PART : II
3.1 THE HOUSE SITE:

This chapter is devoted to the distributional aspects of houses in Nalbari district. In general, physical, economic and cultural factors have forcefully determined the site, size, growth, pattern and spatial distribution of houses in a region. Among the physical factors, climate, topography, relief, drainage, soil characteristics and vegetation have profound effects on house type. Religious, economic and cultural factors have also played a great role in the distribution of houses. Theses are transportation, market, availability of building materials, educational and religious institutions etc.

The site selection or location is given more importance by the human geographer like Vidal dala Blache. Both rural and urban housing are mainly determined by good site. According to Saur and Chisholm, water, cultivable land, defences, availability of fuel and building materials, etc. are important factors for site selection of houses.

The prime determinants of site selection are elevated river banks, former river-meanders, fertile soils, gentle hill-
Determinates of House Sites

FIG. 3.1

slopes, availability of water, adequate fuel supply, house building materials, defence facilities, open space or grazing land and transport networks.

Generally, houses are sited in the presence of some special facilities. The places where houses stand are called house sites. These are usually determined by the surrounding environments. The elevated dry river bank site is one of the best house sites. This dry point is essential for water use for men, domestic animals. Besides, waterways are used by the people. Flood plains are more fertile for agricultural work. House settlement in 'Char' (River island) is too dense because there is no space to expand new buildings. So main habitable land is affected by high density. For this reason the unhygienic condition prevails in the charland areas.

In many cases functions determine the house-
site. Most of the people in areas in Nalbari district are agriculturists. Therefore, they construct their houses near agricultural fields.

In the urban areas, the main consideration for house building is different. It deals with the functions of business, trade and commerce, transportation work, resource mobilization, manufacturing industrial goods, various health services, administration, cultural works and recreation. Broadly speaking, Nalbari district is a part of the lower Brahmaputra Valley. Physically the district may be divided into three Physiographic zones: (1) Northern foothill zone, (2) Middle plain zone and (3) Charland zone. Each zone has separate types of house sites. Most of the people of Nalbari district live in a single plot of collection of houses, situated on a higher level than surrounding fields with a view to securing natural drainage and flood free area. Caste distinction also plays an important part in selecting house sites. The transport and communication have vital role in site selection. Transport gives man to carry goods from the house site to other and has importance in site selection.

The main physical factors for site selection are natural sites with pleasant exposures, arable land and water. Some other natural factors like scanty of water, facilities, marshes, forests, rocky areas, poor soils etc. act as adverse elements for selecting house sites. Cultural factors are religions structures like temples, mosques, roads, water points, educational institutions
etc. Besides, type of economy and historical changes have also been instrumental in affecting the sites of houses.

3.1.1 SITE OF NORTHERN FOOTHILL ZONE:

Housing of northern foothill zone may be divided into three types - (a) the hill-plain contact site, (b) the forest edge site and (c) tea garden site.

(a) The Hill-Plain Contact Site:

On the northern fringe of the district are forested hills, with tall grasses and unhealthy damp soil. The settlement and housing in this zone are semi-dispersed type. The region is highly eroded by numerous small streams. These areas are mostly settled by indigenous Bodos, Santhals, Orangs, immigrant- Nepalis, etc. The Nepalis are living on milk production as the area is covered by shrubs and grasses. The others are practising agricultural work with the natural water supply from the small streams.

Many villages are formed by the immigrant population of middle plain zone, where population pressure is too high. Such settlements are Nabasti, Baglamari, Rampur, Pamupathar, Baglamari N.C., Nalbari, Subankhata, Chaulkara, Khirini, Kalajar, Daranga, N.C., Daranga Mela, Angarakata : N.C., Uttarkuchi, Paharpur, Hatiduba, Kalajhar, Chandranagar, Shashipur, Sukanjuli, Patkijuli, etc. are located on the foothills of Bhutan-Himalayas.
PLATE III: Santhal Houses of Hill plain contact site

PLATE IV: House complex of a Bodo Family performing Day to Day works
(b) The Forest Edge Site:

The climatic control on human habitation in the foothill of Bhutan-Himalaya differs from that in the floodplain zone. The forests, once covering the whole region, have played an important role, in the site evolution of housing landscape by their imposition of limit to the settled land at various times. The northern part of the region and a few small pieces of land along the Paqladiya and Mora-Paqladiya rivers are occupied by forests or woodlands. These northern most forest areas along the two rivers are devoid of habitation but their southern fringes have some sparsely settled villages. Though the forests are reserved by the government, but the local tribals and immigrants Nepalis encroach upon the forest land. These forest sites along these rivers are mostly habitated by Nepalis, Bodos, Santhals, etc. These villages like Nikashi, Subankhata, Sapatal, Dakshin Maithabari are the best examples of forest-edge site.

(c) The Tea Garden Site:

The tea garden provides more employment to the people. Because, the primary leaf-lifting work cannot be done by the machine. It is the work of manual worker. For these reasons the English had brought the cheap labourers from backward areas of Bihar and Orissa. There are three tea garden namely - Nagriquili, Doomni and Menaka in the study area. In these three there arenumorous labourers, brought from the above mentioned places and they have settled around the tea gardens. Such sites are usually
owned by the tea estate. This site provides economic as well as environmental protection as the land is free from flood.

