CHAPTER VI

SETTLEMENTS
SETTLEMENTS

Human settlements are human occupancy units\(^1\) which variedly express the intimate relation of man and environment and their study forms one of the most important themes of Human Geography. The term "Settlement" is generic and of multiple connotation and varying use. The concept of Settlement geography is derived from the German 'Sied lungs geographie' which involves the study of man made visual imprints upon the cultural landscape in the process of occupancy\(^2\). Geographers and historians have long been interested in human Settlements. The present study analyses the growth and distribution of settlements, types, patterns, development of rural and urban centres and settlement planning.

Indian villages are among the oldest in the world and they exhibit direct response to human need and indicate the physico-cultural bearing. The village has been the mainstay of rural India. In fact, it is a sort of a rudimentary form of a town. A village has its natural growth whereas a town exhibits a developed stage of social organisation. Their study leads us to know the inter-relationship between man and his environment in addition to a study of the mode of the life of the people inhabiting them.

The study of early man in India is largely shrouded in mystery. The common belief is that the remotest past represented the Satayuga - an age when man lived in an ideal state of happiness, free from misery, want and decay, but history...
unfortunately does not know of any such golden period. As our evidence goes, the earliest inhabitants of India were perhaps the Palaeolithic (derived from Greek words signifying old stone) men who were hunters and food gatherers and lived in very small communities. Afterwards, in the Mesolithic age they developed an aggressive attitude towards the environment. The men of Neolithic (from a Greek word meaning new stone) culture had made considerable advance towards civilisation and constructed dwellings, perhaps 'huts of wattle and thatches daubed with clay' for themselves. They engaged themselves in fishing and hunting, tended flocks of domesticated animals and began the cultivation of land. This is the origin of the habitation which fore-runs the village organisation.

(a) Rural Settlements

(i) The Origin and Growth of the Villages

The acrospiric origin of the rural settlements must have begun in the pre-historic past when the primitive inhabitants of India built their crude shelter places to continue their aboriginal existence in the forested clearings of the country. It is believed that in the Indus valley, pre-historic civilization emerged from a wide-spread rural background of small village communities of farmers. The Dravidians, so called from the sanskrit term Dravida, were one of the earliest cultured races of India and are believed to have had a settled village system, the details of which can now only be conjectured. It is believed that non-Aryan villages continued to exist side by side with the
Aryan Settlements but authentic evidence is not available to clarify the character of these pre-historic villages.

In the Vedic period the Aryans lived in villages. First of all, the word 'grāma' has been used in the Rigveda which means 'a collection' or a group of persons who were bound together by ties of kinship. It was a generic inclusive term for an inhabited settlement and was differentiated from a place with the fortification (nagara) or from a place which had the ruler's palace (Rājadhānī). Besides houses, small forts and village assembly halls which were an integral part of the villages during the Vedic period are also mentioned in the Rigveda. These forts were probably erected to protect the people from the enemies. The chief economies of Vedic village were agriculture and stock-raising and was headed by the leader of the village (Grāmānī).

In the Vedic period the villages were found unevenly and their greatest density was in the Gaṅgā basin due to its soil fertility and genial climate. Thus, the rural population had come to live in the well organised village settlements which resulted from the consolidation of the Aryan tribal system into large state and kingdoms. The village consisted of several joint families and rural community based on the decimal system existed in groups of 10, 20, 100 and 1000 villages. The rulers of each group were termed as Daśagrāmīṇī, Vinsatipati, Satagrāmīṇī and Sahastra grāmādhipati. The growth of network of rural settlements in the fertile plains of Northern India was an ecological necessity for the agricultural mode of living.
Many authorities hold that the Aryan settlements were, first of all, established in the Sapta-Saimhava region of Northern India and later on they trickled down south-east and eastward (2500-2000 B.C.) probably into two branches: one branch moved eastward and established in the Ghāgharā valley in Avadh with its capital at Ayodhya, while the second branch moved along the Gaṅgā and first occupied the Yamunā-Gaṅgā doab and then afterwards the Kāṇīs established their settlements in the neighbouring areas of Vārāṇasī. Later on, in post-Vedic period the whole northern part of India, specially the alluvial plains, were colonized.

