6

Human Settlement

Building a house is the first step towards building a settlement. According to the functions and numbers of houses, human settlements take the shape of a village, hamlet, town, city and metropolis.

Discuss – What are the needs that houses fulfill?

Factors that affect the construction of houses

Climate has a great impact on the construction and type of houses. In the equatorial regions, where it rains heavily, people resided in huts constructed on wooden stilts. They live in mud houses in the arid regions, tents in the savannah or steppe plains and in houses made of ice in a cold region like the Tundra.

Fig. 6.1: House of Amezaan Besin

Temperature, speed and direction of wind, amount of rainfall, humidity etc. are the primary factors of climate. To get the benefits of the morning sun the main entrance of the house is often kept on the eastern side in the frigid and temperate zones. To avoid the hot sun in the hot tropical countries, shades are placed at the main entrance and thick walls are constructed. Due to the strong west wind, houses in Britain are constructed facing either the east or the south-east.

Fig. 6.2: Tent

Fig. 6.3: Igloo (Tundra)

In places with little rain, houses are constructed with flat roofs. But in places where it rains a lot houses are constructed with sloping roofs. Overhangs are constructed on doors and windows.

Often only those resources are used in the construction of houses which are locally and easily available. Stones are used in hilly areas, and bamboos, planks and logs are used in forested areas. In a country like Japan which is often hit by earthquakes, houses are made of wood and light materials. Various forms of houses are seen nowadays due to the expansion of the means of transportation and the availability of new resources. For example, the marble found in Rajasthan is being used in every corner of the country. Tin sheets are used in areas with heavy rainfall.

In the construction of houses, due consideration is given to surface relief, or the fluctuating surface contours. On hilly slopes, houses are constructed at several levels. The walls on the lower slopes are taller while the walls at the back are low in height. However, in the houses built in plains all the walls are of the same height. In a marshy area, the foundation is deep and firmly made.

Considerations of security, privacy and solitude play an important role in the construction of houses, for instance, the Masai pay great attention to safety in constructing their homes, called *Krals*. These days, even underground rooms are being built in homes as they are important from the point of view of keeping precious things and secrecy.

The size, type and decoration of a house are indicative of the owner's affluence. The financially prosperous people order special construction materials from outside in addition to using local materials.

In accordance with the social conventions, while constructing homes, one part is built for men while another is built for women, particularly where old traditions are well established. Similarly, in India it is a convention to construct homes in accordance with the traditional rules of architecture.

Rural settlements

Most of the people living in the villages are farmers. Their main occupation is related to agriculture. Some of them are also local artisans and service providers like carpenters, blacksmiths, potters, barbers, washer-men, weavers etc. In rural settlements or villages, there are clusters of a few houses slightly away from the main habitations. These clusters, or hamlets, are known as *purva, tola, para, deeh, majara* etc. in the local language. Public amenities like public well, pond, temple, mosque, church, school, panchayat, post office, public clinic, marketplace, police post are available in these villages.

Rural settlements in India are of the following types:

1. Compact Settlements
2. Semi-compact Settlements
3. Hamlet based Settlements
4. Dispersed Settlements

1. Compact Settlements – In these settlements, houses are built close together and adjacent to one another. Therefore, in such settlements houses get concentrated at a central location. This habitation area is away from the fields and pastures. Such settlements are distributed in northern Gangetic and Sindhu plains, the Orissa coast, the plains areas of Karnataka, Assam, the lower regions of Tripura and the Shivalik valley. In Rajasthan also, such settlements are prevalent to make the maximum use of the available natural resources.

2. Semi compact Settlements – In such settlements, there is dense habitation in the centre, and slightly away from it, there are surrounding hamlet settlements. These settlements occupy more space compared to dense settlements. Such settlements are found along the rivers in Manipur, in Mandla and Balaghat districts of M. P. and in Raigarh district of Chhattisgarh.

3. Hamlet based Settlements – Such settlements are spread out in the form of several small units of habitation. The main settlement does not have much influence over other smaller settlements. There are fields separating these settlements. Usually, such settlements are influenced by social and caste-related factors. In local parlance, these settlements are called *palli, purva, mohalla, ghani* etc. Such settlements are found in West Bengal, Eastern Uttar Pradesh, tribal areas of Madhya Pradesh and coastal plains.