3.1.2. SITE OF MIDDLE PLAIN ZONE:

This zone covers an alluvial fertile tract between the Tarai in the north and the active floodplain zone in the south. This zone is eroded by innumerable river channels running towards south-western direction and meeting the mighty Brahmaputra. These river channels are Nona, Pagladiya, Burhadia, Mara-Pagladiya, and Tihu. This area is occupied by compact and semi-compact housing settlements and a high density of population. In this zone houses are built in large clusters and small clusters on the basis of agricultural lands. Housing site in this zone may be divided into: (a) the agricultural field site (b) the dry land site and (c) the river levee site.

(a) The Agricultural Field Site:

Most of the housing settlement are grown up in the middle plain zone. The total number of inhabited villages in Nalbari district are 803. of these villages 71.51 per cent of land is used in agricultural work in the district. The land of this zone is too fertile to use in agricultural work. On the other hand more labour is required for agriculture. Most of the cultivators migrated in search of cultivable land to this region from the southern parts of the district.
(b) The Dry Land Site:

The dry land site is too important to relieve from flood hazard for housing settlement. River banks are the typical example of the dry land site. People living in this site are getting opportunity from river water and fishes. Animals with them also need water. For navigation, water transport is quite cheap. From the river bank to the distant area, the land is lowlying and not suitable for house construction. Therefore, men choose river banks as dry land for housing settlement. The settlement like Jalkhana, Nizkhana, Tihu, Chamata, Belsor, Kaithalkuchi, Porakuchi, Morowa, Namati, Kandhukuchi, Makhibaha are the good example of dry land site in this zone.

(c) The River Lavee Site:

The river lavees of the tributaries of the Brahmaputra are over-crowded due to the fertile soil for agricultural work and high land for house construction. These tributaries are Nona, Pagladia, Burhadia, Mora Pagladia, and Tihu. The important villages are Bhojkuchi, Makhibaha, Bali, Nathkuchi, Namati, Ranakuchi, Digheli, Barama, Kalitakuchi, Larma, Nadla, Pakowa, Bahjani, Morowa, Chandkuchi, Tamulpur, Dhamdhama, Tihu, etc. It is seen that there is a good relationship of house sites with elevated grounds like the river levees and hill slopes.

3.1.3. SITE OF ACTIVE FLOODPLAIN AND CHARLAND ZONE:

The 'char' or 'chapari' settlement is the dispersed type of settlement which is seen in the active
floodplain zone in and around the bank of river Brahmaputra. This zone is full of swamps region and contains numerous beels and water-lodge areas. The villages of Muslim immigrants are located within the low-lying agricultural fields and are eroded each year. The immigrant settlements do not follow any road or river. These communities are mostly based on fishing and cultivation of plants like rice, jute, tobacco, sugarcane, potato, onion, chilli etc. The site-type of housing in this zone may be divided into (a) the floodplain, swampy, low-lying cultivated site and (b) the char (channel bars) and chapari site.

(a) The Floodplain, Swampy Low-Lying Cultivated Site:

This area is the best example of low-lying and waterlodging swampy floodplain and fertile soil region. The main river Brahmaputra and its natural levees direct the tributaries to flow towards south-west direction. So along the bank of the Brahmaputra some water lodging areas are created. These areas are fertile and immigrant Muslim and Hindu communities practise boro rice, jute, tobacco cultivation etc. during the dry period. Most of the beels are located in this swampy areas. Another economic activity in this region is fishing. These deep and broad beels and marshes are the suitable home of various types of fishes. The majority people are engaged in fishing and the fishes are marketed to the neighbouring districts. The best example of the housing site in this areas are the villages Adatttari, Meruattari, Tegheriattari, Balattari,
Bamundittari, Angradi, Haharkhata, Adabari, Sangarmari, Soldighala etc. Most of the areas of these villages are low-lying and covered by tall grasses and reeds. The waterlodged area were formed due to the earthquake of 1897. Vast portions of the areas are covered under Uttar Bar-Khetri and Madhya Barkhetri mouzas. For the flood protection they raise their house site by filling land artificially.

(b) The Char (channel Bars) and Chapari (High land of sand) Site:

Inside the river Brahmaputra, there are so many chars (channel bars) and chaparis (highland of sand), where immigrant Muslims are living. These sites of housing are struggling to fight with flood hazard and poor communication. These immigrant people mostly practise rice, jute, tobacco, potato tomato, mustard, onion, chilly, coriander seed, garlic, ginger, turmaric and peas. These settlements are Balachar, Kalachar, Kalputachar, Pub-Kajiyachar etc.

3.2. SIZE:

One of the distinguishing features of houses is the size of a house. Generally the houses vary in size from a large building to a single room or hut, showing the abode of the rich and very poor dwellers respectively. Sizes of the houses are decided by many factors, such as place difference, economic standard, functional factors, cultural heritage, flood situation, religious reasons, supply of housing materials and so on. Variation of place
may form different house size. Economic condition has great importance in the big and small size housing. Functional factors like, farming, fishing, service, etc. Play a vital role on house size. Frequent flood occurrence is the supreme determinates of house size. Lastly, availability of building materials and good transportation have prime role to determine size. Generally the shape of the house confirms of the number and arrangement of rooms. Rectangular shape is dominating the area.