Thus, it seems that Aryan colonization proceeded through the conquest of territories and subjugation of people. The territories were referred in Vedic period by the name of tribes or clans or chiefs such as Kekaya, Kuru Pāncāla etc. These names indicate that people or such societies occupied the territories and territorialization had begun. This process became important as the areas were occupied and the pre-existing people were acculturated into the Aryan administration and cultural matrix. These settlements originated on relatively high sites amid fertile agricultural areas where water supply was plentiful and life could be secure. These were the unplanned villages having poor transport facilities. Besides, relatively higher and slopy ground free from floods was also responsible for the morphometric development of rural settlements in the northern part of India.
In the Rāmāyanic age, we find the developed stage of rural settlements. The Rāmāyaṇa provides a lucid account of the villages and refers that they were under the direct control of the king, but he used to take a share from the produce of the villagers. The Rāmāyaṇa does not mention any village in peninsular, eastern and western India. It does not mean that villages did not exist. Although the poet has mentioned clearly the villages of northern India yet in southern and eastern parts of the country he has mentioned only the hermits of the sages and capital cities of the rulers. In the epic period, the villages were divided into different smaller territories and consisted of arable land, pastures, forests, rivulets and hills. The villages were the fundamental socio-economic units of settlements in ancient India. The Rāmāyaṇa mentions that king had direct control over the villages and Dasaṛatha is said as giving one thousand villages to Kausalyā, his eldest queen, as her property, so that she might support her dependants and servants. Besides, Bharata is said as giving one hundred villages to Hanumāṇa in recompense for the delightful news.

(ii) Types, Size and Planning of the Villages

There is no sufficient reference to the types and size of the villages as existing in the pre-Rāmāyanic period. In the Rāmāyaṇa, mention is made of two types of villages, the agricultural villages as 'Grāmas' and the pastoral villages as Ghosas, the latter being smaller than the former. Their officials were the Grāmamahattara and Ghoṣamahattara respectively. The Rāmāyaṇa has mentioned the pattern and lay-out of
the rural settlements. It is believed that villages were planned according to architectural planning. The epic mentions only five types of such planned houses and villages, i.e. Dandaka, Kārmuka, Padma, Svastika and Vardhamāna\textsuperscript{16} (Fig. 6.1). In fact, the villages of the epic age were thoroughly planned, street patterns well laid out, drainage properly controlled, communal compartments separately marked out and a residential atmosphere created. The plans\textsuperscript{17} are as follows:

(i) **Dandaka**

It means a village that resembles phalanx or a staff. As in the Mayamatam, 'its streets are straight and cross each other at right angles at the centre, running west to east and south to north'. The Mānasāra describes thus, 'it is rectangular or square and possesses a rampart of the same shape'. It consists of one to five parallel streets (running from west to east) and two more streets are planted (forming right angles) at both extremities of the above parallel streets. And a third transverse street crosses them in the middle. The width of the street varies from one to five dandas (6' to 30'). The middlemost street is made equal to or broader than the rest. The two transverse streets at the extremities have a single row or houses; the principal (central) streets are lined with a double row of houses i.e. one on each side. There should be four large gates in the four cardinal points.

(ii) **Kārmuka**

It literally means a bow. Its shape is semi-circular or semi-elliptical like a bow and hence its name. This plan is
VILLAGE & TOWN PLANS IN ANCIENT INDIA

SVASTIKA

KĀRMUKA
(AFTER B.B. DUTT)

DANḍAKA

PĀDMAKA

FIG. 6.1
generally suited to a riparian site or a sea shore. It is also adorned with streets, houses and temples, planned accordingly. Mathurā is described as 'Ardhacandra' corresponding with the Kārmuka plan.