4. Dispersed Settlements – Such settlements are also called solitary settlements. The units of such settlements are small and in the form of clusters of a few houses. Their number may vary from 2 to 60. These settlements are scattered over a large area. Such settlements are found in the areas of the Chhota Nagpur plateau, Madhya Pradesh, Rajasthan etc.

All the above-mentioned settlements usually occur in the following models:

1. Linear Model – Such models of settlements are often found along the main highways, rail routes and rivers.

2. Rectangular Model - Such models of settlements develop all around cultivated fields. The connecting roads are also rectangular. Such settlements are found in the hilly regions of Maharashtra and Andhra Pradesh.

3. Square Model – Such settlements are mainly adjacent to the meeting places of rural pathways with roads. The formation of such settlements is often due to the compulsion of expanding the habitation in the square-shaped area available in villages.

4. Circular Model – In a settlement of this model, the dwelling units are built adjacently to one another doe to dense population. The outer walls of houses being joined together gives these settlements an appearance of a

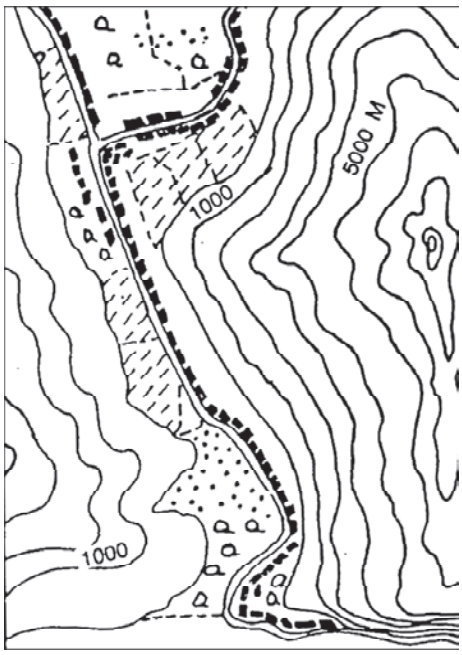

Fig. 6.4: Linear Model

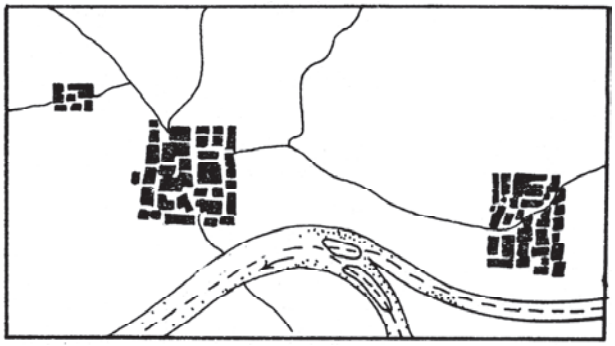
Fig. 6.5: Rectangular Model

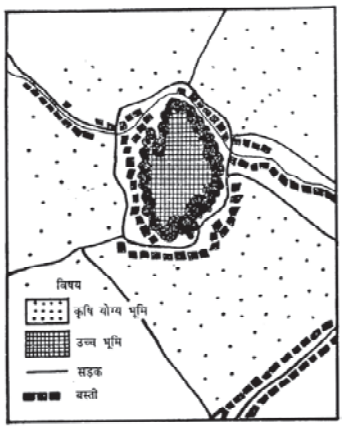

Fig. 6.6: Circular Model

compact chain-like unit. Such settlement models are found in the upper regions of the Yamuna, in the Malwa region, Punjab and Gujarat.

5. Radial Model – In such a model, the lanes and roads run towards a central place, such as a Water source, temple, mosque or occupational centre etc. Settlements near Guru Shikhar at Mount Abu (Rajasthan), and at the Vindhyachal Temple (Uttar Pradesh) are prime examples of it.

Fig. 6.7: Radial Model

Factors affecting rural settlements:

1. Natural Factors – Natural features like the shape of the land, climate, the direction of the slope, fertility of the soil, the drainage system, groundwater level etc. affect the distance between dwellings and their forms. In the dry regions of Rajasthan, the availability of water is the deciding factor in settlements, so the houses there are centred around a pond or well.

2. Caste and cultural factors – Casteism and community affiliations affect the forms of settlements. It is normally found in India that the main land-holding castes reside in the centre of the village, and the castes that provide other necessary services reside on the periphery of the village. This results in social separation and the break-up of settlements in small units.