Nalbari district is affected by all the above mentioned conditions on house size. The slope of land of the study area comes from north to south-west direction. Therefore, from the Bhutan-Himalayas to the mighty Brahmaputra, there are three broad physio-cultural zones. For example, northern foothill zone, middle elevated plain zone, and active floodplain and charlands zone. In each and every zone different major social groups are living whose houses have different sizes. In the northern foothill zone, there are major groups like Nepalis, Bodos, Santhals and Tea labourers. All these groups live in smaller size houses. Baska, Tamulpur and Tihu-Barama are the best example for this zone. The major indigenous people are living in the middle elevated fertile zone in big size house complex having broad courtyard for agricultural work. Tihu-Barama, Pachim-Nalbari and Pub-Nalbari are situated in the middle plain zone. In the southernmost active floodplain and charland zone, a good number of immigrant Muslim people live in small-size houses. Barkhetri block is the best example in this zone.
Besides, house-size also depends upon economic conditions of the people. In the aforesaid three zones, whose people are agriculturally rich, their house-sizes are very big and the number of houses per household are more. They have big size granary, cowshed, main house, guest house and for servants a separate out-house for their living. Mostly, the functional factors are responsible for big and small-size house. The agricultural community, specially with farming work, live in big size houses. Most of the houses belonging to the fishing community are small in size, because they are not only poor and socially backward but there is little privacy in their families.

Cultural factors also determine the house-size of the people. For example immigrant Muslims are living in hut-type, small-size houses in active floodplain and charland areas. Likewise, Santhals and tea garden labourers also live in one or two houses as joint family. Such sizes of houses are seen in the northern foothill zone. Indigenous Hindus and Muslims depending upon agriculture have in average more than four houses with every family.

3.2.1. SELECTED VILLAGEWISE HOUSE-SIZE IN EACH ZONE:

In the northern foothill zone two villages have been taken for intensive study. The first one is Barimakha under Tihu-Barama block. In this village total number of people is 1039 and total number of houses is 178. In the
main house, (House used by all family numbers for all purposes) the average length, breadth and height of these are 6.67 m, 3.41 m and 2.64 m respectively. So the average floor area is 22.74 sq.m. The length, breadth and height of a rich family is 12m, 4 m and 3.33 m respectively. So the average floor area is 48 sq.m. of this family. The poor family has average 1 or 2 houses and rich family has average 4 or 6 houses. The poor family has no sanitary latrine and bath-room, but men have separate sanitary latrine and bath-room with own water supply facilities. The poor men use open field as latrine purposes. The rich families have big courtyard where poor families have small size courtyard.

The village Lakshpara mostly dominated by Bodo people has very small size houses. Total population of the village is 1060 and the total number of houses are 153. Most of the people are poor and the average length, breadth and height of the main house is 5.27 m, 2.79 m and 2.17 m respectively and the average size of the main house is 14.70 sq.m. Most of the people in this village have average 1 to 3 houses. In this village, the number of rich people's houses are less having only 16 number. The houses of rich family have big courtyard having vast areas of agricultural land. The average length, breadth and height of their main house is 18.35 m, 4.10 m and 3.2 m respectively. The average area of the main house is 75.24 sq.m. Most of the people in this village has average 4 to 7 houses.
The house size of the middle elevated plain zone is bigger than other two zones because indigenous Assamese, Hindus and Muslims are residing mostly in this zone. They are mainly farmers. So they need more houses for men, domestic animals and agricultural products. For example two villages, namely paramankhowa and Nizkhana are taken for better explanation of the size problems.

In the village 'Niz-khana', there are average 6 houses for per rich family having 4 to 8 rooms per house. The average number of houses for per poor family is 3 only. In the main house the average length, breadth and height are 9.3 m, 3.73 m and 3.1 m respectively. So the average size of the main house of per family is 34.60 sq.m.

Village paramankhowa has the total number of 62 residential houses and the total population is 423 under the middle elevated plain zone. It has mixed house size. The average size of the main house per family is 38.44 sq.m. The poor family has 19.22 sq.m. and the rich has 57.66 sq.m. in average. The average number of houses of per rich family is 5 and the poor family is only 2. In the main house average length breadth and height of the poor family is 6.2 m, 3.1 m and 2.48 m. and the rich family, average length, breadth and height is 15.5 m, 3.72 m and 3.1 m respectively.

The active floodplain and charland zone is situated in the southernmost edge of Nalbari district.
PLATE V: House Complex of a Brahmin Family
The majority of the people of this zone are immigrant Muslims. Few Hindu villages are also seen in the bank of the Brahmaputra.

Village Kandhberi is a typical model of the village of immigrant Muslims. Total population of this village is 3,857 and the total number of residential houses are 585. Only 15 households have the big size houses where the area of main house is 46.13 sq.m. The remaining 570 poor households with the size of the main house are of average 15.38 sq.m. They are mostly engaged as agricultural labourers or poor agriculturists.