(iii) Padma or Padmaka

As the word Padma indicates it was a lotus-shaped plan. The number of easterly streets may be seven, while the number of northerly streets may vary from three to five. According to Māṇḍāra, its length and breadth are made equal, while the enclosing walls may be quadrangular, sexagonal or octagonal.

(iv) Svastika

It resembles to the mystic figure of Svastika and streets were planned in conformity with the figure of Svastika.

(v) Vardhamāna

A village or house without any opening in the south is known as Vardhamāna.

About the size of the villages, there are no references available in the Rāmāyana. The epic mentions only mahāgrāma which indicates a large village. It seems that there was a difference in grāma and mahāgrāma according to their size probably due to population.

Hermitages and Villages and Their Distribution

As mentioned earlier, the Rāmāyana mentions the villages only in the northern part of the country and clearly refers to the hermitage of the ascetics in the Peninsular India and
eastern part of the country. The main hermitages which are mentioned in the Rāmāyana, give us an idea of the Aryan expansion in the southern part of the country. These hermitages were located along the river banks, tanks and lakes and these āśramas were generally situated not very far from the towns. Communication between towns and the āśramas was neither difficult nor very rare.

The head of an āśrama more correctly of an āśrama-mandala was a kulapatī. He was a man advanced both in age and penance. It was under his guidance that other ascetics of the āśrama mandala made efforts for their spiritual uplift. It was his primary concern to see that the whole environment of the mandala remained congenial for the pursuit of ascetic practices and that the inmates of the āśrama-mandala maintain inward and outward purity. It was his responsibility also to protect the inmates of the āśrama and at times when living became dangerous at a particular place, he moved with his followers to a new place.

In the Rāmāyanic age, ascetics were compelled to live in large groups by fear of the Rākshasas. The epic mentions munisaṅgha, riṣisaṅgha and gana in relation to the ascetics. The place of their dwelling was termed as āśrama-mandala. It was a big locality consisting of several tāpasālayas or āśramas. The outer portion of the āśrama was known as utāja, while the chambers, meant for dwelling in it, were termed as pānasālas. There was an Agni-Sālā or Agni-Śaraṇa attached to every āśrama in which were established a Vedi (an altar), and perhaps
sanctuaries for different deities. The sages performed their daily Agnihotra and delivered religious discourses in the Agniśālās. The whole structure of the āśrama was raised on walls of wood and clay, and pillars of bamboos with coverings of branches of trees, reeds, leaves and grass tightly fastened with strong cords.

The relationship between the kings and the sages was intimate. As the king was political head of the state, the ultimate responsibility of providing proper and adequate conditions for the carrying out of the righteous pursuits of the sages lays upon him. Thus, to meet with the sages, he enquired about the welfare of their person and tapa. The sages on their part, were the guardians and promoters of culture and they were deeply interested in the peace and progress of the state. Since this depended primarily on the soundness of the government machinery, they made anxious enquiries with regard to the welfare of the king's person (body) and family, the treasury and the allies, the capital and the country with all their people. It appears that in the Rāmāyanaic age, the interest of the sages in the affairs of the country was not casual but continuous.

The period of the Rāmāyana represents the heyday of the āśramas, which were found in the continuous chain along the banks of rivers (or lakes) from North to South. The āśramas of Vālmiki, Vasīṣṭha, Visvāmitra, Gautama, Bharadvāja, Atri, Sarabhaṅga, Sutīkṣna, Agastyā and Mataṅga were important centres of religious activities. These āśramas were generally
situated at some distance from the towns where the sages usually selected a pleasant site in the interior of the forest to build their āśramas. They took special care to see that the site was fit for healthy living, being free from any inconvenience and was rich in the supply of daily requirements.