The National Housing Policy was declared in 1988 with a long-term goal of removing the problem of scarcity of housing, and improving the inadequate housing system, as well as providing a basic minimum level of amenities to all the people. In this context, the Indira Awaas Scheme was launched to provide housing for the people living below the poverty line. In addition to the people living below the poverty line, the families of retired military personnel and of members of para-military forces killed in encounters were also included in this scheme. Three per cent houses in this scheme are reserved for physically or mentally challenged people. This scheme is implemented by the District Rural Development Agency, under the Zila Parishad Indira Awaas Yojna. Apart from the Indira Awaas Yojna, the Atal Awaas Yojna, the Deendayal Upadhyaya Awaas Yojna etc. are also being implemented under the Rural Development Scheme.

Urban Settlements

The development of any city begins in the form of a small settlement. Gradually it grows in size to become a town, market town, city, metropolitan city and a mega metropolis. The growth of a city takes place through the following stages:

1. Infancy – In this stage there are a few shops and houses at one place. There are one or two roads. The atmosphere usually appears to be rural.

2. Childhood – In this stage, a commercial area develops in the central part. Residential houses and shops are constructed.

3. Adolescence - In this stage, the roads and lanes of the town get developed. The residential and commercial areas too undergo development. The population begins to spread outwards.

4. Maturity – The residential and industrial areas of the city become distinct and separate in this stage. The residential areas are divided into several parts. Multi-storey houses begin to be constructed due to an increase in population.

5. Middle age – This is the peak stage of a city's growth and splendour. In this stage, the commercial, industrial, residential and administrative areas of the city become separate.

6. Old age – This is the last stage of a city's growth in which it becomes clogged. Samarkand, Constantinople, Multan, Bukhara etc. are examples of such cities.

Types of urban settlements on the basis of population

1. Hamlet – Population of about 50 to 100
2. Village – 100 to 5000 people
3. Town – 5000 to 10,000 people
4. City – Population of more than 1 lakh
5. Metropolis – Population of 10 lakh to 50 lakh
6. Megalopolis – population of more than 50 lakh

The sequence of growth of cities is connected with the evolution of human civilization. In ancient times, cities developed in the form of trading centres. All cities look like villages in the initial stage of their development. Later on, they become large in size. The settlement unit between a village and a city is called a town, where city-like facilities are available. These towns grow into cities with time.

That settlement is called an urban settlement where activities of producing man-made goods are predominant, and people are engaged in work of manufacturing, transportation, trade, commerce, education, banking, entertainment as well as governance and administration.

Factors influencing the origin of urban settlements

1. Climate – People like to live in places with a temperate and healthy climate. In comparison with cold-climate regions temperate and tropical climates have dense populations. Some of the famous and prosperous cities of the world at present are in the temperate and cold climatic regions, Tokyo, New York, Shanghai, Los Angeles, Beijing etc. are examples of such cities.

2. Landform – More settlements develop in places where the land surface is plain and the soil is fertile. Plain surface is required for the growth of residential areas, industries and businesses, factories, roads etc.

3. Mineral and energy resources – At places where minerals are found, gradually cities begin to develop. When minerals are exhausted, these cities begin to be abandoned by people and turn into 'ghost cities'. The same happens with many factory towns with changes in technology.

4. Water supply sources – In ancient times, cities used to be developed near perennial water supply sources. Apart from domestic use, they supply water for industrial production, and for transportation needs. Among examples of such cities, London developed along the river Tames, New York along the Hudson, Chicago along the Michigan, Moscow along the Moskva, Delhi along the Yamuna, and Allahabd, Howrah and Kanpur along the river Ganga.

5. Transport – Sources of conveyance and transportation have an occupational relationship with cities. Wherever two or more roads meet, an urban settlement begins to form there. Transportation and transport make a major contribution to the growth of a city.

6. Industrialisation – Industries evolve gradually. A city that becomes predominantly industrial slowly takes the form of a big city. Examples of such cities include Birmingham and Liverpool in Great Britain, and Tatanagar, Rourkela and Bhilai in India.

7. Capital investment and technology – The investment of capital plays a dominant role in the development of cities. Capital is required for the construction of buildings and roads, and for providing water supply and lighting. Similarly, skilled labour, and people with engineering and technological capabilities are required for exploiting and using the available resources.