The village Tegharittari a Hindu dominated village of Barkhetri block has also total population 1053 and occupied residential houses are 154 having more poor families who have average 1 to 2 residential houses. Only six families are rich. The main house of a poor family has average 15.38 sq.m floor area and the rich family has average 57.66 sq.m floor area. (Fig. 3.2).

3.2.2. HOUSE SIZE OF DIFFERENT ETHNIC GROUPS:

Religion and caste also influence the house size. Various castes and religions also determine different house size. A Brahmin family in village Nannattary is taken for illustration. They have 7 number of houses, the main house with varanda, kitchen, guest house, cowshed, temple, latrine and firewood store. The area of the main house is 62.47 sq.m., varanda 17.30 sq.m., kitchen 14.42 sq.m., guest house 19.22 sq.m., cowshed 12.49 sq.m., temple 19.22 sq.m., latrine 5.77 sq.m., and firewood store
5.77 sq.m. The height of the main house is 3.1 m, kitchen 2.48 m, temple 3.1 m, guest house is 2.79 m., varanda is 2.17 m and firewood store is 1.86 m only. The courtyard of this family is very broad.

The house of a Bodo family of Digheli village is also examined for better understanding of the castewise house size in Nalbari district. This family has also main house having 11.53 sq.m., a varanda of 5.77 sq.m., guest house of 11.53 sq.m., handloom house of 4.81 sq.m., cowshed of 4.81 sq.m. They have no permanent latrine. Open field is used as latrine. Separate kitchen is also not seen in this family. An adjacent varanda in the northern side having 3.84 sq.m. is used as kitchen. The courtyard is rectangular in shape.

A Nepali house size of village Bhutankuti is cited as an example in the foothill zone of Nalbari district. They have one main house, kitchen, guest house and cowshed. The size of these houses are 28.83 sq.m, 11.53 sq.m., 15.38 sq.m. and 19.22 sq.m. respectively. They have kitchen, latrines inside the basti-land.

Most of the fishermen of Nalbari district are very poor. A typical example of such fishermen family of the village Barbari under Tihu-Barama block and their house size is given below. They are having 5 members of the family, the number of house is one. The area of the house is 11.53 sq.m. and an adjacent varanda having 2.40 sq.m. is meant for kitchen purposes. They have no other house
PLATE VI: Houses of an Immigrant Muslim Family with Paddy Field
except this 11.53 sq.m. main house. As latrine, they use open field, adjacent to the house.

Like the fishermen’s house, the house size of immigrant Muslims of village Lawtola under, Mukalmua block is very small. They have only two houses – one main house and the other is kitchen having 19.22 sq.m. and 7.69 sq.m. respectively. The varanda and latrine are not seen.

A very ideal cultivator’s house of village Nannattary under Tihu-Barama block is given for the example of middle elevated plain zone. Their main house, is 69.19 sq.m. having 6 rooms and 19.22 sq.m. front varanda. The area of the guest house is 19.22 sq.m., granary is 5.77 sq.m., kitchen is 11.53 sq.m., cowshed is 19.22 sq.m. firewood store is 4.80 sq.m. and toilet is 6.73 sq.m. Height of the main and guest house is 3.1 m. As they are cultivator they require more houses for seeds stores, in the rainy season.

A typical example of Santhal housing has been taken from village Dhamdhama for the best example of this creed. They have eight number of family members with three houses with a broad courtyard. The area of the main house is 19.22 sq.m. and varanda is 5.77 sq.m. Another area, of the house for son’s family, is also 19.22 sq.m. and varanda is 5.77 sq.m. Area of the cow and piggaryshed is also 19.22 sq.m. They have no sanitary latrine and bathroom.

The house size of an Assamese Muslims' family,
PLATE VII: A Broken Mud-wall House of an Assamese Muslim Family
the main house area is 30.75 sq.m., guest house is 19.22 sq.m., kitchen is 12.49 sq.m., granary is 9.61 sq.m., cowshed is 17.30 sq.m. and varanda of the main house unit is 14.42 sq.m. They are basically agriculturists from village Suradi under Tihu-Barama block (Fig. 3.3).

3.2.3. **Density of Houses:**

Nalbari district is one of the densely populated districts of Assam. The very fertile middle elevated zone has very much population load. So, in this zone more houses are found to accommodate the increasing population. The high densely-housed areas are (1) Tihu town, (2) Nalbari town, (3) Pub-Nalbari block, (4) Pachim-Nalbari block, (5) Borigog-Banbhag block and (6) Tihu-Barama block. The low densely-housed blocks are (1) Baska, (2) Barkhetri and (3) Tamulpur. The main causes of concentration of houses in the middle elevated zone are vast fertile land where people from Northern foothill zone and active floodplain and charland zone are coming continuously. The active floodplain and charland zone are inundated by flood water and destruction are caused by the Brahmaputra and its innumerable tributaries. So people from this zone have migrated to the comparatively more safe middle elevated zone. On the other hand, people from northern foothill zone have migrated to the middle elevated zone due to common malaria fever and the destruction of crops and people by the wild animals like elephants etc. The other cause is good transportation system in the middle elevated plain zone. The North-East
NALBARI DISTRICT
RELIGION, CASTE AND ETHNIC GROUP-WISE AVERAGE HOUSE SIZE
(IN SQUARE METRES)

FIG. 3.3
Frontier Railways and National Highway No. 31 are passing through this zone. Both Railway and Highway connect North East Region with the rest of the country (Fig. 3.4).

