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Occupational influences on rural built form: exploring spatial configurations in traditional agricultural settlements

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Culture shapes behavioural norms, so understanding a cultural context enables one to anticipate, to some degree, how individuals within that culture are likely to behave. Prior studies have concentrated on how culture influences rural housing design and the development of associated cultural practices and behaviors, yet the role of occupational factors and their effects on the constructed environment remains unexamined. The research question is whether spatial configuration of built form in the rural context is dependent on the occupational (one of the components of culture) diversity of their households. This paper seeks to emphasize the importance of conserving and preserving remarkable instances of traditional human settlements that evolved in line with occupational requirements. The researcher adopted exploratory, descriptive and explanatory research methods to understand the occupational influence on the built form. House level analysis based on field observations, interviews were carried out to understand primary occupation, secondary occupation, occupational process, timelines, activities, tools, equipment, spaces and the place where occupation is performed. The exploratory research helped in understanding the insights of the occupation and built form, whereas descriptive research on the other hand, focused to describe the household, occupational activities in relation to spaces through field studies. The explanatory research helped the researcher in explaining the aspects of occupation and built form, to give conclusive evidence and helped in understanding the problem more efficiently. The output of this research is to identify the influence of occupation and occupational spaces in rural built form and the same would be helpful in designing the occupational spatial configuration for agriculture-based societies. The housing programmes, schemes shall take the outcome of this research for design proposals.

Keywords: Agriculture, Built form, Culture, Occupation, Rural housing

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Culture creates behavioural norms. Therefore, knowledge of cultural context allows one to predict, to some extent, the actions of those people in that culture[1]. Over the past many decades, anthropologists have been taking a detailed look along with other individuals at the built form in rural regions, particularly the houses that are being constructed and those that are already in existence, which are occupied by people[2]. There are varied questions that emerge from this observation. Questions such as; why is there a variation in the built environment? What is the manner of variations and what are the factors that influence built forms?[3] Practitioners of design, including landscapers, planners as well as architects have been equally engaged in deliberating such questions along with social and behavioural scientists who are concerned about the interaction of humans with their environment. Nonetheless, a social theory of recent times has been concentrating more on temporal as well as spatial dimensions of human behaviour[4]. Such developments emphasize the fact that a review on this topic is very much required.

Culture and architecture

The norms of behavior are shaped by culture. Consequently, understanding cultural context enables one to forecast, to a certain degree, the behavior of individuals inside that society[5]. Culture is the characteristics of a particular group of people, defined by everything from language, religion, cuisine, social habits, music, and arts. Culture is characterized by its language, religion, food, social customs, music, and artistic expression. Religion, language, family structure, child-rearing techniques, settlement patterns, land division and land-owning systems, dietary practices, symbolic and traditional systems, status defining techniques, social identity, cognitive maps, privacy, intensity, territoriality, and behavioral organization in a home are all examples of the cultural

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components that make up a home. A society's behavioral norms are the culmination of its ingrained values, beliefs, and conventions[6]. While some authors contend that behavior and culture have an impact on the environment, others disagree.

In the past decades, the human communities have transformed from the primitive form into collective patterns of activities and settlement in the small communities. One of the studies have revealed that the inhabitants have been associated with these communities for longer duration and has been considered this place with memories and meanings[7]. On the other aspects, modern architecture has influenced the communities through the implementation of modernized practices across the world. Architecture has been shaped to cultivate the values inherent in a nation's culture. The architectural designs reflect the ancient values of that culture, which are viewed as key components in the cultural landscape, contributing to the uniformity of culture and architecture globally[8].

A suitable living environment can be created by addressing users' preferences through personalization[8]. As a result, it is important to explore how architectural features correspond to varying levels of user needs to achieve an individual's perception[9]. There have been attempts to systematically associate human needs with their surrounding environment, which will aid in defining actionable terms in architectural design. Some studies have focused on understanding the characteristics and impacts of specific human motivational factors on the living environment[10,11]. for example experimented the association of user-values with housing attributes based on the theory of means-end chain.

One of the studies has revealed the architectural aspects of Iranian architecture evolving the Islamic culture ruling society[12]. It has been observed that the formation and system of city organization along with the architecture of each region are influenced by the socio-cultural environment[13]. Researchers believe: "Architecture is an institution with multidimensional function rather than a physical structure affected by society, culture, religious faith, economy and environmental conditions[12]. According to certain academics, architectural culture includes human resources and apparel that are fitted to the surroundings without altering their physical makeup. This matching aids in the evolution of cultural architecture[12]. Another study has demonstrated that the interior workings of many structures depend on how complex the socio-political environment is in that society. This makes it clear that culture and architecture are important considerations when designing a new structure.

The earlier studies on impact of culture on architecture of rural housing and how cultural practices and behaviour associated with it has been evolved whereas, the occupational aspects and its influence on the built form is not addressed. Therefore, it is necessary to investigate the occupational influence on the rural built form.

Vernacular architecture and rural built form

Architectural theory and history have traditionally been preoccupied mainly with the study of monuments. They have emphasized and fascinated with the work of men of genius, the unusual and the rare[14].

The examination of vernacular architecture plays a crucial role in enhancing our sensory experiences and fostering a connection to society. However, in the 21st century, it is essential to move past merely recording the physical forms of vernacular architecture. It is beneficial to explore sustainability issues and develop theoretical insights related to vernacular architecture for the benefit of future generations. The constructed environment conveys meanings that reflect the values and choices of society, which are inherently linked to nature[14].

Kaushik (2020)[15] explores the classification of rural dwellings in a village in Rajasthan that have developed over the past century. He supports the persistence of this typology by examining activities that enhance the understanding of the vernacular environment as a concept within popular or domestic rural architecture, utilizing space syntax methods to analyze spatial patterns and social relationships. The findings indicate that the traditional typological framework for housing remains pertinent as a representation of vernacular architecture. The author provides insights into the continuity of vernacular traditions, focusing on the socio-cultural significance and spatial organization of courtyards in residential structures through both qualitative and quantitative analyses.

The literature review indicates a significant oversight in the studies of rural and vernacular architecture. Despite nearly fifty years since Rapoport first highlighted that architectural theory and history have predominantly focused on monumental

structures, this issue persists today, as there remains a lack of documentation and research regarding traditional rural settlements. In most of the cases the researchers have concentrated on Pyramids of Egypt, Taj Mahal in India, Eiffel Tower of Paris, Colosseum of Rome etc., rather than understanding the way common people lived and their residential units have evolved. In fact, these people were the backbone for construction of the monuments from time to time. This perspective implies that architecture is exclusively represented in monuments, highlighting a distinction in the evaluation of a masterpiece, be it historical or contemporary, compared to the dwelling of an individual or the residence of a peasant, the Royal Plaza and its connecting street, or one's own neighborhood.

The examination of vernacular architecture, particularly in rural communities where populations have resided for extended periods, has not been adequately prioritized. Despite the significant number of households still residing in rural regions today, especially in nations such as India, there is a scarcity of architectural research focusing on the evolution, diversity, factors influencing, and effects of rural built environments. On the contrary the research results related to the state of Andhra Pradesh is very scanty and we cannot find any substantial studies with respect to rural housing.