The villages which are mentioned in the Rāmāyaṇa lie en route between Ayodhya to Giribraja (capital of the Kekaya). On the instructions of Vasistha, the royal priest and preceptor, the messengers started their journey to Giribraja to fetch Bharata. They reached Kuliṅga city, afterwards they emerged from the village of Tejabhībhavana and thereafter reached the village named Abhikāla. The messengers then crossed the river Ikṣumati̅̃ (modern Ghaggar). It seems that these villages which are unidentified were situated near the river-banks. Bharata along with his army followed another route from Giribraja to Ayodhya and visited many villages on the way. From Rājagriha, Bharata proceeded in easterly direction and crossed many villages in his route i.e. Ailadhāna, Śalyakarṣana, Aṁsudhāna, Dharmavardhana, Jamuaprastha, Toranā, Varūtha, Sarvatīrtha, Hastiprasthaka, Lohitya, Ekaśāla and Vinata in which Aṁsudhāna, Ekaśāla, Aildhāna, Lohitya and Vinata were situated on the river-banks of the Gaṅgā, Sthānumati (unidentified) Śīlavahā, Kapivatī and Gomati respectively. Besides, the Rāmāyaṇa mentions a village named Nandigrāma near Ayodhya where Bharata resided during the exile of Rāma. According to the epic, it was situated at a distance of two miles from Ayodhya. Dey has identified it with the Nundgaon eight or nine miles to the south of Faizabad.
(b) **Urban Settlements**

(i) **The Origin and Growth of Urban Settlements**

When did man march towards urban life, is a difficult question, but it appears that progress from savage to urban life was slow and a gradual process. With the development of civilization, urbanization which was actually a great revolutionary change in the whole pattern of socio-economic life of the people in history, was brought about both by physical and cultural factors. Its first appearance is noticed on the banks of the rivers Sarasvatī and Drīḍadvatī. It was accompanied by great advancement in human knowledge and technical equipment. These developments made a great increase in agricultural production and it was enough to support the development of towns. There were few urban centres in this area and their size was also small. These early towns seem to be the products of local increment of concentrated and intensive agricultural activity.

The Indus civilization (Fig. 6.2) represents the earliest known development of large scale urbanization in ancient India. It can be taken as the glorious dawn of Indian urbanism. The excavations at Mohen-jo-dāro, Harappā, Kālibangāna and other sites prove that Indians were acquainted with cities and city life from early times. The old ruins of towns with a systematic planning, having markets, roads, solid commodious houses of bricks equipped with drainage system, bath rooms, wells and other amenities, and arts and crafts of the people give us a perfect picture of highly developed civilization of an early age.
In the Vedic literature, the word 'Pura' signifies the presence of town or city which was under the protection of king or ruler. Pura was ordinary a fort or stronghold, capable of withstanding a sudden attack or siege, and generally occupied by the king, the members of the Royal Family and the Royal attendants, in which all the valuable things belonging to the Royal household, consisting of hoards of gold, silver, jewels and probably large granaries were stored. Such fortifications must have been occasionally of considerable size, as one is called broad (Prthvi) and wide (UrvI), i.e. it was something like a fortified town capable of accommodating not only the Royal household, but probably the nobles and rich merchants as well. Later on, in the Kāmāyanic age on the basis of abundant references and glorious descriptions of various cities, it can be safely conjectured that towns were important economic and cultural units in ancient India. Cities were built on places where the necessities of life could be fulfilled easily. The cities and towns which are mentioned in the Kāmāyana, measure the evolution of civilization and various cities of the epic period such as Ayodhyā, Kāśī or Vārāṇasī and Madhurā (Mathura) have been important cities representing the various evolutionary phases.

Factors affecting the Growth of Towns

Towns occupy a place of great importance in Human Geography due to their role in the political, social and economic life of a country. In a country like India with a long history,
they have undergone vast changes in course of time. The factors which affected the growth of towns in ancient India were topography, natural drainage, water supply, soil, climatic factors, agricultural land and transport facilities which were essential in location and planning of towns.

