A study on housing typology in rural areas of Assam, India

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Abstract

The rural housing in Assam largely depends on the environmental factors such as climate, drainage, wind velocity, sunrays, and physical features, slopes, etc. The building space, house type, layout, height, plinth level, roof pattern and interior arrangement depend on culture and tradition of the communities and locally available building materials. Environmental impact is well reflected on the layout of the houses, building materials, orientation etc. People belonging to same community but living in two different environmental conditions, for example hills and plains have different house types. In many communities some methods adopted for keeping household items found to be highly scientific while many are controlled by the age old traditions. The study aims at providing a data base and an analysis of rural housing pattern in Assam so that it may provide a base for designing and redesigning the houses in more scientific manner to give a better living environment to the rural people.

Keywords : Rural housing, interior arrangement, environmental impact, living environment.

1. Introduction

Among the three basic needs food, shelter and clothing, shelter i.e. housing stands as the most difficult problem to the modern society (Rahman & Sharma, 1996). The problem involves with land, construction material, site and situation. The factors like site and situation is more dominant in case of rural housing. In regard to building material it has been observed throughout the world, traditional houses constructed with only locally available materials (Lal, 1990). Site selection of houses normally depends on local geographical condition. Physical features, slope, climate, drainage, wind velocity, sunrays are the dominant physical factors in locating the rural houses (Koenigsberger 1974). In regard to building space, house type, layout, height, plinth level, roof pattern and interior arrangement largely depend on the culture and tradition of the communities.

In this research it has been tried to know the pattern of rural housing in different geographical milieu of Assam and to find out the problems of rural housing. A few case studies covering the communities of hills and plains have been incorporated to understand the advantages and disadvantages of house types. Apart from physical observation and verification, and collection of primary data, the study incorporates secondary sources of information to highlight the issues.

Karbi, Dimasa, Hmar of the hill communities, Mishing, Lalung (Tiwa), Bodo, Kacharis of the plains tribal communities and rural houses of other communities living in the plain districts of Assam have been taken into account for the study.

2. Objectives

- To know the pattern of rural housing in Assam.
- To find out the environmental impact on housing in the state, and
- To understand the impact of the tradition and culture on housing pattern.
3. **The study area**

Located in between the Northeast Frontier Hills, Patkai and the Naga Hills and Meghalaya Plateau, the Brahmaputra valley occupies a most significant part of the entire Northeast India. The valley is made up of alluvium formed due to deposition of sediments derived from the Himalayas and Meghalaya by the Brahmaputra and its large number of tributaries (Map:1). It extends from Sadiya in the east to Dhubri in the west covering a flat plain of 720 km long and around 96 km wide. The sediment deposition measured in the valley is about 170 metres. The valley as a whole has very gentle slope towards west. (ASTEC, 2006).

![Map-1: Physical setup of Assam](image)

The Barak plain or Cachar Plain covers around 7000 sq km lies in the southern part of the state. The plain is separated from the Brahmaputra Plain by the Meghalaya Plateau and North Cachar Hills. The lowland Cachar or Barak plain is simply an extension of the Surma valley, the home of many tribal communities.

The study area falls in sub tropical monsoon region. The climatic characteristics of the region could be identified on the basis of temperature, rainfall, humidity and northerly and south-westerly winds. The controlling factors are location, physiography, the alternating high and low pressure cells of north-west India and the Bay of Bengal, the predominance of warm and moist maritime (MT) air masses, the local mountain and valley winds and the extensive local water bodies.

The character of village sites varies from place to place. In the plains of the Brahmaputra and Barak the houses are built in large clusters or small clusters as per allocation of the agricultural land (Bhattacharyya, 2005). Generally the old villages are almost invariably found on the bank of the rivers and in their neighbourhood. The exact site of such villages is decided on the basis of maximum accessibility and availability of perennial source of water. The river levees are by far the most favourite site for villages in the plains. The region between the levees and the foothills are generally swampy. When the village site becomes more crowded due to the increase of population, the villagers build their houses further away from the river banks on artificially raised lands. Some immigrant communities are found to settle in the low lying rice and jute fields of the lower Brahmaputra Valley. Large villages are often found where periodical markets are held and generally they are sited on the bank of the river.

In thickly populated parts of the plains of the lower Brahmaputra and Barak valleys ‘haustendorf’ or irregular clustered villages are seen. According to Meitzen there is a close relationship between socio-ethnic group and the village plan including its types. The clan settlements of the lower Assam plains are of such types. In Nalbari-Rangia areas of west central Assam where population density is very high generally rectangular pattern of settlement is seen. Here the shape of the villages is roughly rectangular and reason for this pattern is the shape of the cultivated land which are some sort of rectangle with their boundary lines roughly running north-south and east-west directions.