8. Trade and commerce – Commerce starts on the foundation of freight transport and transportation facilities, and it leads to the development of a commercial city. Such cities usually develop at the following places:

(i) in rural areas near the roads or rail tracks.

(ii) at the meeting places of plains, hills and forests.

(iii) At the meeting points of major roads.

Urbanisation in India and its problems

The urban population in India increased rapidly after independence with the all-around development of the country. This migration of population from rural to urban areas is being caused by lack of employment in villages, too much pressure on agricultural land, fall in agricultural productivity and poor standard of living in rural areas.

The rural population is attracted to the cities by more employment opportunities available there, higher rates of wages, and the glamorous life of cities. Due to this tendency of large-scale migration, many problems have emerged in cities.

1. Environmental problem –The main causes of air pollution in big cities are toxic chemicals emitted by vehicles and industrial enterprises. These toxic emissions include sulphur dioxide, carbon mono-oxide, lead and nitrous oxide that are extremely harmful to health.

Similarly, urbanization has affected the water supply and its sources also. Due to the growing number of residential buildings, the rainwater is unable to seep through the paved ground, resulting in rapidly falling groundwater levels.

The waste water from the factories and industrial units in big cities is discharged into streams and rivers, which makes the water of rivers unfit to drink. The Yamuna has been reduced to a big drain near Delhi. Similarly, the leather factories situated in Kanpur have made the water of the Ganga there unfit for human use.

In the same way, the noise pollution level in most big cities has reached a level of 70 to 80 decibels which is a serious hazard to hearing.

2. Housing problem - In the various big cities of India a major portion of their total population lives in slums in makeshift hutments. The people living in these slum hutments are from the poor classes of

people of rural areas who have migrated to cities and they make these hutments near the residential areas of upper class people. Often these are considered 'unauthorised' colonies and are not provided with proper roads, water supply or sanitation by municipal authorities. Although, these same slum settlements provide cheap domestic labour to work for low wages in the homes of the rich people.

3. Employment Problem – The rate of growth of employment in cities has not kept pace with the rate at which their population has been growing. The rate of migration from villages to cities is high and the labourers have to work for low wages which causes social tensions.

Thus, increasing urbanization in India has created many problems. In order to check them, it is necessary to control the growing population of cities. For that to happen, it is essential that schemes to provide more employment opportunities in rural areas, such as the Mahatma Gandhi Rural Employment Guarantee Scheme, are implemented effectively.

In order to resolve this problem, the former President Dr. A. P. J. Abdul Kalam had announced on the occasion of the Independence Day, 15 August 2003, a scheme to provide all the city-like amenities in the villages also. It is known as the PURA (Providing Urban Amenities in Rural Areas) Scheme. Under this scheme, urban facilities will be made available in villages with the cooperation of the Gram Panchayats and Public Private Partnership (PPP). In Chhattisgarh, the village Baktara, situated near the international stadium in the Arang development block of the Raipur district, has been adopted for the implementation of this scheme.

The concept of a Smart City

In order to overcome the problems caused by the pressure of the growing population in cities, the Government of India has decided to convert 100 cities into smart cities in the first stage of a new scheme for this purpose.

What is meant by a Smart City – "The people living in these cities will be provided the basic infrastructural services quickly and skillfully, along with provisions for rescue and security. These cities will act like light houses for other cities."

Exercises

Choose and write the correct answer –

1. The reason why houses are constructed with light materials in Japan is –

   a. rain, b. earthquakes,

   c. wind, d. social convention

2. The model of a city along the roadside is in the shape of a –

   a. star model, b. serpentine model,

   c. linear model, d. circular model

3. A settlement with a population of five to ten lakh is called –

   a. town, b. metropolis,

   c. city, d. mega metropolis

4. London is situated on the banks of the –

   a. Tames river, b. Hudson river,

   c. Michigan river, d. Moskva river

Answer the following questions –

1. Why is a home necessary for human beings?
2. What is a *Kral*?
3. Write down the characteristics of houses in Rajasthan?
4. In which scheme is the village Baktara included?
5. What is the reason that the main entrance of houses in Britain is kept facing east or south-east?
6. How do the various factors of climate influence the construction of houses?
7. What all problems are being caused by urbanization? Explain by giving examples.
8. Compare the rural settlement with the urban settlement.
9. Describe the different stages in the development of a city.

Project Work –

What types of rural/urban settlement models are found in your region? Make a list and give its reasons.