Occupation and built form

Constructed environments consist of specific material elements, particularly a foundation, which allows for the perception of their limits and is regarded as a cohesive entity. These environments serve human needs related to living, movement, or protection and are intentionally created by humans to fulfill these purposes[16]. As a concept, space is vital to several diverse study areas and is also known to have myriad meanings. Space is considered as an extension of the world around us which is three-dimensional, the distances, intervals and the association amongst people and people, things and people and things and things. The built houses for the human beings have been considered as the fundamental requirement. Houses have been known as the universal elements of the cultural landscape that is responsible for the major cause of human settlements. Houses in the rural area make up one amongst the necessary aspects of occupation which is unproductive within a rural setting[17] offers one, with evidence related to the intricate association amongst man and his environment, embody the cultural heritage of the past times and the survival conventions and projection of the present social situation. However, unfortunately, the emphasis on buildings, which is to offer a core which can be clearly defined, is not appropriately explored and known, specifically very scant progress has been made within India.

Built forms in rural regions are viewed as a narrative that, when analyzed, discloses various insights regarding economic endeavors, the physical environment, and the social frameworks, as well as the technological culture of the individuals who created them[18]. It is evaluated not just as a given, but it has also been deconstructed with a view to take into consideration the silences and gaps that are underlying. This has been an outcome of several disparate factors that encompasses an extensive array of concerns which is inclusive of gender relations, religious beliefs, inheritance patterns[19] etc. A stand-alone built form never actually exists in isolation and is generally one of the many interrelated residential spaces outdoors as well as indoors. These are not situated casually within rural regions, but have been organized as per several norms that have been pre-determined socially[20].

Occupations can occur in physical as well as spatial environments and the performance of individuals are shaped by these. Spaces required for occupation could either be outdoors or indoors, up a mountain, in water, at a home, in an office or a workshop for that matter. Occupations are executed in diverse nations and cities, urban or rural regions, confined or open spaces. The spatial context here would refer to weather, temperature and other facets of the environment which would also comprise physical resources. Occupations are an action within an environment or could be a response to the problems of an environment[21]. Certain physical spaces like mountains or beaches are natural and people structure occupations such that it can be executed within them[22], while there are some which has been structured for a particular purpose, for instance, culinary activities are carried out within a kitchen that has been specifically designed for cooking.

In India, houses in rural settlements are perfect examples of construction techniques and indigenous planning that has evolved with time. The residential dwellings in rural areas are a result of climate, beliefs, socio-economic aspects and available materials for constructing buildings. Vernacular architecture in

Ghantasala, Krishna district of Andhra Pradesh is one such example that is informed by micro-climate, culture and building techniques and materials affected by recent trends of industrialization and globalization. Ghantasala is flourishing as one of the important places of religious worship and trade. It has been said that Buddhist monasteries were unearthed around Ghantasala, however, there is no visible Buddhist influence on the architecture built in the village. In Ghantasala, the dwellings are built using bricks or blocks for wall, clay, and timber truss for roofs, timber for windows and doors and napa stone for floors until 1990. Gradually, the vernacular houses were re-built using bricks for walls, concrete cement for flat roofing, and wooden rafters for madras terracing and marble ceramics for flooring. The major transformations took place in terms of predominant occupation, age of family members and structure of family. For example, addition of toilets for elderly members, diversion of water from open manduva for collecting rainwater for harvesting and other agricultural purposes[23].

Ransom[24] investigates how selective migration and occupational selection across various locations in the United States affect the financial returns associated with different college majors. To assess the impact of selection, I construct and estimate an enhanced Roy model that incorporates migration, occupational selection, and earnings, wherein individuals, after finishing their education, decide on a place to reside and a profession to pursue. Dealt with health-related studies with respect to occupation and its patterns[25-33].

Aruna (2018)[34] advocates for unified efforts to preserve the physical heritage of renowned sari weaving communities in India[32]. The craft of handloom weaving is both ancient and requires exceptional skill. The residences of weavers, which also serve as their workshops, exemplify a distinctive form of dual-purpose vernacular architecture. The author further explores the importance of this architectural style, its strong connections to the traditional craft of handloom weaving, and the outcomes of a pilot initiative aimed at protecting this invaluable built heritage in the historic town of Chanderi, India.

Study by Seulki & Lim (2020)[35] aims to understand the mechanisms of occupation and happiness-measured as life satisfaction-considering wage, internal working environment, and external occupational prestige as influencing factors. We will also investigate whether the impact of these characteristics vary by gender. In order to estimate the occupational and salary distributions of employees by the foundation dates of their employing establishments, Elizabeth (2020)[36] combined comprehensive microdata from the Occupational Employment Statistics survey with establishment founding dates from the Longitudinal Database.

In the weaver's village of Iyyengarkulam, close to Kanchipuram, Tamilnadu, India, Vijayasree (2018)[37] assesses certain vernacular settlement and home shapes and how they respond to culture and artistic abilities in the settlement's formation[35]. This attitude can be explained by pointing out that the traditional house form serves the many purposes of the community of weavers and pre- and post-loom activities while also reflecting their way of life. The urgent necessity for the conservation and preservation of exceptional examples of traditional human settlements that evolved in response to occupational demands is the focus of this article.

Manohar (1996)[38] observed that no housing scheme has addressed the fact that rural residents reside in traditional dwellings and cohabitate with their animals, including goats and cows[36]. Housing extends beyond merely offering shelter; it must align with the needs and aspirations of the community. It is recommended that housing policy development incorporates considerations of affordability, appropriate materials, community involvement in the design process, and the integration of new technologies.

Madhava Rao & Seetharaman (2006)[39] stated that rural housing requires specific provisions to accommodate the support facilities necessary for various occupational groups, including designated areas for yarn preparation and storage of weaving equipment for weavers, spaces for beedi rolling for beedi workers, facilities for carpet weaving and shredding for carpet weavers, as well as areas for pottery wheels and for the drying and firing processes for potters.

As per the Literature review it is evident that there were various studies and research which dealt with aspects related to occupation with respect to health, mobility, gender, economics, wage difference, migration etc., and there is a dearth of studies related to occupation and built form and also specially with respect to rural form at both international and Indian scenario. It is also evident that the houses designed and provided by the various housing schemes does not reflect the quality of

design with respect to the households. The recipients of rural housing initiatives, or the end users, expressed dissatisfaction with the housing designs, and the Government should promote efforts to foster cohesion within the overall housing landscape[40].

Research Methods

The researcher adopted exploratory, descriptive and explanatory research methods to understand the occupational influence on the built form. House level analysis based on field observations, interviews were carried out to understand primary occupation, secondary occupation, occupational process, timelines, activities, tools, equipment, spaces and the place where occupation is performed. The exploratory research helped in understanding the insights of the occupation and built form, whereas descriptive research on the other hand, focused to describe the household, occupational activities in relation to spaces through field studies. The explanatory research helped the researcher in explaining the aspects of occupation and built form, to give conclusive evidence and helped in understanding the problem more efficiently.