In other parts of the plain districts of Assam linear pattern is the common type of settlement. This pattern is formed when the attractive or restrictive forces encourage or discourage the growth in direction. It is more common pattern among the indigenous Assamese people. Generally two series of farmstead face each other and stand on the main road and river banks. As such both natural and cultural forces in the sites are responsible for linear growth. The rectangular cluster settlement of the river levees become elongated along the high ground if the areas are liable to inundation. Where there is no danger of floods the advantages offered by the proximity of a river cause the elongation of the settlement. Moreover, at the edge of the hills linear pattern is developed which indicate the impact of restrictive forces of nature.
Some linear villages are observed from Dhemaji District to Dhubri District along the marshy tracts of north bank of the Brahmaputra. This type of settlement is also seen in marshy tracts of Barak plain. The ‘Char’ area settlement is quite different. ‘Char’s are mostly occupied by the immigrants and their villages are located within the cultivated lands. Generally this settlement does not follow any road or river for which nucleated and chaotic agglomeration of settlement pattern has been formed. Significantly the immigrants introduce intensive type of agriculture and are mainly seen in the chars of Goalpara, Dhubri, Barpeta, Kamrup, Darrang, Morigaon, Nagaon, Golaghat and Sonitpur Districts.

The foothills zone particularly hills of Karbi Anglong and North Cachar dispersed villages have been seen. The pattern is the characteristics of foothills plains and hill slopes and difficult terrain and turbulent drainage lines unfavourable for inter village interactions and agricultural activities. Shifting cultivation has been the main source of livelihood for several tribes of the highland region. The isolated settlements are common in the areas of shifting cultivation where civic amenities are very poor.

3.1 Rural housing and the study area

Though urbanization is very rapid in India yet 68.8per cent i.e. 83.33 crore of the total population 121 crore in the country lives in Rural areas. Total population of Assam is 3,12,05,576 out of which around 13per cent belongs to schedule tribe. There are total twenty three (23) notified schedule tribes in the state. All scheduled tribe are broadly divided into two categories, scheduled tribe hills and scheduled tribe plains (Deka , 2008).

According to National Sample Survey conducted during 2008-2009, out of total households in India 51.6per cent were pucca, 30.1per cent were semi pucca and 18.2per cent were Katcha. However, out of total rural households, 55.4per cent were in pucca, 27.6per cent were in semi-pucca houses and 17.0per cent were residing in katcha houses. In the study area it is seen that in urban areas 59per cent residing pucca, 36.3per cent were residing semi-pucca and only 3.75per cent were residing kutcha houses whereas in rural areas 21per cent were pucca houses, 54per cent semi pucca houses and 23per cent were residing kutcha houses. Since 85.9per cent of the population of the state lives in rural areas and katcha and semi pucca type of houses are dominant, housing typology adopted in different areas following different culture is very important from social as well as structural point of view.

4. Analysis

The pattern of houses differs from community to community mainly due to geographical conditions and cultural setup. The layout of the living room, kitchen, store house of different communities living in the plains and hills is different. Number of housing units also varies in both the sites. It is lesser in hills. Moreover the space used in the dwelling units in hills is lesser per person compared to that of by the plain dwellers. Segregation of household activities in the dwelling units is usually more in the plains. A community living in plains has built a different type of house while it becomes different when the same community people living on the hills. For example in the houses of Dimasa people, since temperature is high in plains, doors are kept parallel to each other for better air circulation (Fig. 1). Such arrangement keeps the houses cool which are situated near river or in the windward side. There are only two doors in the house. They also keep a log of wood in front of the door as a symbol of restriction in accessing the house. Undoubtedly it is a part of their age old tradition.

Fig. 1

On the hills, to protect the house from severe cold wind, they make a bamboo wall in the windward side which height is generally more than the house itself. Dimasa people keep provision for storage of food stuff, utensils and other equipments with bamboo and wood, just like in modern kitchens (Photo:1 )*.
The pattern of house of the Lalungs (Tiwas) is almost similar to that of the Boro Kacharis. They construct their houses on plinths and use thatch for roofs. The plinth of cooking house (Barghar) is raised about two feet above the ground in order to distinguish it from other apartments or cottages. Choraghar an outhouse is constructed a few yards away from the main house where guests are accommodated and unmarried young boys use to sleep at night. In between Barghar and Choraghar there is Majghar with two three rooms used for sleeping purposes. (Sarma Thakur, 1985).