Tihu and Nalbari towns have 797 and 3,341 houses respectively with more concentration of houses where the areas are 1.11 sq.m, and 10.50 sq.m, respectively. The less concentration of houses are Baska block, Tamulpur block and Barkhetri block having 27,727, 32,635 and 21,898 number of houses with 433.93 sq.km., 468.74 sq.km. and 319.15 sq.km. areas respectively. The remaining blocks are Middle Concentration zone (Table 3.1). Total number of occupied residential houses in Nalbari district are 1,64,941, of this, urban is 4,138 and the rural is 1,60,803, in the seven blocks. There are 803 villages and only two towns in Nalbari district. Of this 97.49 per cent houses are in rural areas and only 2.50 per cent houses are in two urban centres, e.g., Nalbari town and Tihu town. According to the number of occupied residential houses, villages of Nalbari district are classified into five orders. These are, first order less than 200 houses, second order 201 to 500 houses, third order 501 to 1000 houses, forth order 1001 to 2000 residential houses and fifth order 2001 to onwards. In Tihu-Barama block, the number of first order villages are 42, second order 33, third order 5, fourth and fifth order villages are nil. In the Pachim Nalbari block, first order villages 29, second order 22, third order 11, fourth order 1 and fifth order is not seen. The Pub-Nalbari block has first order villages are 64, second
TABLE 3.1
Nalbari District
Blockwise Number and Density of Residential Houses, Households and population, 1991

<table>
<thead>
<tr>
<th>Unit of Nalbari District</th>
<th>Area in sq.km.</th>
<th>Population</th>
<th>No. of occupied residential houses</th>
<th>Number of households</th>
<th>Density of houses per sq.km.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tihu-Barama</td>
<td>246.63</td>
<td>121,558</td>
<td>18,973</td>
<td>18,973</td>
<td>76.93</td>
</tr>
<tr>
<td>Baska</td>
<td>433.93</td>
<td>167,061</td>
<td>27,727</td>
<td>27,727</td>
<td>63.89</td>
</tr>
<tr>
<td>Pachim-Nalbari</td>
<td>173.08</td>
<td>122,527</td>
<td>19,256</td>
<td>19,256</td>
<td>111.25</td>
</tr>
<tr>
<td>Pub-Nalbari</td>
<td>228.45</td>
<td>169,432</td>
<td>29,353</td>
<td>29,353</td>
<td>128.53</td>
</tr>
<tr>
<td>Barkhetri</td>
<td>319.15</td>
<td>134,407</td>
<td>21,898</td>
<td>21,898</td>
<td>68.61</td>
</tr>
<tr>
<td>Tamulpur</td>
<td>468.74</td>
<td>198,272</td>
<td>32,635</td>
<td>32,635</td>
<td>69.62</td>
</tr>
<tr>
<td>Borogog-Banbhag</td>
<td>163.97</td>
<td>85,658</td>
<td>13,480</td>
<td>13,480</td>
<td>82.21</td>
</tr>
<tr>
<td>Tihu (Town Committee)</td>
<td>1.11</td>
<td>4,292</td>
<td>797</td>
<td>797</td>
<td>718.81</td>
</tr>
<tr>
<td>Nalbari (Municipal Board)</td>
<td>10.50</td>
<td>19,183</td>
<td>3,341</td>
<td>3,341</td>
<td>318.19</td>
</tr>
</tbody>
</table>

Source: Census of India, 1991.
order 30, third order 5, fourth and fifth order are absent. Barkhetri block has first order villages 71, second order 23, third order 8, fourth order 1 and fifth order also 1. Of these seven blocks only Barkhetri block has the fifth order villages having number 1. The number of first order villages in Tamulpur block are 139, second order 39, third order 2, fourth order 3 and fifth order absent. The number of first order villages in Borigog-Banbhag block is 74, second order 26, third order, fourth and fifth order are absent. In Baska block the number of first order villages are 74, second order 44, third order 6 and fourth order 1. But fifth order is absent. The number of first order villages in the district as a whole are 493, second order 217, third order 42, fourth order 12 and fifth order 1 out of total 803 number villages (Table 3.2).

The percentage distribution of houses varies from area to area. In the Tamulpur block percentage of area of the total area is 22.91, per cent where percentage of houses of the total number of houses is 29.78, per cent. Like Tamulpur, percentage of area of the total area of Baska, Pachim - Nalbari, Pub-Nalbari, Tihu-Barama, Barkhetri, Borigog-Banbhag, Tihu-town and Nalbari-town are 21.21, per cent, 8.45 per cent, 11.11 per cent, 12.05 per
TABLE 3.2
Nalbari District
Blockwise Distribution of Villages according to Number of Residential Houses in Five Orders

