

## DOCUMENTATION OF BADAGA VERNACULAR ARCHITECTURE- A CASE STUDY

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### Abstract:

This study presents a case study on Badaga architecture and house typologies in a village situated in Nilgiris. By conducting physical documentation and analysis, the research examines the distinct architectural features and spatial arrangements of Badaga houses. The study aims to deepen our understanding of the cultural heritage of the Badaga community and provide valuable insights for the preservation and conservation of their architectural legacy. Through this investigation, the research sheds light on the unique characteristics of Badaga houses, offering valuable knowledge for future studies and initiatives focused on the cultural significance and sustainable development of Badaga architecture in Nilgiris.

*Keywords: Badaga architecture, vernacular architecture, indigenous, house typology, Nilgiris*

### 1.0 INTRODUCTION

Badaga is a language spoken in Nilgiris District of the state of Tamil Nadu in India. The people speaking the language are called as Badagar. It is an indigenous community confined to the hills of Nilgiris alone, without any links to other parts of the country. The language is categorized under South Dravidian (Group I) languages. The Badaga community has been researched by many eminent researchers around the world and yet the origins of the sect have not been arrived yet. It is to note that the community "Badagar" has been classified hitherto under different classes by the government of India in different time periods viz. scheduled tribe in the earlier days, backward class in the later dates, moved to other class category and then again relisted under backward class till date. Hence it is to say that the community "Badagar" is the least understood community by the world for its origin and status. The Badaga community also has been given the status of aboriginals of Nilgiris by the United Nations International Mountain Partnership and the language is classified as definitely endangered by UNESCO (Moseley, C. (n.d.)). With all the available documents it can be assumed for the presence of Badagas in the Nilgiris at least for the past two millenniums.

### 2.0 OBJECTIVES:

- To conduct a comprehensive review of existing literature on Badaga architecture, aiming to gain insights into its unique characteristics and historical developments.
- To document and analyze the vernacular architecture of the Badagas, documenting various typologies of building, construction techniques, materials used and spatial planning.
- To explore and comprehend the cultural aspects associated with the planning of Badaga houses, investigating how cultural beliefs, social structures, and lifestyle practices influence the layout, design and organization of living spaces.

### 3.0 NEED FOR STUDY

There is a need to create more documentation of vernacular Badaga architecture as modernization, urbanization and socio- cultural transformations are widely creating changes in the traditional building systems and designs. Documentation can help in archiving of details that are in the verge of extinction.

### 4.0 LITERATURE STUDY

A Badaga demography study by Prof. Paul Hockings arrived at the Badaga population as 2,



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22,117 in 2012. For many centuries the Badagas primarily herded buffaloes and also practiced subsistence agriculture. Dr.R.K.Haldorai et.al. in their studies have mentioned that the Badagas inhabited the Nilgiris forests in a state of complete isolation for centuries, during which allowed them to cultivate a distinctive and unparalleled culture. They have developed their own customs, traditions and way of life that set them apart from the immediate neighboring tribes and the larger Tamil population. The Badagas have developed a rich cultural heritage characterized by unique social practices, rituals, art forms and deep connections with the natural surroundings. Their prolonged period of seclusion played a pivotal role in shaping and preserving the distinctiveness of the Badaga culture.

Facing the unfriendly climatic conditions of the hills and to ensure their survival, the Badagas formed communal settlements and have developed a unique yet complex social system. They practiced ancestral worship which was a primitive form of religion and the deities were of historical characters. The present day religion and religious buildings are a contemporary inclusion in the cultural and architectural representation of Badagas. The aboriginals are more bound to their place of their birth and the geographical region that they belonged.

A number of studies have been conducted in linguistics, anthropology and history of Badaga people but very little has been undertaken in the documentation of Badaga settlements, village planning and vernacular architecture. W. Francis, Indian Civil Service officer, in "The Nilgiris" discusses about Badaga villages as part of the 'Madras District Gazetteers' in the year 1908. He describes Badaga villages consisting of orderly lines of one- storied houses that look alike. The houses are roofed using red tiles. Each house has a separate milk-room where children and women were not allowed to enter. Around the villages were fields of red soil. Korali (*Setaria glauca*) and samai (*Panicum miliare*) were cultivated and consumed as a staple diet.

## 5.0 STUDY AREA

Beragani is a village in Kotagiri taluk of Nilgiris district. The village is located at a distance of 8 km. from Kotagiri which is the nearest town. The village was identified for the study as it is placed in the interior parts of Kotagiri and is one of the last villages that can be accessed by road. Given these reasons many buildings retained its original characteristics. The village has government elementary school. A government higher secondary school and a private school is located at a distance of 7.3km and 7.5km respectively. The kids of the village travel through public transport or private vehicles for school education. A government bus runs every 1hr from Kotagiri which is the nearest town.