The houses of Karbi people usually consist of 3 parts- storage area, terrace and living area. Generally in the midst of the living area, they keep the fireplace (Chulla) above which they preserve food stuffs. But in some houses the fireplace is kept outside the living area. As shown in layout drawing, there are no partitions between the kitchen area and bed spaces (Fig. 2). In fact the adult bed spaces are placed at both the sides of the house and instead of partitions or walls; they use only curtains for privacy. The place above the fireplace is used for drying of fuel wood and preservation of meat, fish, vegetables, seeds etc. However the open spaces near the fireplace are used for storage of some food stuffs, keeping utensils and other equipments (Photo: 4)*. In some communities like Hmar, Karbi etc place the cooking area in such location that it keeps the whole house warmer. Usually the members of the family used to sleep surrounding the cooking space. As more space is available in plains some Karbi people keep separate living space for the guests in addition to their own requirements.

The layout of house of Hmar people is shown in (Fig. 3). Such layout is also seen in case of Rangkhol, Nocte, Khelma Naga tribes though a little variation is there. Generally the bed spaces near the entrance are kept for old members of the family for convenience. The spaces near kitchen are used for storage. Moreover, the spaces above the fireplace are used for drying and preservation of fuel wood and food stuffs (Photo: 5)*. Simple techniques are used by Hmar people for storage of utensils as shown in the (Photo:6)*. Interestingly the Nocte people hold a notion that left hand side of house depicts life whereas the other side death. Therefore the Nocte people keep the bed spaces in the left side of the house and use the other side for storage and other uses.
The houses of Mising people are famous for the stilt platforms. The height of stilt platform generally varies from 3 feet to 9 feet, depending upon the slope of hills and the intensity of floods in plains which generally accommodate pigsty. Generally the arrangement of their rooms is linear as shown in the layout drawing (Fig: 4). Sometimes length of a house exceeds 30-35 M depending upon number of rooms. The rooms are separated by the partitions without any door. The corridor is used both for circulation of air and better ventilation. The balconies are used for recreation and drying of fuel wood and food stuffs. The kitchen is separated from main living space, which is accessible from the outside the house also.

Photo: 7

Fig. 4

The traditional Assamese rural houses have different patterns. In the plain districts of Assam from Sadiya to Dhubri there are lots of variations observed, for which it is difficult to generalize. Assam type houses constructed with locally available building materials is the general characteristics of Assamese rural community. Two most common types of layout designs presented here to get an idea about the house types of rural areas of the plain districts (Fig 5 & Fig 6). The first type is common to the individual families while the second type is common to the joint families. In the plain districts of the state both the types are seen with little variations in respect of number of units, location of kitchen, storehouse, cowshed and bedrooms. The number of bedrooms also varies depending on the couples living in the family. Almost all the households have a courtyard, which is used for various purposes.

Fig. 5

Photo 8 & 9

One thing common in rural housing of both hills and plains is extensive use of locally available building materials. Bamboo, wood, canes, reeds, thatch are the major building materials used by both hills and plain dwellers. But the difference has come with the size, shape, design and the method of construction in various communities.

One similarity is seen in flood prone areas of the
plain and some slopes of the hill where platform houses have been constructed. But the purpose of such houses is different in both the terrains. On the hills the platform houses are constructed just to avoid natural hazards like heavy runoff during monsoon seasons, soil erosion and keep the floor dry and away from snakes, insects etc. On the other hand platform houses in the plain are constructed only to avoid floods. (Sabhapandit, 2003). The house of Mising community is one of the best examples.

5. Conclusion

The rural housing pattern in study area largely depends on the environmental factors like climate, drainage, wind velocity, sunrays and physical features, slopes etc. On the other hand building space, house type, layout, height, plinth level, roof pattern and interior arrangement etc. depend on culture and tradition of the communities and locally available building materials. Depending on all these factors housing patterns have been developed in different ways on the hills, foothills, plains and marshy areas. In this research these aspects have been studied taking examples of the houses of some of the hills and plain communities. Significantly people belong to same community living in two different environments have different house types. It is basically to adjust with different environmental conditions. Environmental impact is well reflected on the layout of the houses, building materials, orientation etc. In many communities some methods adopted for keeping household items found to be highly scientific while many are controlled by the age old traditions. The study would be of great help in designing and redesigning the rural housing in more scientific manner to give a better housing environment to the rural people.

* Photo Courtesy Mr. Jayanta Sarma

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