<table>
<thead>
<tr>
<th>SL. No.</th>
<th>Name of the Blocks</th>
<th>1st Order Less than 200</th>
<th>2nd Order 201-500</th>
<th>3rd Order 501-1000</th>
<th>4th Order 1001-2000</th>
<th>5th Order 2001 and above</th>
<th>Total No. of Inhabited Villages in Each Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tihu-Barama</td>
<td>42</td>
<td>33</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>Pachim-Nalbari</td>
<td>29</td>
<td>22</td>
<td>11</td>
<td>1</td>
<td>0</td>
<td>63</td>
</tr>
<tr>
<td>3</td>
<td>Pub-Nalbari</td>
<td>64</td>
<td>30</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>146</td>
</tr>
<tr>
<td>4</td>
<td>Barkhetri</td>
<td>71</td>
<td>23</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>104</td>
</tr>
<tr>
<td>5</td>
<td>Tamulpur</td>
<td>139</td>
<td>39</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>183</td>
</tr>
<tr>
<td>6</td>
<td>Borigog-Banbhag</td>
<td>74</td>
<td>26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>Baska</td>
<td>74</td>
<td>44</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>127</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>493</td>
<td>217</td>
<td>42</td>
<td>12</td>
<td>1</td>
<td>803</td>
</tr>
</tbody>
</table>

Source: Census of India, 1991.
cent, 15.60 per cent, 8.01 per cent, 0.05 per cent, and 0.50 per cent respectively, where percentage of houses of the total number of houses are 16.81 per cent, 11.67 per cent, 16.26 per cent, 10.50 per cent, 13.27 per cent, 8.17 per cent, 0.48 per cent and 2.02 per cent respectively (Table 3.3).

3.2.4. NATURE OF CONCENTRATION OF HOUSES:

The formula propounded by J.A. Bernhard has been used to calculate the degree of concentration of the housing settlement in the study area depending on the variation of interhousing settlement distances of settlement units and the number of houses per settlement units, the degree of concentration of housing settlements in any areal unit can be specified.

The following formula which was devised by J.A. Bernhard to compute the concentration index for various blocks are as follows:

\[ Ci = \frac{HA}{S^2} \]

Where,
- \( Ci \) = Concentration index
- \( H \) = Total number of houses
- \( A \) = Area
- \( S \) = Number of settlements in the areal unit.
### TABLE 3.3
Nalbari District
Blockwise Distribution of Areas and Houses with Percentage of Area and Percentage of Houses, 1991.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Block</th>
<th>Area in sq.km.</th>
<th>Number of Residential Houses</th>
<th>Percentage of Area of the Total Area of District</th>
<th>Percentage of Houses of the Total Number of Houses of the District</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tamulpur</td>
<td>468.74</td>
<td>32,635</td>
<td>22.91</td>
<td>29.78</td>
</tr>
<tr>
<td>2</td>
<td>Baska</td>
<td>433.93</td>
<td>27,722</td>
<td>21.21</td>
<td>(16.81)</td>
</tr>
<tr>
<td>3</td>
<td>Pachim-Nalbari</td>
<td>173.08</td>
<td>19,256</td>
<td>8.45</td>
<td>11.67</td>
</tr>
<tr>
<td>4</td>
<td>Pub-Nalbari</td>
<td>228.45</td>
<td>26,834</td>
<td>11.11</td>
<td>16.26</td>
</tr>
<tr>
<td>5</td>
<td>Tihu-Barama</td>
<td>246.63</td>
<td>18,973</td>
<td>12.05</td>
<td>10.50</td>
</tr>
<tr>
<td>6</td>
<td>Barkhetri</td>
<td>319.15</td>
<td>21,898</td>
<td>15.60</td>
<td>13.27</td>
</tr>
<tr>
<td>7</td>
<td>Borigog-Banbhag</td>
<td>163.97</td>
<td>13,480</td>
<td>8.01</td>
<td>8.17</td>
</tr>
<tr>
<td>8</td>
<td>Tihu Town Committee</td>
<td>1.11</td>
<td>797</td>
<td>0.05</td>
<td>0.48</td>
</tr>
<tr>
<td>9</td>
<td>Nalbari Municipality</td>
<td>10.50</td>
<td>3,341</td>
<td>0.50</td>
<td>2.02</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2045.59</td>
<td>1,64,941</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Census of India, 1991.
The following table 3.4 shows the blockwise concentration for the study area as computed by using the above relation.

**TABLE 3.4**

Blockwise Concentration of Houses, 1991 in Nalbari District

<table>
<thead>
<tr>
<th>SL. No.</th>
<th>Blocks</th>
<th>Area in sq.km (A)</th>
<th>No. of Housing Settlement (S)</th>
<th>No. of Houses (H)</th>
<th>Concentration Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tihu-Barama</td>
<td>247.74</td>
<td>84</td>
<td>19,770</td>
<td>694.14</td>
</tr>
<tr>
<td>2</td>
<td>Baska</td>
<td>433.93</td>
<td>128</td>
<td>27,727</td>
<td>734.35</td>
</tr>
<tr>
<td>3</td>
<td>PachimNalbari</td>
<td>173.08</td>
<td>63</td>
<td>19,256</td>
<td>839.71</td>
</tr>
<tr>
<td>4</td>
<td>Pub-Nalbari</td>
<td>228.45</td>
<td>158</td>
<td>32,694</td>
<td>299.19</td>
</tr>
<tr>
<td>5</td>
<td>Barkhetri</td>
<td>319.15</td>
<td>124</td>
<td>21,898</td>
<td>454.52</td>
</tr>
<tr>
<td>6</td>
<td>Tamulpur</td>
<td>468.74</td>
<td>183</td>
<td>32,635</td>
<td>456.79</td>
</tr>
<tr>
<td>7</td>
<td>Borigog-Banbhag</td>
<td>163.97</td>
<td>100</td>
<td>13,480</td>
<td>221.03</td>
</tr>
</tbody>
</table>

Source: Census of India, 1991.