## 6.0 METHODOLOGY

- Identifying and selecting a Badaga village that has preserved its original characteristics, ensuring it represents a significant example of Badaga architectural heritage.
- Consider factors such as historical significance, cultural authenticity, and accessibility.
- Conduct a questionnaire survey to gather demographic data about the village and its residents.
- Undertake documentation of buildings under different typologies of houses paying attention to architectural elements, construction materials and spatial layouts.
- Analysis of collected data and perform a qualitative analysis of the architectural characteristics, identifying common patterns, variations, and unique features within the village's housing typologies.
- Draw conclusions regarding the demographic profile of the village, its architectural heritage, and the cultural significance of the spatial planning of Badaga houses.
- Reflect on any changes or adaptations observed in comparison to historical records or previous studies.
- Discuss the implications of the research and provide recommendations for preservation, conservation, and future research on Badaga architecture.

## 7.0 STUDY



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The study was conducted in 2018 March. A demographic survey was conducted in Beragani. The population of the village was 873 out of which 452 were male and 421 were females. Number of kids aged between 6-14yrs was 83 and kids below 6yrs of age were 31. The literacy rate was 69% and graduates were 5%.

The village has predominantly row houses and very few occurrences of individual houses. The village is geographically divided into four subdivisions namely akkada ker, kada ker, nadu ker, hethai amma ker. Akkada ker consisted of 83 houses, kada ker 40 houses, nadu ker 21 houses and hettai amma ker comprised 63 houses arriving at a total of 207 houses. The family sizes vary from 3 to 6 in a household.

The aerial view of the village (Figure 1) shows the linearity of planning and shows the growth pattern of the village. The Hettai amma ker and nadu ker are the oldest parts of the village and the village has grown in southern direction. The village is surrounded by farm lands and tea plantations. The residents of the village are the owners of these agriculture lands showcasing the self-employment status of the majority of the population.

The row houses are constructed following the major contours of the landform. It is a rare occurrence to build houses perpendicular to contour lines which is commonly observed in villages where new constructions are frequent.

Figure 1: Aerial view of Beragani



## 8.0 DOCUMENTATION OF HOUSES

Based on the variations in planning, number of bays, construction material and age of building, four houses were identified for documentation. The five typologies are spread over the four regions of the village. The sizes of the houses varied based on the economic condition of the owners.

### 8.1 House Typology 1

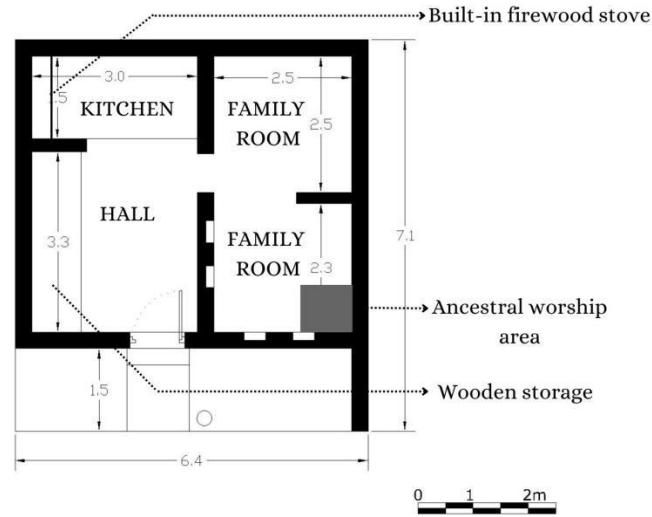
Typology 1 house is one of the smallest houses that have been documented. It has a total builtup area of 45sqm. The occupants of this house come under the lower income groups. The house is part of a row house and only this section was considered for the documentation for its difference in planning. The house primarily has two bays. The first bay has the hall and a kitchen. The hall is majorly occupied by a huge wooden storage that is used for storing farming tools and storage of food grains. The space on top of it can be multipurpose for spreading a bedding mattress or for storing of household items. The kitchen has built-in firewood stove that is frequently used for cooking than a gas stove.