Agriculture as major occupation

Velnuthala is located in Unguturu mandal in Krishna district with a population of 828 (Census, 2011) with total number of 164 households (Fig. 1). Velnuthala belongs to the plain agriculture type where maximum number of people are cultivators and the rest opted for working as non-agricultural labour. Individuals engage in various professions such as carpentry and business, which are essential for the livelihood of the village.

The settlement began as Brahmin Agrahara approximately 150 years ago, and over time, the workforce expanded as individuals from various regions migrated to this village, established their homes, and commenced agricultural activities. The village developed in proximity to the temple, which served as the central point of the community, leading to the establishment of residential areas surrounding it, along with two ponds-one designated for fresh water and the other for laundering clothes and tending to livestock. The settlement pattern observed in the village is cluster form and also resembles horse shoe pattern of rural settlements, which is meander of the lakes. The built form of the settlement is guided by accurate bend of water body as shown in (Fig. 1).

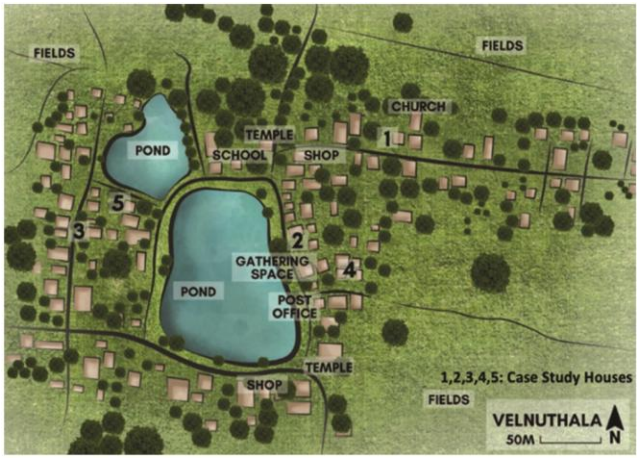

Fig. 1 — Velnuthala Village and Case Study Areas, (Source: Google Earth image, accessed 2018)

House 1: Velnuthala village

House, household and economic character

The house (V1H1) corresponds to case study of first house in Velnuthala village as shown in (Fig. 1). The location of the house in the village is shown as 1 representing V1H1 in the village map in (Fig. 1). The house is around 80 years old with six members (4 male and 2 female) in the household and is situated in 310.3 Sq mts plot area, with a built-up area of 111.39 Sq Mts. The family cultivates 8 acres of land, where the 4 family members out of six are involved in the activities related to occupation at different intervals of time as shown in (Fig. 2). The major income is derived from agricultural occupation with annual income of Rs. 5,20,000/- to 6,40,000/- per annum. The increase and decrease in the annual income depend on the rainfall and the effect of natural calamities like cyclones, rainfall, availability of water etc., The other income source is from the dairy products like milk and ghee, which ranges from Rs. 60,000/- to 1,50,000/- per annum. The part of the annual income will be used for the investment on seeds, tools, labor etc., for the next season of cultivation.

Activity space: Household activity space (HHAS)

The plot consists of four blocks - main block, kitchen, granary and cattle shed as shown in (Fig. 3). The main block consists of four rooms, which are used as bed room or multipurpose room and surrounded by verandah on all the four sides. The verandah is a multiple activity zone, used for temporary storage of grains, agricultural tools and gathering spaces. The other three blocks are the kitchen, granary storage and cattle shed. The house is

a kutcha house and has thatched roofing, walls made of mud and timber, flooring made of mud and the doors and windows are made of local wood.

Occupational activity space (OAS)

Occupational Activity Space (OAS) is the study of spaces influenced by the activities related to

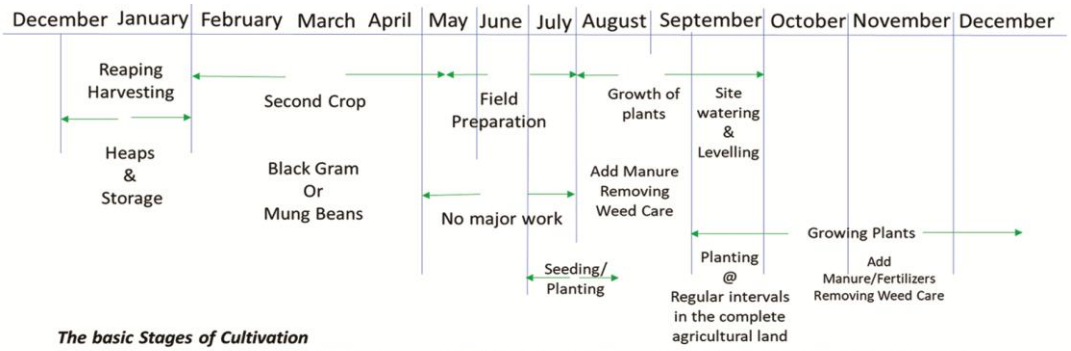

Fig. 2 — Occupation process (agriculture)