From the study it is seen that the concentration indicated the range from 221.03 to 839.71. On the basis of the above values, following two concentrational areas are seen:

(1) The High Concentration Zone (concentration index more than 400): In this group there are four blocks viz.,
Tihu-Barama, Baska, Pachim Nalbari, Barkhetri and Tamulpur blocks.

(2) Moderate Concentration (concentration index less than 400): This group includes Pub-Nalbari and Borigog-Banbhag blocks.

3.3. GROWTH OF HOUSING:

Growth of housing has strong bearing on the growth of population. Without population growth no concentration of housing takes place. In this context knowing the history of population is important for better understanding of the growth of housing in Nalbari district. Nalbari district is one of the populous districts in Assam. In the remote past the northernmost part of the district was covered by deep forest. So people settled down in the southernmost zone. But in due course, due to the increase of population and the various natural calamities, men were compelled to shift their location to the northern part of the district by clearing the deep forest. Thus housing areas are extended to the north zone, e.g. Baska, Tamulpur, Tihu-Barama blocks.

According to 1961 census, number of occupied residential houses under Nalbari Police Station were 34,264, Barama Police Station were 22,994, Tamulpur 19,043, Tihu town committee were 525 and Nalbari municipality were 1,714. But in 1971 census it was increased at a very faster rate. In 1971 census under Nalbari Police Station, the number of occupied residential
houses were 57,536, Barama were 31,266, Tamulpur were 25,170, Tihu Town Committee were 678 and Nalbari Municipality were 2,666 (Fig. 3.5).

The occupied residential houses in 1991 census under Nalbari Police Station (P.S.) were 81,868, Barama Police Station 46,700, Tamulpur Police Station 32,635, Tihu Town Committee 797. Nalbari Municipality 3,341 and the district total 1,64,941.

In comparison to the year 1961 to 1971 the houses have increased at a faster rate. The number of houses increased within 1961 and 1971 under Nalbari P.S. was 23,272, Barama P.S. was 8,292, Tamulpur P.S. was 5,127. Tihu (T.C.) was 153 and Nalbari Municipality was 952 and their percentage of increase was 67.91 per cent, 35.97 per cent, 34.29 per cent, 29.21 per cent and 55.54 per cent respectively and the percentage of increase between 1971 to 1991 of Nalbari (P.S.), Barama (P.S.), Tamulpur (P.S.), Tihu (T.C.) and Nalbari (M) are 29.72 per cent, 33.05 per cent, 29.00 per cent, 14.93 per cent, 20.20 per cent, respectively (Table 3.5).

Growth of houses from 1961 to 1971 was 38,796 number and from 1971 to 1991 was 50,969 number. The percentage of increase between 1961-1971 was 45.01 per cent and 1971 to 1991 was 44.71 per cent. From 1971 to 1991 the growth rate of houses was decreased by 0.29 and population was increased by 11.12 per cent. So the increasing number of population cannot be accommodated by the increasing number of houses (Table 3.6).
NALBARI DISTRICT
GROWTH OF HOUSES
(1961 - 1991)

SCALE 1 C.m. = 20,000 HOUSES

FIG. 3.5
### TABLE 3.5

Areawise Number of Houses Increased in Nalbari District in 1961, 1971 and 1991 and Percentage Rate.

<table>
<thead>
<tr>
<th>Police Station/Town Committee/ Municipality</th>
<th>No. of Occupied Residential Houses in 1961</th>
<th>No. of Occupied Residential Houses in 1971</th>
<th>Number of Occupied Residential Houses in 1991</th>
<th>No. of Increase (3-2)</th>
<th>No. of Increase (4-3)</th>
<th>Percentage of increase between 1961-1971</th>
<th>Percentage of increase between 1971-1991</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nalbari (P.S)</td>
<td>34264</td>
<td>57536</td>
<td>81868</td>
<td>23272</td>
<td>24332</td>
<td>67.91</td>
<td>29.72</td>
</tr>
<tr>
<td>Barama (P.S)</td>
<td>22994</td>
<td>31266</td>
<td>46700</td>
<td>8292</td>
<td>15434</td>
<td>35.97</td>
<td>33.05</td>
</tr>
<tr>
<td>Tamulpur (P.S)</td>
<td>19043</td>
<td>23170</td>
<td>32635</td>
<td>6127</td>
<td>9465</td>
<td>34.29</td>
<td>29.00</td>
</tr>
<tr>
<td>Tihu (T.C)</td>
<td>525</td>
<td>678</td>
<td>797</td>
<td>153</td>
<td>119</td>
<td>29.21</td>
<td>14.93</td>
</tr>
<tr>
<td>Nalbari (M)</td>
<td>1714</td>
<td>2666</td>
<td>3341</td>
<td>952</td>
<td>675</td>
<td>55.54</td>
<td>20.20</td>
</tr>
<tr>
<td>District</td>
<td>78540</td>
<td>113972</td>
<td>164941</td>
<td>38796</td>
<td>50969</td>
<td>49.40</td>
<td>30.90</td>
</tr>
</tbody>
</table>