Figure 2: Typology 1 House



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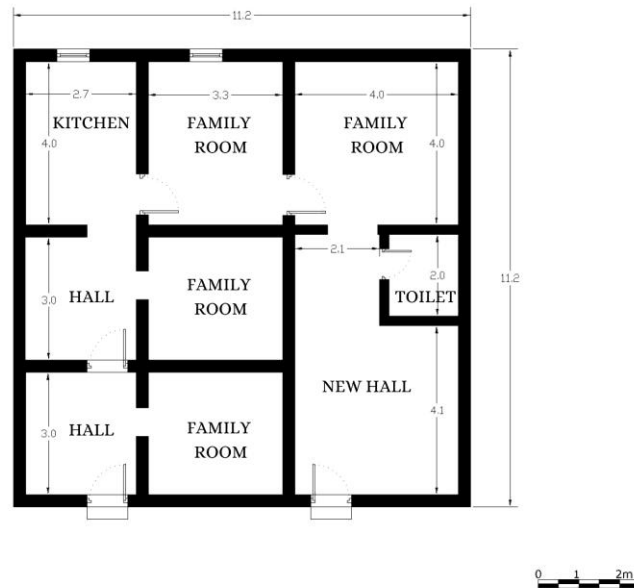


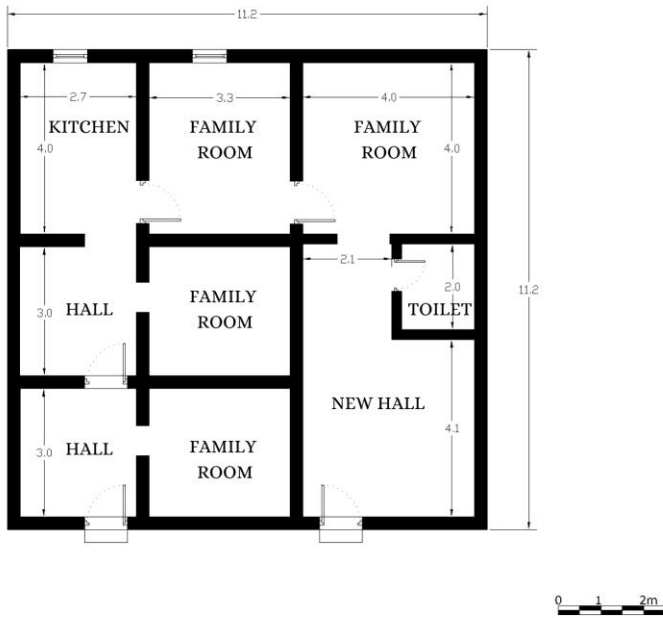
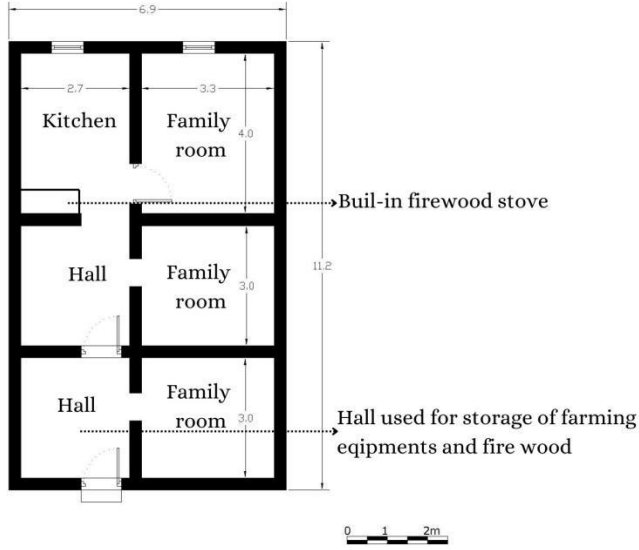


The second bay accommodates the family rooms that are considered more private than the first bay. A half wall is generally used to demarcate the space for various functions. Here a separate zone is allotted for worship area. The house is constructed out of brick and mud mortar. A sloping roof of wooden rafters and pot tiles has been used. No windows were provided. In the exterior the roof slopes over the veranda forming the 'thinnai'. The thinnai, as recorded in other parts of Tamil Nadu, serves as a communal space.

## 8.2 House Typology 2

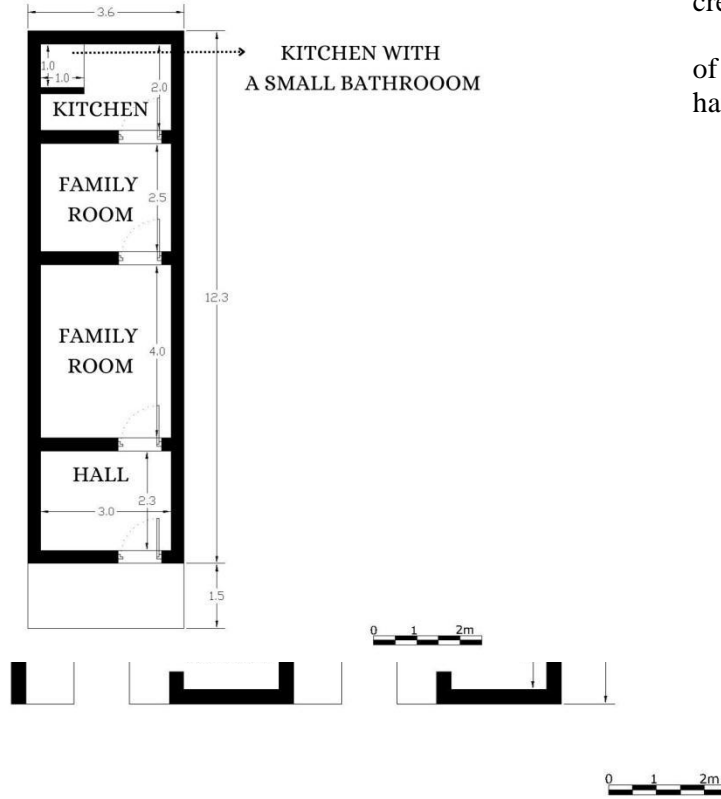
FIGURE 3: House typology 2- (a) older plan, (b) after expansion along the northern side





Typology 2 house is formed using two bays. This is a significant planning feature for well off families in the earlier days. This type of planning helps in creating more family rooms and for this reason, this layout was also adopted by bigger families. In this particular case, the building has been expanded along the northern side (Figure 3 a,b) . This expansion is possible only for the hoses that are the first or last in a row house given that there is extra land to expand. In this particular case study, the existing older house has an attic space and is covered using a sloping roof made of timber and mangalore tiles. The main door is facing the east

The newly expanded portion is constructed using RCC and is covered with an RCC roof slab



creating a small terrace.

Given the availability of space, the house owners have constructed a small toilet inside the house. It is a noticeable aspect because most of the villagers practice open defecation.

### 8.3 House Typology 3

Figure 4: House typology 3

This typology of house is unique as it was constructed for two brothers, following the same layout on both sides (Figure 4). Each house has a total built up area of approximately 50 sqm. These two houses are part of a

bigger row house. This kind of construction pattern is noticed in close relatives and friendly groups. An attic is found above the hall and family room in both these houses. These houses have a thinnai and a separate storage space that is part of main building but can be accessed only from the outside. The main door is facing the east. Brick, mud mortar and mud plastering were used. The walls were finished with lime wash. A similar kind of planning can be seen in bigger families.

### 8.4 House Typology 4

This is a one of its kind planning where only one bay is available for planning (Figure 5). These houses are generally owned by the lower income groups or are a result of asset partition between brothers. In this case it is the former. Interestingly in this type of planning both privacy and functionality is achieved in a single bay. The room adjacent to the kitchen becomes the family room with the highest level of privacy. This room also has an attic space. The main door is facing the east. Here it is observed that the kitchen has a small bathroom space that is generally open without doors. In the later developments, people started adding doors to these bath spaces.

Figure 5: House typology 4

## 9.0 ANALYSIS AND FINDINGS

From the above case studies and through observation of many other houses in the village, it was identified that the planning of the houses varied by size based on their economical background and family sizes. The houses varied by bays based on land availability, family size, family progression and





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economical status. A kitchen, a family room and a hall were the commonly identified functional spaces in the residential planning. Storage for farming requirements and food grains storage is an important functional aspect in these houses. Either the main entry room or a separate room was allotted for storage.

Row houses are common in this village and the row houses were constructed following the natural contours. The village is surrounded by farming and plantations showing their close connection to their employment as mentioned in the literatures

The houses were primarily built using brick and mud mortar. Mud plastering was used and finished with a lime wash. The affordable class people adopted newer forms of paints for finishing their walls. Mostly the roofs were sloping in two directions with the common ridge running continuously on top of all the houses in a row house. Timber truss and rafters were used for supporting the roof. The roof was finished with country tiles or mangalore tiles. A similar spatial planning has been adapted throughout the village.

All houses have a built-in firewood stove which is a norm in Badaga houses. These stoves have customary relevance as many rituals are conducted with the fire place. The spaces in a house are used according to the occupation of the inmates as the agriculture families used the hall for storing farming related items while a cow pasture uses the hall for storing food supplies for the cows for which the kind of storage systems vary.

Extended families live together in the same row-houses or in neighboring buildings establish strong cultural and social bonds. The open area in front of the houses is used for common functions of the village and creates strong social space for promoting interaction and unity among the villagers. This enhances and reinforces their strong community living nature.

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