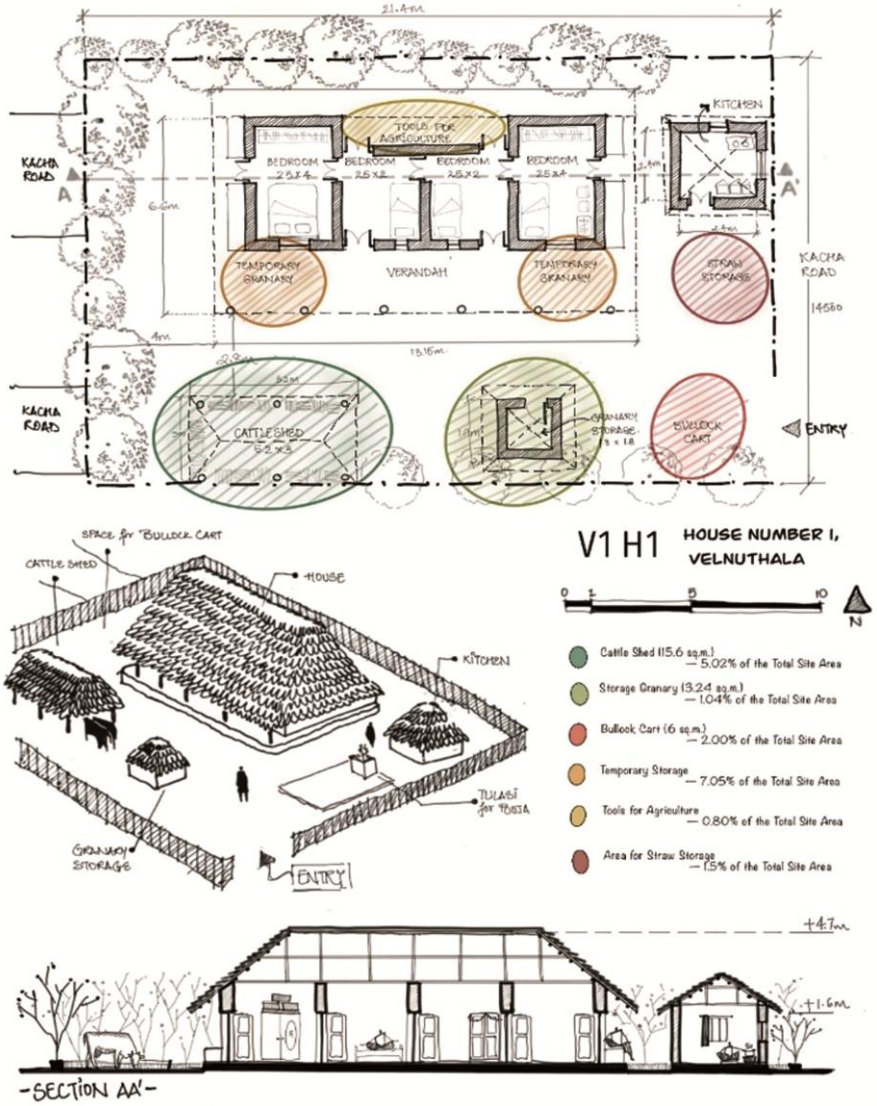

Fig. 3 — Household activity space and Occupational activity space of House 1 in Velnuthala

occupation *i.e.*, agriculture as primary occupation, dairy products from cows and buffaloes as the secondary occupation and source of income. The granary storage block in the site is exclusively used for storage of grains, and used for the complete year. The bullock carts are used for transportation and ploughing is done by bullock drawn ploughs and is still practiced in many villages. The cattle shed accommodates two bulls and two buffaloes. The bulls are used for transportation and ploughing, whereas the buffaloes supply the food and milk products along with manure and fertilizers. Besides the tools used for agricultural purposes are stored in these cattle sheds, verandahs and rooms. The grains are also stored in verandahs and rooms, when there is shortage of space in granary blocks or during the season where the grains have to be stored for short intervals of time before selling the grains. As per the survey, it shows that 17.8% of the site area is dedicated for occupational purposes and 10.4% of the built-up area is dedicated for the occupational activities. The (Fig. 3) shows the existing plan as per the survey including the number of blocks, the spaces used exclusively for the occupational purposes at the site level and also shows the spaces used for occupational activity in the main block along with a view and section. Granary storage becomes an important integral part any agricultural house. The major activity related to agriculture is divided between the house and the fields, which are 0.5 Kms away from the house.

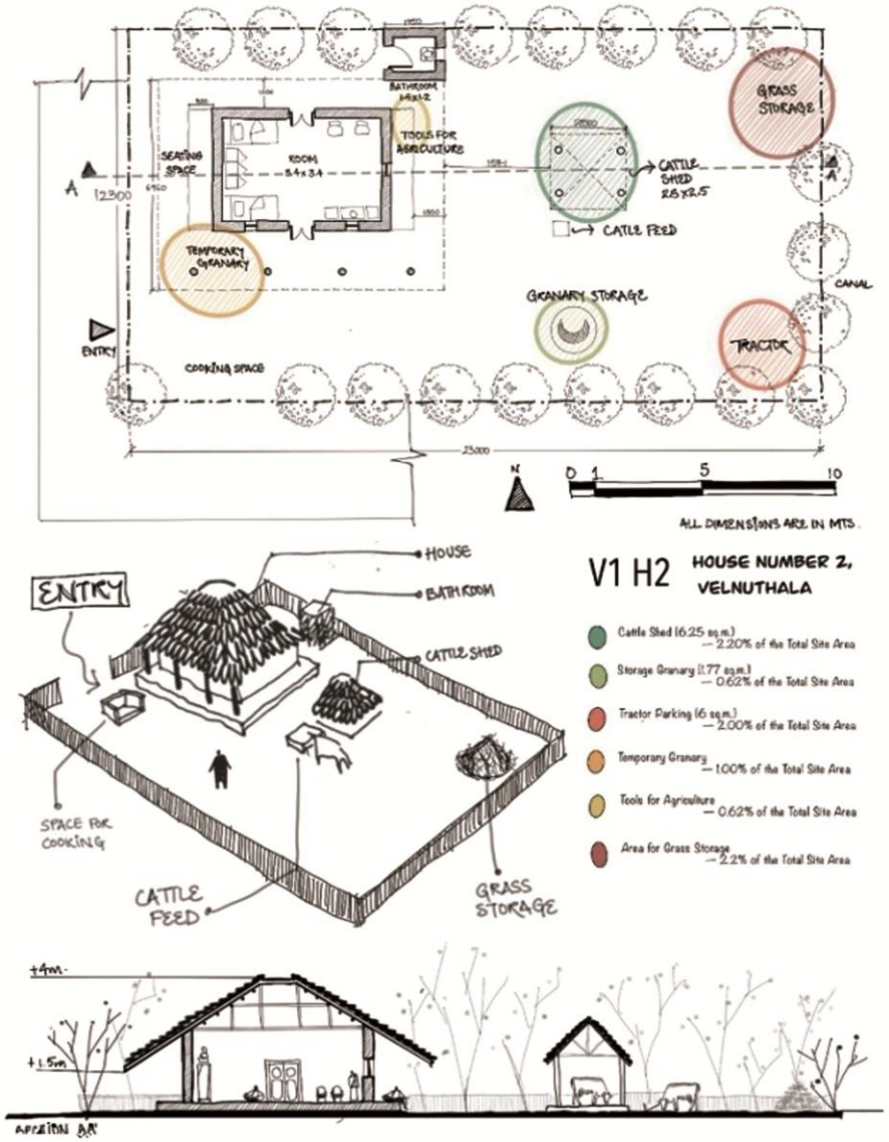

Fig. 4 — Household activity space and Occupational activity space of House 2 in Velnuthala

House space used for both HHAS and OAS different time in a day

There are spaces which are used for various activities during different intervals of time. The verandah acts as a space for cooking and interaction with family members, friends, relatives and other people during day time and the same space is used for sleeping during the night. The multipurpose room in the main block is used storage of grains, storage of agricultural tools and is converted in to space for eating and sleeping. The rural households have designed spaces with multiple uses, without any compromise in the functional aspects of each and every activity as shown in (Fig. 3-7).

Generic typology of the houses and deviations or variations of house designs in Velnuthala village

The houses V1H1, V1H2, V1H4 as shown in the (Fig. 3, 4 & Fig. 6) shows the houses and house forms of almost 80 years old which are vernacular in

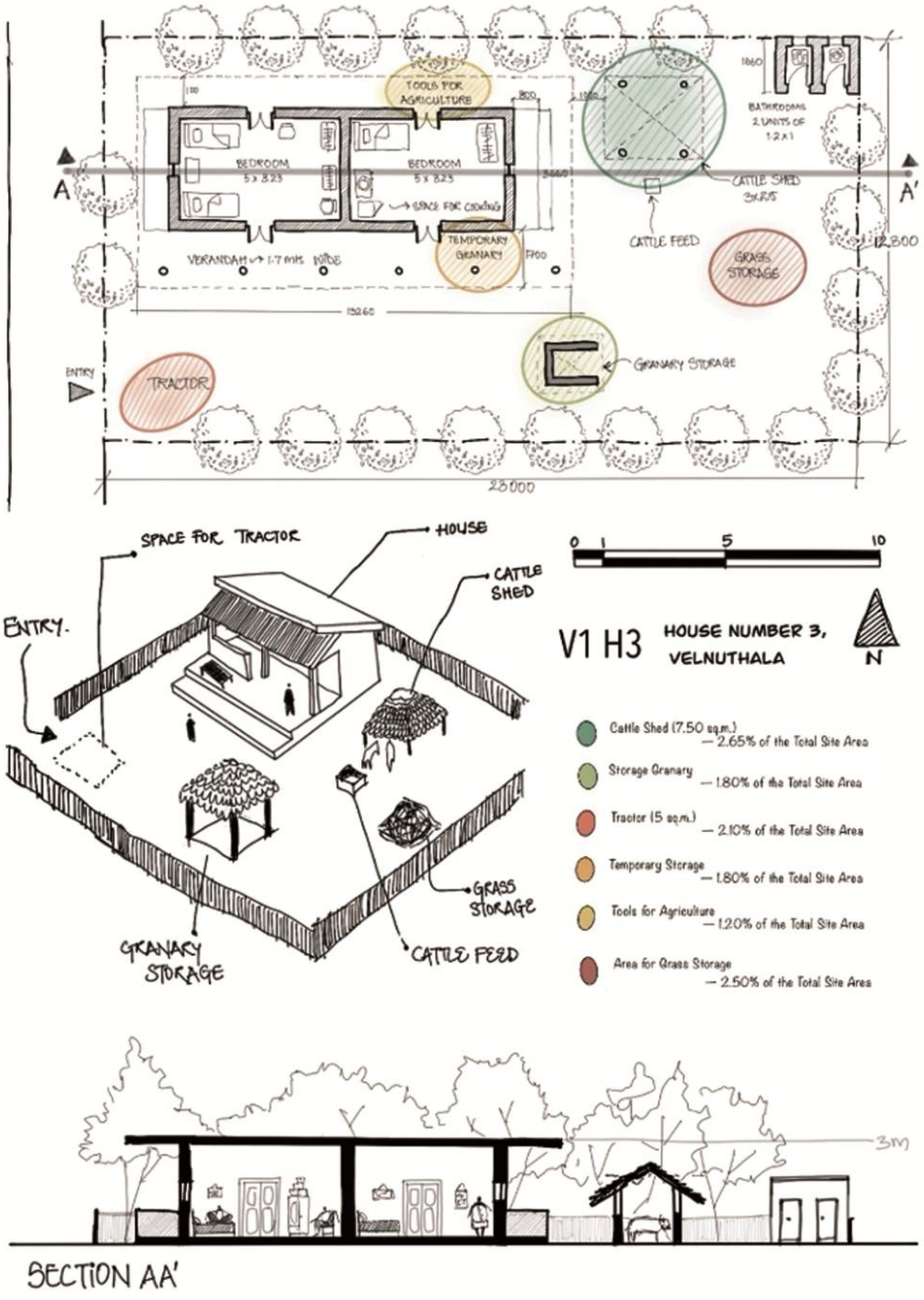

Fig. 5 — Household activity space and Occupational activity space of House 3 in Velnuthala

character with traditional building materials and techniques. The common built form observed in the houses with agriculture as the major occupation is that, the plots are divided in to three to five blocks; the main block, kitchen, granary store, cattle shed and toilet. The space within the site and also main block is also used for the agricultural tools and equipment like bullock carts, tractors, ploughs and other equipment used for cultivation. The granary storage unit forms as a predominant character in all the rural households in this village. The coordination of these blocks for various day to day activities is an interesting pattern in the rural households.

Most of the houses have evolved through ages based on the occupational requirement, whereas the new house which was built with modern materials

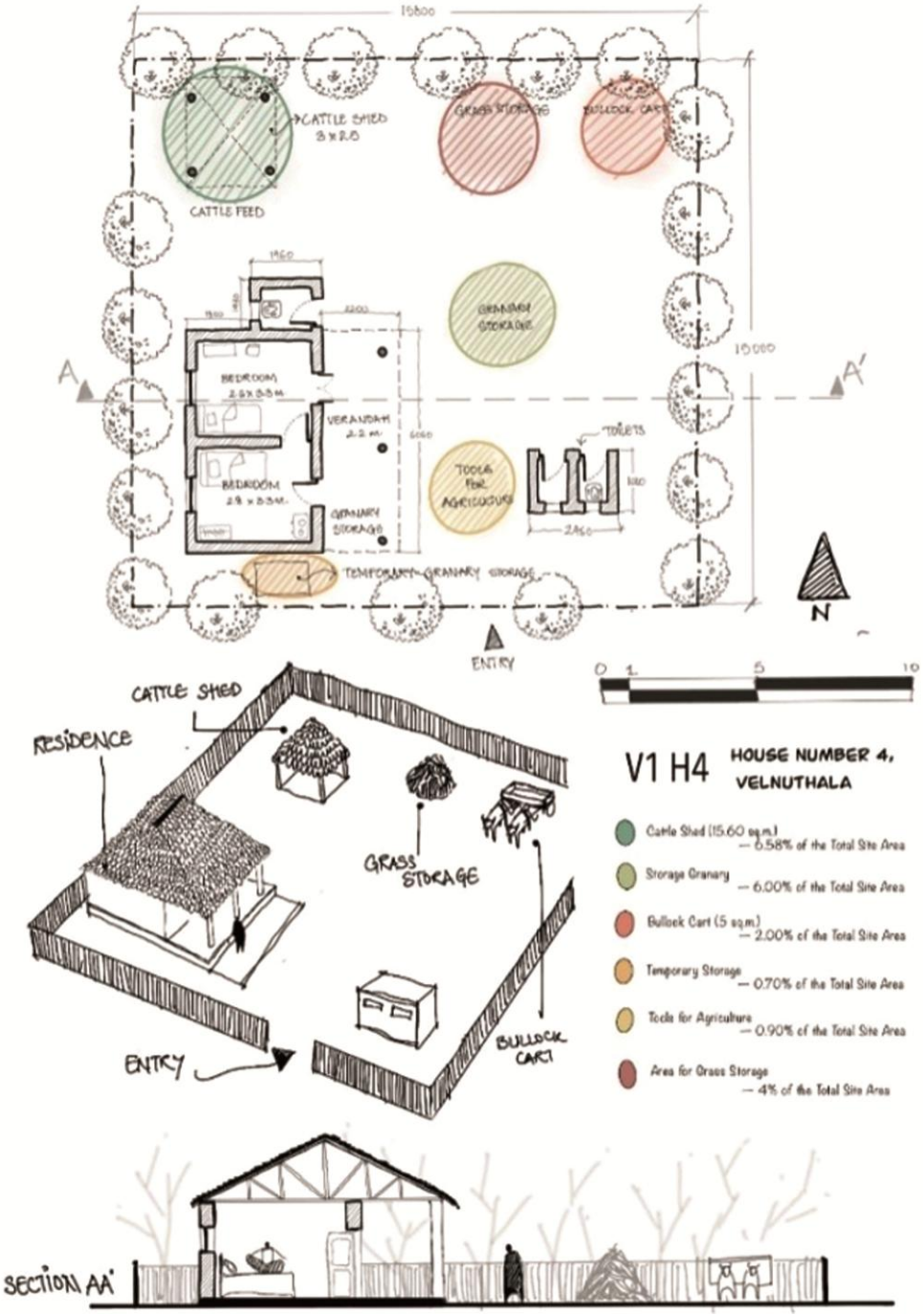

Fig. 6 — Household activity space and Occupational activity space of House 4 in Velnuthala