P.S. - Police Station, T.C.- Town Committee, M- Municipality Board
TABLE 3.6
Housing Growth in Nalbari District since 1961

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Occupied Residential Houses</th>
<th>Percentage of Housing Growth</th>
<th>Total Population</th>
<th>Percentage of Population Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>78,540</td>
<td>-</td>
<td>327710</td>
<td>-</td>
</tr>
<tr>
<td>1971</td>
<td>1,13,972</td>
<td>45.01</td>
<td>699814</td>
<td>34.11</td>
</tr>
<tr>
<td>1991</td>
<td>1,64,941</td>
<td>44.72</td>
<td>1016390</td>
<td>45.23</td>
</tr>
</tbody>
</table>


3.4. SPATIAL DISTRIBUTION OF HOUSES:

The distribution of houses in Nalbari district is uneven. Some parts of the district have less number of houses and other parts are full of houses. In middle elevated zone there is a high concentration of houses and in the other two zones e.g. northern foothill zone and active flood plain and charland zone there is less concentration of houses.

The total number of occupied residential houses in Nalbari district is 1,64,941 and the area of the district is 2,257 sq.km. with a population of 10,16,390. In Nalbari district the number of rural occupied residential houses
are 1,60,804 and the urban houses are 4,138 (according to 1991 census). There were 78,540 and 1,13,972 number of occupied residential houses in Nalbari district respectively in 1961 and 1971 census. It is more than 16 times higher than 1961 census. In comparison to population of 1961 census where total population in the district was 3,27,710 and the 1991 was 10,16,390. It is more than three times higher. The blockwise distribution of houses in 1991 census were Tamulpur 32,635, Baska 27,727, Pachim Nalbari 19,256, Pub-Nalbari 26,834, Tihu-Barama 18,973, Barkhetri 21,898, Borigog-Banbhag 13,480, Tihu town 797 and Nalbari municipality 3,341. The percentage distribution of houses of the total number of houses of the district are in Tamulpur block 29.78, Baska block 16.31, Pachim-Nalbari block 11.67, Pub-Nalbari block 16.26, Borigog-Banbhag block 8.17, Tihu town 0.48 and Nalbari Municipality 2.02 (Table 3.7). In comparison to the percentage of area of the total area of the district, Pachim-Nalbari is 8.45 per cent, Pub-Nalbari 11.11 per cent, Nalbari Municipality 0.50 per cent and Tihu town is 0.48 per cent where the percentage of houses are 11.67, 16.26, 2.02 and 0.48 respectively. In percentage of houses are more than the percentage of the areas (Fig. 3.6).

Most of the immigrant Muslims' houses are seen in the Barkhetri block and the scheduled tribe housing in Tamulpur, Baska and Tihu-Barama blocks. General Hindus and Muslims houses are concentrated in the Pachim-Nalbari, Pub-Nalbari, Borigog-Bonbhag block, village Bhanganmari is the
FIG. 3.6

NALBARI DISTRICT

SPATIAL DISTRIBUTION OF HOUSES
(1991)

1 dot(*) = 200 Houses

SCALE

K.M.
### TABLE 3.7
Nalbari District

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>Name of the Block</th>
<th>No. of Houses</th>
<th>Percentage of Houses of the Total No. of Houses in the District.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tihu-Barama</td>
<td>18,973</td>
<td>10.50</td>
</tr>
<tr>
<td>2.</td>
<td>Baska</td>
<td>27,727</td>
<td>16.81</td>
</tr>
<tr>
<td>3.</td>
<td>Tamulpur</td>
<td>32,635</td>
<td>29.78</td>
</tr>
<tr>
<td>4.</td>
<td>Pachim-Nalbari</td>
<td>19,256</td>
<td>11.67</td>
</tr>
<tr>
<td>5.</td>
<td>Pub-Nalbari</td>
<td>26,834</td>
<td>16.26</td>
</tr>
<tr>
<td>6.</td>
<td>Borigog-Bonbhag</td>
<td>13,480</td>
<td>8.17</td>
</tr>
<tr>
<td>7.</td>
<td>Barkhetri</td>
<td>21,898</td>
<td>13.27</td>
</tr>
</tbody>
</table>


highest number of houses not only in Barkhetri block but the entire Nalbari district. Number of houses in this village is 2,298. village Bardhana - 2; under Barigog-Banbhag block has only 2 residential houses which is the lowest number (in) Nalbari district. There are 21 number uninhabited villages in Nalbari district. Most of
such villages are in Barkhetri block. Only 1 number uninhabited village is in Baska block.

Yearwise distribution of houses in Nalbari district is 164,941 in 1991; 1,13,972 in 1971 and 78,540 in 1961 and the distribution of population are 10,16,390 in 1991; 6,99,814 in 1971 and 3,27,710 in 1961, where the area of the district is 2257 sq.km.

REFERENCES: