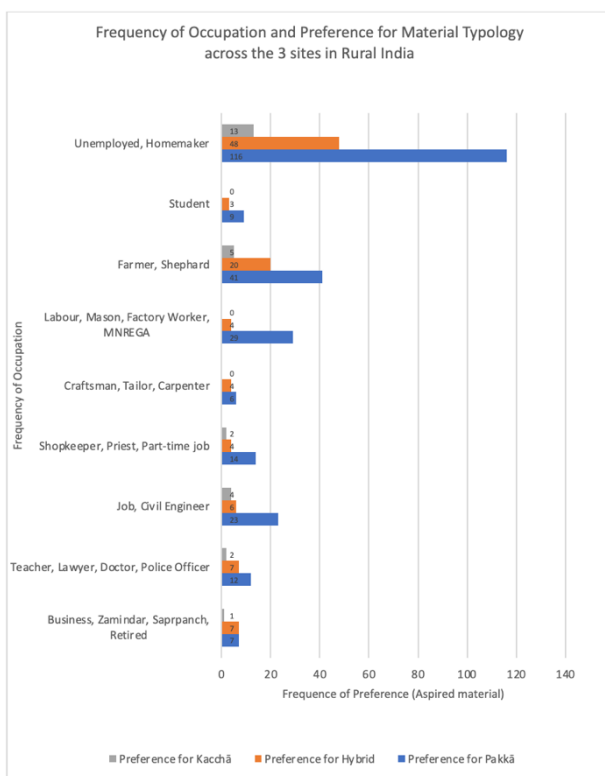


Fig. 3: (c) Preference for material typology across different occupation groups across the three sites. Source: Author.

Fig. 3: (d) Preference for material typology across different education qualification groups across the three sites. Source: Author; (e) Preference for material typology across different income groups across the three sites. Source: Author.

Reasons for Housing Preferences and Values as Determinants

The research unravelled an explanation of the inhabitants’ reasons for their housing preferences, through semi-structured interviews. The respondents were asked to share the reasons for their housing preferences in a prioritised order. Besides that, reasons expressed in their narratives repeatedly, were also documented. The top ranked reason (rank 10 or 9) was the ‘maintenance free nature of pakkā’ which guided their housing preference for a pakkā house, as expressed by 177 respondents as their top reason. The second highest ranked reason

was external or ‘societal pressure’ that 163 respondents shared as one of their top reasons to want a pakkā house. Next was their ‘quest for modernity’ as shared by 149 respondents as their reason for preference for a pakkā house. The next reason in the ranking was ‘social recognition and public image’ shared by 142 respondents as their top reason to want a pakkā house. The fifth highest ranked reason expressed the relevance of a kacchā or hybrid house instead as 123 people shared that the ‘thermal comfort of kacchā’ was their prime reason, although their preference may not have been a kacchā house.

One of the female respondents from Barmer, Rajasthan said,

“We also desire a pakkā house made in stone like the kind others in the village are acquiring. Nowadays, the social structure is directly reflected in the house form and material. With more money comes a better house, and pakkā is better. Earth houses, the kacchā ones, are equated to being poor. There is also more space in the pakkā stone house, which is far easier to use. It does not need the constant lipai (mud plastering) that the kacchā homes require. The younger wives, do not want to make so much effort. We feel forced and do it only because we have to. People look down upon us if we do such work nowadays.”

A similar context was seen in Poonch, Jammu and Kashmir. A respondent there shared, *“When the house was made in earth, people understood us as being of lower status, I found that unacceptable, hence forcefully we had to build a pakka house under social pressure. Look at the social pressure in the city. Those with money will build a good house or buy a car.”* Another respondent shared that the shift from the kacchā to pakkā is happening because of the change in conventions. He marked, *“Everyone is changing to pakkā, and if one does not, it leads to losing social reputation and becomes a matter of disgrace”*. It is enormous social pressure on every household. It even leads to families taking loans or putting properties up for a mortgage to get the financial support required for building a new pakkā house. When asked if they are not losing their tradition by demolishing the ‘kacchā’, he said, *“traditions have to change with time and cannot remain static”*.

There were other reasons for the pakkā housing preference as cited by the people as well. Some would explain how there is a clash between the generations and there was some family coercion, with the younger men and their wives determined to own a pakkā house, or a family event like marriage that gave the social impetus. Sometimes it was simply a desire to leave a house for the future generations and hence a more ‘permanent’ structure. Execution of governance structures such as the Census mentioning the kacchā-pakkā divisions, building regulations as legalising the pakkā or housing policy execution, were mentioned in some responses; how the beneficiaries of the housing schemes were allotted funds to build only a pakkā house, making it gain official sanction in the rural mind and the kacchā dwelling becoming undermined. In continuation of the maintenance free nature of the pakkā, some respondents mentioned the longevity aspect based on the durability of the materials and hence requiring only one-time investment. For people living in disaster vulnerable areas prone to floods, safety of the pakkā, the permanent house, was a significant aspect. Many people discussed the convenience of living in a pakkā house as it required less efforts to keep it clean, orderly and healthy in terms of protection from dampness and strenuous maintenance regime of the kacchā as a deterrent. Unavailability of appropriate materials and skilled labour required to build or maintain a kacchā house was also cited by some.

A relatively small number of 103 people out of the total 387 respondents recognised the merits of the hybrid type of house, and only 27 people had the kacchā house their preference. 257 respondents had a clear housing preference of a pakkā house. One-third of the people who had hybrid or kacchā as their housing preference discussed the health benefits derived from the natural thermal comfort that the earthen structures provide with a few also mentioning the phenomenological aspects of feeling more grounded, peaceful and closer to Nature. Many respondents (mostly from the middle or older age groups) understand their traditional

vernacular house, the kacchā, as a symbol of ancestral memory or socio-cultural continuity, significant for maintaining their sense of belonging as a community. Fewer respondents discussed the self-reliance aspect that a kacchā house offers in terms of the inhabitants managing to build or maintain the house through their own labour, skill or creativity. Some older respondents even discussed the environmentally friendly nature of the kacchā house type and how it is ecologically sounder, even mentioning aspects relating to the building life cycle, and how it is virtually waste free.

A respondent from Birbhum, Bengal, who expressed the preference for kacchā shared that despite popular belief, an earth dwelling has more longevity. He added, *‘With proper maintenance, these houses can last for centuries.’* He reiterated the thermal control and climate responsiveness of kacchā houses. While discussing health, he said that while it is healthy for human beings to live in the earth dwelling, even to store vegetables, it is better as they remain edible for a longer time. Water too stays at the apt temperature for drinking. While discussing the idea of cultural traditions of which the earth dwelling is a material manifestation, he said that

“people do not understand the value of the traditional systems and the sense of creativity and freedom it entails. There is not enough intellectual or psychological reflection to understand how to be free!”

He also discussed how modern education shifts traditional ideas, a case example being the idea of hygiene, cleanliness in the physical sense, and labelling mud as dirty.

“What of the purity within the thinking process, cleanliness of the mind! After all, the body comprises all elements, and earth is one of them. The body-earth connection is strong, philosophically speaking, the earth is the source of all creation. The earth house keeps the connection alive; it is about the direct touch, to do with the tactile nature of things. Earth is better for the body, and by extension, better for living in”.

He has an intense connection to his *maatir badi*, the earth dwelling, and a deep sense of belonging. Their homestead was clean and orderly, in line with this set of values.

Fig. 4 correlates the several reasons for housing preferences with the framework of human values. In this sense, the human values that play the most important role in housing preferences in rural India, in their order of influence, include: convenience in terms of maintenance, social pressure and conformity, self-portrayal in terms of modernity, and social power, for the preference for a pakkā house, and physical comfort as a part of the larger sense of security, as the reason for the preference for a kacchā house. The table also shows the frequency of rank of different reasons for housing preferences based on how frequently a reason appeared in the semi-structured interviews and in the expression of relevant reasons for housing preferences. Across the three villages, the most frequently ranked reasons included ‘maintenance free nature of pakkā’, ‘quest for modernity’ and ‘social wealth and public image’ as reasons for the preference for a pakkā house. The basic human values these correlate to, thus, include convenience in terms of maintenance, social power and conformity, and self-portrayal in terms of modernity.

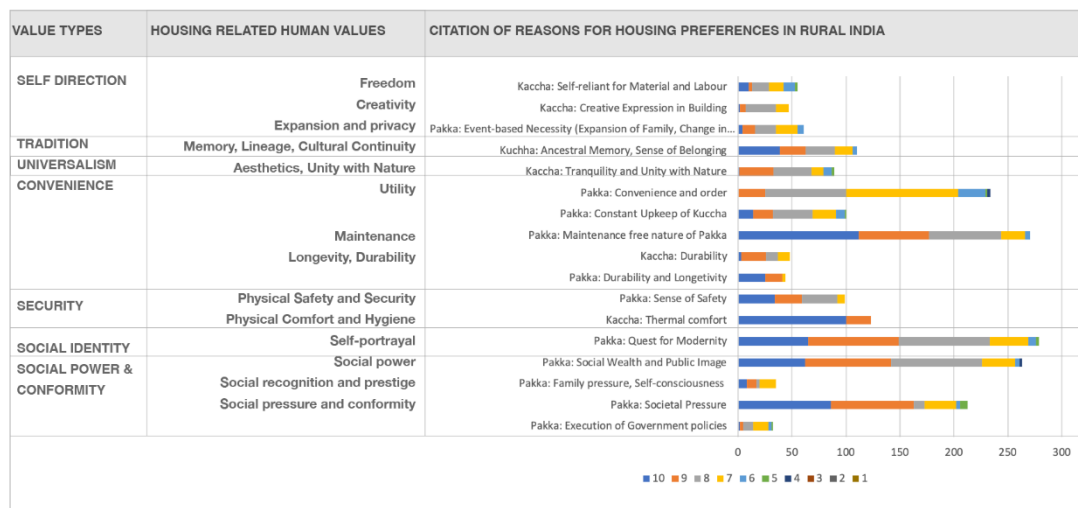


Fig. 4: The framework for value types and human values employed in the research as revealed through housing preferences and reasons for the housing preferences. The graph illustrates the ranking of reasons (rank 10 as most important to rank 1 as least important) for the number of participants.

Source: Author

Conclusions

This research aimed to conceptually connect the perceptions of building materials in terms of kacchā-pakkā and the materiality of the dwellings to housing preferences of the rural people in India as indicative of human values. Based on the field work done in three rural contexts in India, the research presented prevalent housing preferences and the reasons for housing preferences, examining them to reflect the prevailing human values in the rural context. The findings reflect that the prevalent housing preference of the pakkā house is an outcome of the material perceptions and the lived experiences of the people. Apart from the values of convenience and security that are significantly at play, social identity, power and conformity are also noteworthy. The pakkā house becomes the most visible instrument of subaltern modernity. By examining the specificity of the house, this research has made possible to begin a process for ‘identifying the cultural map of aspirations’ (Appadurai, 2004). And this has been done through a method of placing the specific materials and technologies in the aspirational context of the rural people most affected by them. It has moved from the house, its materials and technologies to the narratives within which these are understood and hence to the social norms and values that guide these narratives.

The research demonstrates that the material categories of kacchā and pakkā in the house and the underlying orders of age, gender, caste or class hierarchies are homologous in nature. These social structures and their material manifestations are becoming habitual ways of being-in-the-world emerging as second nature or what Bourdieu calls habitus. It is the practical taxonomies, the orders of everyday life that store the power of social production and representation, that affect people into normative orders and expectations of their society (Miller, 2005). The ‘pakkā makān’ (permanent house) is becoming the norm for living and is the aspirational object within the rural context in India. In this process of objectification, the very act of creating the ‘modern’ house form creates a consciousness or a capacity, thereby transforming both the rural house form from the traditional vernacular to the modern vernacular and the self-consciousness of the rural communities. Moreover, as the materiality of homes changes, the knowledge system of the community shifts and so does the culture.

The research findings reflect that the transformation of the vernacular dwelling indicates the nature of modernity as it exists as a social aspiration, serving as the pivot within the rural mind. The findings also indicate a shift in human values with the transformation from the kachhā house to the pakkā house. The universal values such as protecting the environment or seeking unity with Nature, a predisposition of equality amongst living entities and the notion

of beauty lying within the natural world, that form the basis in the traditional vernacular dwelling are in the process of irreversible change. Respect for traditions within the built environment is giving way to attaining power by creating a public image signifying wealth and to gain social recognition. Sense of belonging not only within the family but also the community that existed due to building homes together is being replaced by social relations based on economic wealth and financial transactions. The collective consciousness in the community that made people look out for each other is being replaced by individualism; a sense of freedom and independence. On the whole, the shift in the house type suggests a shift from the traditional values to 'modern' ones.

This embarkment towards the '*pakkā makaan*' (permanent house) made with industrially produced materials is leading to a disintegration of the traditional building systems, skills and knowledge. People across all rural contexts are rejecting the traditional vernacular dwelling. By virtue of this, there is a loss of place-based, ecologically sensitive, socio-culturally rooted ways of thinking. Materials have an agency of their own and are proving to be the determinator of culture. If cultural diversity is to be maintained, the *materials* of culture need to also remain equally diverse. This has direct implications on the idea of sustainability. The contemporary definition of sustainability (with its 5Rs – Refuse, Reduce, Reuse, Repair, Recycle) is inherent in the rural vernacular way of life, such concepts being an integral part of the cultural patterns of everyday life. The dwelling is at the core of everyday life and its materiality at the core of the experience of living. Changing materials completely, leads to a significant change in everyday culture. Maintaining diversity of cultural responses to varied environmental conditions becomes important for sustainability as a diversity of cultures enables the evolutionary abilities of social systems, as opposed to the mono-culture of modernisation.

While the current political narratives and public discourse on the built habitat whether in the rural or urban context continue to privilege the *pakkā*, the policy making agencies of the governments focussed on sustainable development recognise the traditional vernacular knowledge systems as grounds to build on for a regenerative future. Within the rural, case in point is *PAHAL (Prakriti Hunar Lokvidya) - A Compendium of Rural Housing* compiled by the Ministry of Rural Development (MoRD), UNDP² and multiple technical experts from the architecture profession. This compilation provides a repertoire of 'sustainable' housing design solutions for the rural context, made after a thorough study of the traditional vernacular dwelling (many times categorised as *kacchā*). While considerable resources have been used to put this compendium in place, it remains to be seen if these design solutions will be adopted by the rural masses across the regions. Moreover, despite restorative measures such as the PAHAL, it does not seem to be an easy task to convince people residing in rural contexts to recognise the value in their traditional vernacular materiality and adapt to hybrid design solutions using natural materials. Any attempt to do so ends up with narratives around the *kacchā-pakkā* and the binary is invoked. This begs the question, can newer narratives around materiality be generated to create a consensus in public imagination towards building more sustainably? And, if yes, how can this be done?

To expediate the process of constructing effective discourses around materiality, further research on the genealogy of the terms such as *kacchā-pakkā*, their shifting meanings, associations and values may be necessary. While this research brings forth some material narratives from the northern, western and eastern regions of India, it leaves out the central and southern regions. The narratives collected are from rural areas and of people, the general public. Work needs to be done to historically trace the discourses that formed around materiality using the building taxonomy of *kacchā-pakkā* as a pervading metaphor. Only when the fluctuation of meanings and associations with the terms and the ensuing values are mapped across colonial and post-colonial narratives, can a holistic picture on the contemporary discourse be understood. A complete delineation of the institutionalisation of the binary through frameworks

² Abbreviations- PAHAL (Prakriti Hunar Lokvidya) - A Compendium of Rural Housing
MoRD (Ministry of Rural Development), UNDP (United Nations Development Programme)

of governance and its percolation within the social imaginary of the public at large needs to be outlined. This would reveal how the current perceptions around materiality were formed, what were the means through which these perceptions disseminated and what were the processes of consensus production. This is a crucial place to start, 'to identify efforts to change the terms of recognition' (Appadurai, 2004).

There are examples of sustainably built homes built by urban educated and ecologically conscious individuals that use earth, bamboo, wood and other natural materials. While the intention is good, these are looked upon as *exotic objects built by the elite*, by the people at large. The discourse around building materials and technologies need to shift not only within the academia, government think tanks or policy mechanisms, NGOs or the aware urban ecologically aware groups, but also in common perception of the general public. If building cultures of sustainability have to be nurtured, newer scientific paradigms and collective memories have to be built in support. The codes, value associations and norms need to be reimagined. For it to have any effect, it needs to be communicated, thought and lived through social agents (Brocchi, 2008). New cultural content and strategies for sustainability will need to be envisaged; education, media and arts dissemination forms need to be produced. A new discourse on materiality has to be constructed to enable a new social reality allowing for a consensus on sustainable buildings as a nation.

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CRedit Author Statement

Parul Kiri Roy: Conceptualisation, Methodology, Investigation, Formal Analysis, Data Curation, Writing- Original Draft and Review & Editing, Visualisation.

Prof. Dr. P.S.N. Rao: Supervision. Prof. Manoj Mathur: Writing- Review and Editing, Supervision.

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