was a single or double roomed house as shown in (Fig. 5). The main block of the house was the resultant of Pradhan Mantri Awas Yojana (PMAY) scheme. The government has provided only two rooms of RCC. But the people added the additional blocks like cattle shed, granary store, verandah etc., at a later stage to meet various requirements including spaces required for activities related to occupation. The final derivative is like (Fig. 5), where the verandah is extended with asbestos roofing, the cattle shed is added and built with traditional building materials, the granary unit is also added later as per the requirement. The example of the house which was built under IAY scheme doesn't reflect the spatial requirements of an agricultural based household. The common typology of houses observed in this village are V1H1, V1H2 and V1H4 which are evolved based on the needs of the household and occupational space requirements. V1H3 is an example of house in modern context, but converted into the need-based requirements of the user (occupation based *i.e.*, agriculture as the occupation). V1H5 as shown in the (Fig. 7) is exclusive house in the village, the house with the same needs and requirements, except the house is made of Mangalore tiled roofing.

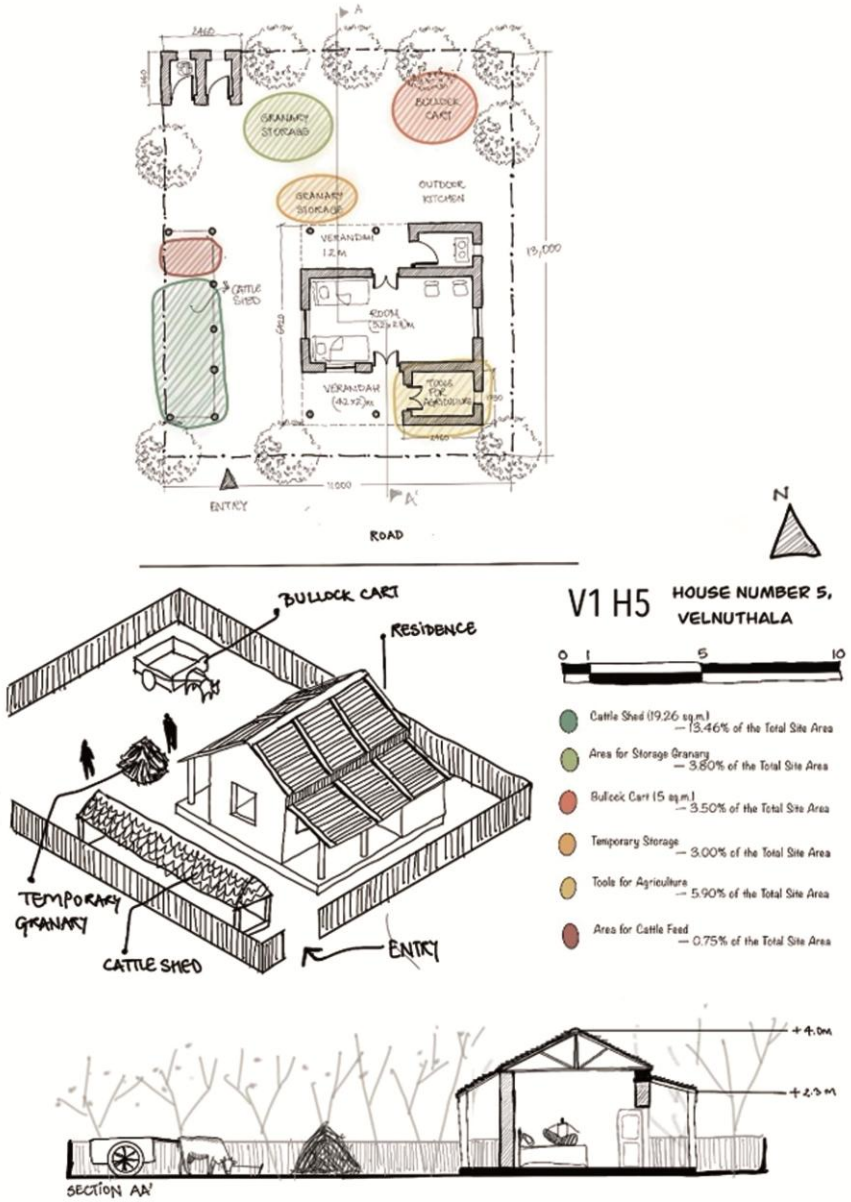

Fig. 7 — Household activity space and Occupational activity space of House 5 in Velnuthala

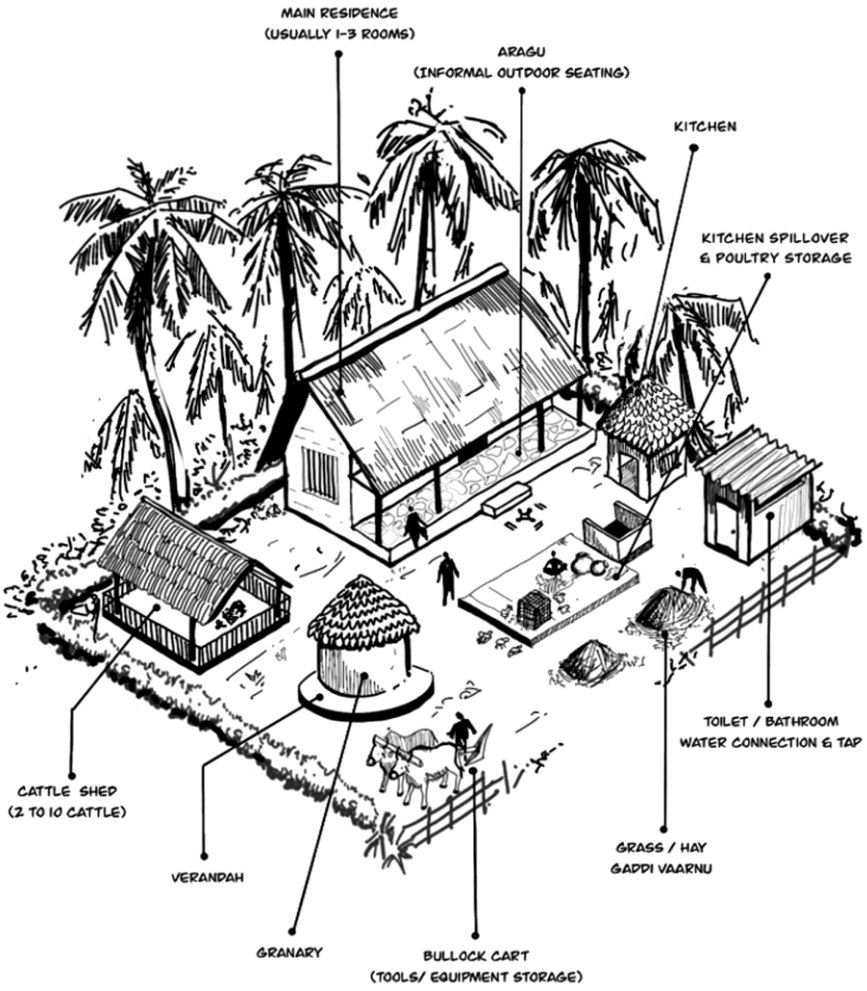

Fig. 8 — Generic House with occupational pattern as agriculture

Conclusion and Recommendation

Research has demonstrated a substantial connection between occupation and built form, encompassing various components related to occupation. Various components find its significance while addressing the house designs with agriculture as occupation. Hence, such components have been recommended below to address in design frame work as it has proved significance and influence on rural built form.

Plot: It is recommended that consideration of plot size to be based on the external activities such as granary storage, tools, equipment, cattle shed, family size with reference to the landholdings along with the main living block. The plot sizes of the case study areas ranged from 30 Sq M to 380 Sq M in areas. Irrespective of the size of the plot the basic components or requirements of the plot as mentioned above remained the same but with varying proportions. Whereas there are changes in the number of blocks in the plot ranging from one block to five blocks (*i.e.*, main house, kitchen, granary storage unit, cattle shed and toilet). Through the case studies related, exploratory, descriptive and explanatory analysis, it has been observed that 30% of the plot area has the occupational influenced spaces.

Main block/house: The case studies cover various residential built form having single room to five rooms. The breakup of the household categories as per the number of rooms in main block is 14% single room, 34% double room, 34% three rooms and 10% each for four and five rooms. The constructed areas vary from 24 square meters to 200 square meters, depending on the economic status of the homeowner, which is also influenced by the amount of land owned by the family. The rooms and spaces other than kitchen and Verandah are used as multipurpose spaces with both Household activity spaces and Occupational

activity spaces. The single and double room houses ranging to 48% of the case study areas, have multipurpose activities organised in these rooms other than the verandah.

Verandah: It has been observed, that the verandah is occupied by occupation related spaces such as tools or temporary storage spaces. Farmers of different land holdings with respect to the output, the verandah design is to be considered with varying areas with regards to the storage and display of the output. This space is a multipurpose space and acts as an important semi private space in the agriculturally based households, where activities like storage of grains, display of grains, sleeping, eating, cooking etc., happens at different intervals of time. Considering these aspects, design of verandah, becomes one of the key aspects in the design consideration for rural housing with agriculture as the main occupation. It is hereby recommended to consider the households with inclusion of verandah, where lot of activities related to household, occupation and day to day activities performed.

Granary: As it has been observed through the above said studies and analysis, that granary is an integral part of the agricultural households. The granary is separate unit and the size varies depending on the number of acres owned/cultivated. As per the studies 80% of households have granary as separate unit, 12% as part of the main unit, 8% in the verandah. In the houses where there is limitation of space, a separate granary space is considered within the main unit of the house. The houses with smaller landholdings used to store the grains in the verandah. It is observed that the new housing typologies by the government schemes does not take granary as part of the design consideration, which resulted in to unplanned arrangement of granary storage at different spaces. it recommended that depending on the size of the plots and residential units, the granary is to be considered as an integral part of the main block or could be made available as separate block.

Storage for tools and equipment: The internal space and external spaces of the house shall be addressed to have storage space and space for tools. This depends on the size, importance, usability and safety aspects necessary for the agricultural tools. As per the case study analysis it was observed that 35% of the households have stored the tools and equipment of smaller in size within the house & verandah, whereas the remaining 65% stored the tools only in verandah. It is recommended to consider the equipment and tools of smaller in size within the main house, either enclosed or in verandah, further the open space at the entry is used for plough, bullock cart or tractor.

Cattle Shed: As it has been noted through the above said studies and analysis, 88% of the households have cattle shed as an integral space and 12% doesn't have cattle shed and also every farmer having up to 15 acres of land holdings are supported with 5-10 cattle. So, to house the cattle, it is an essential requirement to have cattle shed with due consideration to the main habitat space. It is recommended to have adequate space for cattle shed, though varying in sizes and depending on the number of cattle, as this has become one of the integral parts of the agricultural living.

Kitchen: The cooking spaces, as identified through the studies are located in either of the three locations, one is within the main block (60%), the second one is separate kitchen (20%) and the third is in the verandah or semi open space (20%). As per the transformation analysis the kitchen was integrated and brought as monolithic unit in the main habitat, instead of separate unit away from the main built-up area. The proposal could restrict separate kitchen space within the main block and separate kitchen block could be a proposed if the plot size is larger in size.

Open spaces, semi open spaces and built spaces: Through case studies, exploratory, descriptive and explanatory analysis, it has been observed that the occupational influence is greater at the plot level, which is 30% of the plot, than the unit level, which is 12% of the unit, in most of the agriculture-based households. In a typical agricultural unit, it was observed that 80% of the agriculture related spaces, such as granary storage, bullock cart space, tractor space, and cattle shed are located in open spaces. In case of households ranging to 40%, which do not have dedicated spaces, the semi open spaces such as the verandah serves the purpose of spaces related to occupation such as temporary storage/ tools storage. So, it is recommended that such spaces are to be addressed with the overall built-up areas.

Fig. 8 indicates the generic house pattern observed with agriculture as main occupation and the spaces required for occupational spaces and other house hold activities. This will act as an indicator for basic spatial requirements necessary for agriculturally based households and way forward for the design process.

The research results confirm that the design of a house is not merely influenced by physical forces or any singular causal factor, but rather is a product of various occupational influences in their most comprehensive sense. Space and occupation are meshed to form the physical fabric that designates as appropriate dwelling/habitat.

Conflict of Interest

The authors declare that there are no conflicts of interest.

Author Contributions

SD conceptualized the idea, conducted the research, and wrote the article. SR and SB provided valuable insights and contributed to the writing and editing of the manuscript.

Ethics Approval

This article examines the culture, occupation and built form of a village in Andhra Pradesh, India. It is important to note that it does not generate any economic gain or cause harm to the residents. Consequently, there is no potential for ethical standards to be violated in this research, as its sole purpose is the study of rural built form with respect to culture and occupation.

Data Availability

The data used in this study is derived from publicly available sources, as cited in the manuscript. No new datasets were generated or analyzed specifically for this study. For any additional information, the authors can be contacted.

References

1 Geertz C, Thick description: Toward an interpretive theory of culture - summary, review and analysis, New York, Published online 1973Vavilov N I & Dorofeev V F, Origin and geography of cultivated plants, (Cambridge University Press, UK), (1992) 92-101.

2 Vwa M A, The impacts of postmodern architecture in contemporary residential buildings of Northern Nigeria, Published online, 2013. https://www.academia.edu/73463690/The_impacts_of_postmodern_architecture_in_contemporary_residential_buildings_of_Northern_Nigeria

3 Zagroba M, Problems of rural development in vicinity of Urban Agglomeration, *Engg Rural Dev*, 16 (142) (2017) 1446-1451.

4 Savchenko A & Borodina T, Rural architectural and planning forms as a source of diversity for urban environment (Case Study of Moscow), *Eur Countryside*, 9 (3) (2017) 560-576.

5 Geertz C, Thick description: Toward an interpretive theory of culture - summary, review and analysis, 1973.

6 Rapoport A, Identity and environment, A cross-cultural environment, In: J. S. Duncan (ed.). Housing and identity, New York: Holmes & Meier, Published online, (1981) 6-35.

7 Elshater A M, Urban design redux: Redefining a professional practice of specialization, *Ain Shams Engg J*, 6 (1) (2015) 25-39.

8 Bemanian M, Gholamirostam N & Rahmtapnah J, Identity maker elements in the traditional architecture of Iranian houses, *Islamic Art Studies*, (2010) 13.

9 Rapoport A, Theory, culture and housing, housing, Theory Soc, 17 (4) (2001) 145-165.

10 Jusan M, Renovation for personalization: A development arm for sustainable housing, Skudai: UTM press, Published online, 2010.

11 Collen H & Hoekstra J, No Title, *J Hous Built Environ*, 16 (3/4) (2001) 285-306.

12 Askarizad R, Influence of socio-cultural factors on the formation of architectural spaces (Case Study: Historical Residential Houses in Iran), *Creat City Design*, 1 (3) (2017) 44-54.

13 Bulut Y & Atabeyoğlu Ö, Fountains as urban furniture in historical urban structure and usage culture: Erzurum City case, *Build Environ*, 42 (6) (2007) 2432-2438.

14 Rapoport A, House form and culture, Englewood Cliffs, NJ: Prentice-Hall, Published online, 1969.

15 Kaushik, A. The continuity of vernacular architecture amidst changes, village shyopura, India, *ICONARP Int J Architect Planning*, 8 (2) (2020) 771-800. https://doi.org/10.15320/ICONARP.2020.136

16 Bartuska T, Introduction: Definition, design, and development of the Built Environment, In: *The Built Environment*, John Wiley and Sons, Published online, (2007) 1-14.

17 Haimeed G, Evolution of rural settlements and their spatial variations in Meerut District, Aligarh Muslim University. Published online, 2000.

18 Ambe B, Determinants of rural settlement patterns and impacts on the environment of some settlements of cross river State, Nigeria, *J Environ Tour Edu*, 1 (1) (2018) 1-15.

19 Frank K I & Reiss S A, The rural planning perspective at an opportune time, *J Plan Lit*, 29 (4) (2014) 386-402.

20 Ofuoku A U & Ebewore S, Effect of settlement patterns on cassava production in Delta State, Nigeria, *Global J Sci Frontier Res Agric Biol*, 12 (3) (2012) 1-7.

21 Yerxa E J, Occupational science: a renaissance of service to humankind through knowledge, Occupational Therapy International, 7 (2) (2000) 87-98. doi:wiley.com/10.1002/oti.109.

22 Kielhofner G, Model of human occupation: theory and application, Lippincott Williams and Wilkins, Published online, 2008.

23 Sadhu V K K & Srikonda R, People's acceptance of Vernacular Houses: The case of Ghantasala, Andhra Pradesh, India, *J World Archit*, 4 (1) 2020 9-24.

24 Ransom T, Selective Migration, Occupational Choice, and the Wage Returns to College Majors, *Ann Econ Stat*, 142 (2021) 45-110. https://doi.org/10.15609/annaeconstat2009.142.0045

25 Agius R & Hussey L, Certified sickness absence: Does the "fit-note" work?, *Occup Environ Med*, 72 (7) (2015) 463-464.

26 Fassier J, The law, the researcher, and occupational health, *Scand J Work Environ Health*, 42 (1) (2016) 1-2.

27 Harrington J, Education: Health effects of shift work and extended hours of work, *Occup Environ Med*, 58 (1) (2001) 68-72.

28 Meredith Towle, Rickey Tolliver, Alison Grace Bui, Amy Warner & Mike Van Dyke, Adding industry and occupation questions to the behavioral risk factor surveillance system: New opportunities in public health surveillance, 130 (2) 153-160.

29 Michelle V & Dee A Z, Revisiting the dilemma of review for modeled wage estimates by job characteristic, Monthly Labor Review, Published online, 2015.

30 Pierre Pestieau & Maria Racionero, Harsh occupations, health status and social security, *J Econ*, 117 (3) (2016) 239-257.

31 John D Beard, Andrea L Steege, Jun Ju, John Lu &, Sara E, Luckhaupt, Mary K. Schubauer-Berigan, Morbidity and Mortality Weekly Report, 66 (27) (2017) 718-722.

32 Huacheng Ning, Yao Zhou, Ziwen Zhou, Sixiang Cheng &Ruixue Huang, Challenges to improving occupational health in China, *Occup Environ Med*, Published online, 2017.

33 Hiram B, Noreen G, Pebley & Josefina F, Calloused hands, shorter life? Occupation and older-age survival in Mexico, *Demogr Res*, 42 (2020) 875-900.

34 Aruna B, Vernacular architecture of handloom sari weavers in India: a case for conservational of traditional houses and settlements of handloom Weavers' clusters, *J Herit Manag*, 3 (1) (2018) 1-26.

35 Seulki Choi & Kyungwon Lim, Life satisfaction, occupation and gender, Institute for Social Development and Policy Research (ISDPR), *J Asian Sociol*, 49 (1) (2020) 57-74.

36 Elizabeth Weber Handwerker & David S, Piccone Jr, Elizabeth, Occupational employment and wage differences across cohorts of establishments Cross, Mon Labor Rev, Published online, (2020) 1-18.

37 Vijayasree V, Understanding and analysis of weaver's habitat, Kanchipuram - a vernacular study, *Int J Eng Sci Res Technol*, 7 (3) (2018) 700-710.

38 Manohar G, Shelter for the homeless in rural areas, Kurukshetra, *J Rural Dev*, Published online, (1996) 97-98.

39 Madhava Rao & Sreedhar Seetharaman, Rural housing - emphasis on demand - Driven Dimension, Kurukshetra, *J Rural Dev*, 54 (12) (2006) 51-55.

40 Sadhu V K K & Srikonda R, Transformation of Vernacular houses in Coastal Andhra Pradesh, *Compliance Eng J*, Published online, (2019) 11-27.