(i) Topography and slope influenced the location of urban centres. In the epic age the northern plains were most suitable for urban settlements while in the Peninsular India, topography influenced widely and few urban centres were in existence.

(ii) Rivers have, for human beings, always been a source of water supply. In ancient period, they were essential for a large agglomeration of population. The rivers have had a religious importance and river sites provided the best facilities for the origin and growth of cities. Various capital cities of the Rēmāyanic age such as Ayodhyā, Kausāmbī, Madhupurī, Hastināpurā and Vārāṇasī were established on the river banks due to good water supply and transport facilities.

(iii) The problem of defence in ancient period was an important consideration in the location of towns and it was considered that protection afforded by streams at least in one side would be much advantageous. In the epic age, capital cities were walled and ditched.

(iv) The availability of food and other requirements was of no less importance in deciding the proper site of settlements.
(v) Transport facilities were also responsible for the evolution of trade and commercial towns. References are available to various river ports and sea ports in the Rāmāyana.

(ii) **Site and Situation of Urban Centres**

The kind of site, selected for the establishment of an urban settlement or on which such a settlement gradually evolved, has depended throughout history on the primary function of the settlement. The majority of the towns such as Ayodhyā, Kausāmbī, Madhurā, Giribraja, Hastinapura, Māhismatī and Lakhā and many others of smaller size, grew up on account of politico-administrative reasons. These towns were sited at strategic points on the river banks. Among site considerations that have played a part in fixing the scenes of urban development, consideration of defence had been paramount. In the epic age the function of town walls was to strengthen and complete the natural defence. Besides, steep slope and water barriers individually or collectively offered defensive facilities to the towns. The site of Ayodhyā, at a meander loop site, was chosen a centre of urban settlement by the king Ikshvāku. The following table gives a list of major or capital cities and their association with rivers (Fig. 6.3).
<table>
<thead>
<tr>
<th>City</th>
<th>Capital of the city</th>
<th>Modern name of the city</th>
<th>River on which it stood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayodhyā</td>
<td>Kosela</td>
<td>Ayodhyā</td>
<td>Sarayū, right bank.</td>
</tr>
<tr>
<td>Kāmpilya</td>
<td>Pāncāla</td>
<td>Kampil</td>
<td>Gaṅgā, right bank.</td>
</tr>
<tr>
<td>Kāśī or Vārānasī</td>
<td>Kāśī</td>
<td>Vārānasī</td>
<td>Gaṅgā, left bank.</td>
</tr>
<tr>
<td>Giribraja or Vasumati</td>
<td>Megadha</td>
<td>Rājgir</td>
<td>Sumāgadhī, left bank.</td>
</tr>
<tr>
<td>Prayāga</td>
<td>Religious centre</td>
<td>Allahabad</td>
<td>On the confluence of the Gaṅgā and Yamunā.</td>
</tr>
<tr>
<td>Hastināpurā</td>
<td>Kuru</td>
<td>Merat</td>
<td>Gaṅgā, right bank.</td>
</tr>
<tr>
<td>Madhurā</td>
<td>Śūrasena</td>
<td>Mathura</td>
<td>Yamunā, right bank.</td>
</tr>
<tr>
<td>Mahodaya</td>
<td>-</td>
<td>Kannauj</td>
<td>Gaṅgā, right bank.</td>
</tr>
<tr>
<td>Kājagriha or Rājagiri or Giribraja</td>
<td>Kekaya</td>
<td>Jalālpur</td>
<td>Vitastā, left bank.</td>
</tr>
<tr>
<td>Viśālā</td>
<td>-</td>
<td>Basarh or Vaishālī</td>
<td>Gaṅgā, left bank.</td>
</tr>
<tr>
<td>Takshasilaī</td>
<td>Gandharva</td>
<td>Taxila (Pakistan)</td>
<td>East of the Indus.</td>
</tr>
<tr>
<td>Puskalāvata</td>
<td>Gāndhāra (Pakistan)</td>
<td>Charadda (Pakistan)</td>
<td>Near the confluence of the river Swat with river Kabul.</td>
</tr>
<tr>
<td>Māhismatī</td>
<td>Haihaya</td>
<td>Maheshvara</td>
<td>Narmadā, right bank.</td>
</tr>
<tr>
<td>Gayā</td>
<td>Gayā</td>
<td>Gaya</td>
<td>Phālgu</td>
</tr>
</tbody>
</table>

Another class of cities or towns besides the riparian settlements mentioned above, were the coastal towns which were the entrepots of trade and developed into ports during the Rāmāyanic age. Daśārha and Kabāṭapāṇḍyānām were the important ports on the east coast and Muracīpattana, Gokarna and Vaijayanatī
on the west coast.

Besides, the other towns or cities which were not particularly associated with rivers or seas, were those whose location was based on (a) strategy, (b) religious sanctity and (c) routes such as Kiskindhā, Madhumāna, Prayāga, Naimiṣāranya etc.

The Rāmāyaṇa indicates that there were three areas which favoured urban development more than any other area in the country. These were (i) the area between the Sindhu (Indus) and Satadru rivers, (ii) the Gaṅgā basin as a whole and (iii) the plateau region of southern India up to the Krīṣṇā river. It is significant that the fertility of the soil, congenial climate, economic importance of the forests, splendid networks of the rivers and waterways to facilitate irrigation, navigable rivers affording easy communication to sea, were the main factors for the development and growth of urban centres in northern India in the Rāmāyanic age when most of the part of the Peninsular India was densely forested.

The site of the above mentioned towns or cities seems to have been well selected in accordance with certain principles and the location of majority of the towns on river banks appears to be a common practice. The river banks offered the opportunity for colonisation, economic and cultural accessibility to the neighbouring regions. Due to nodal situation on the banks, cities and towns developed as junctions of important land routes.
Cities and Their Planning

The art and science of town planning dates back to the oldest civilization. Town planning, in the epic age, was based on certain basic rules such as the orientation of main streets, the sub-division of the city area and the width of the streets. The capital cities were the creation of careful forethought planning. Most of the capital cities had forts and other defensive works. Cities were adorned with temples, roads, footpaths, pleasure-gardens, big tanks, brilliant shops and various places of amusements. Thus, in the light of planning, a brief account of some important capital cities with respect to their plans and general lay-out is given here.

Ayodhyā

The Rāmāyāna has mentioned Ayodhyā as the capital of Kosala janapada, situated on the bank of Sarayū river. It was the seat of great kings of the solar dynasty of which the 56th emperor was Daśaratha, the father of Lord Rāma. The Ayodhyā (A-yodhyā) was named after its characteristic of being unassailable. It was built by Vaivasvata Manu, the ruler of mankind. In the Rāmāyāna, the city is described as twelve yojanas in breadth. Its principal gates, placed at proper intervals, were large and lofty and its thoroughfares broad, it was embellished with numerous highways which were regularly watered and strewn with flowers. The king Daśaratha made large extensions of the city in order to relieve congestion. It had arched gateways (Torāṇa) with large door panels and was provided with laid out
markets and equipped with all sorts of catapults and weapons and was peopled with all classes of craftsmen (śilpīs). Multitudes of lofty castles, countless flags flaunting high, numberless of śataghnīs (interpreted by some as a kind of rocket and by others as iron pikes), numerous gardens and mango groves enhanced its beauty and magnificence. A deep-water ditch (Parikhā) girding the city made it difficult of access. It was laid out on a plain and there were many seven-storeyed buildings. The houses were arranged one beside another so that there was no plot of land without human dwellings. The water of the city was limpid and sweet to the taste. The facades of all the houses, owing to a harmony in their design and symmetry in their arrangement, were magnificent to behold. There were town halls and squares in the city. Ladies parks too were not wanting. Ayodhyā, is described as Āṣṭapadākāra corresponding with the Dandaka plan, had four gateways and linear pattern of houses.  

From the study it becomes clear that in the Rāmāyaṇic age, the city Ayodhyā dominated in the economic, political and religious life of the northern part of the country. Though the ancient city Ayodhyā has disappeared from the present urban scene, yet the existing high mounds at modern Ayodhyā remind us of a fairly advanced urban life. On account of its suitable location, the ancient city of Ayodhyā has remained a favoured spot of urban life throughout the successive periods of history. At the present day, the people point to Rāmaghāṭ and Guptārghāṭ as the eastern and western boundaries of the old
city, and the southern boundary they extend to Bharat-kund, near Bhadarsa, a distance of six kos. But as these limits include all the places of pilgrimage, it would seem that the people consider them to have been formerly inside the city....'52

The morphological characteristics of Ayodhyā epitomise all the advanced techniques of town planning in the ancient period. 'The present city of Ayodhyā, confined to the north-east corner of the old site, is about two miles in length and about three quarters of a mile in breadth. The whole place bears a look of decay. There are no high mounds of ruins, covered with broken statues and sculptured pillars, such as mark the sites of other ancient cities, but only a low irregular mass of rubbish heaps, from which all the bricks have been excavated for the houses of neighbouring city of Faizabad. The new city of Faizabad is built chiefly of materials extracted from the ruins of Ayodhyā53. The two cities, i.e. Faizabad-cum-Ayodhyā (26°-46’N-26°-48’N and 82°-6’E to 82°-13’E Long.) occupy an area of 31.50 Km².

Kīśkindhā

Kīśkindhā, the capital of Bāli54, a Vānara king, was situated inside a mountain cave crowded with joyous and well-fed people and decorated with bunting and flags55. The city was furnished with arched gateways56, fortification wall and surrounded by deep and unassailable moat57. It was glorious, delightful and extensive abounding in precious stones and contained groves. It was thickly set with mansions as well as
with palaces and temples. There were multi-storeyed buildings, mountain streams free from mud, charming gardens and parks. It was full of abundant foodgrains. The highways were scented with the fragrance of wine and was planned on a magnificent scale. Kiṣkindhā was situated near Praśravaṇa mountain and consisted of wonderful woodland. According to the Rāmāyaṇa, the total population of Kiṣkindhā, was hundreds of millions.

In the epic age, Kiṣkindhā was the name of a country (Janapada) also. Pargiter has identified it close to Bellary and the country would have included the region around Bellary with the Tuṅgabhadra and Vedavati as its chief rivers. This locality is an ancient inhabited site. It was thickly studded with Neolithic settlements and Palaeolithic remains also have been found here. It appears from the accounts of pilgrims that the ancient Kiṣkindhā is still called by that name and also by the name of Anagandi and Sewell places it at or near Vijainagar.

Varanasi

Varanasi, a great religious and educational centre, has been mentioned in the Vedic literature as Kāśī. Varanasi which was the capital of Kāśī Janapada, extended on the left bank of the Ganges, between the Varana river on the north-east and the Asināla on the south-west, hence the name Varanasi. It is the oldest known enchanting city in the world and studded with high houses, magnificent gateways and strong wall. The salient feature of Rājghat excavation is the discovery of an
enormous clay rampart dating back to the earliest period of occupation on the site. The rampart appears to have been built directly over the natural soil by pilling up with dug-up clay to form a thick and compact wall with a pronounced slope towards the river Ganges..... A series of successive gravel sandy deposits alternating with silt just over the toe of the rampart show that the fortification on the river side was breached several times by floods. Vārānasī was a trade centre in ancient period and situated on a trade route.

Kauśāmbī

The city of Kauśāmbī was one of the most celebrated places in ancient India and its name was famous amongst Brāhmaṇas as well as Buddhists. According to the Rāmāyaṇa, the city was founded by Kuśāmba (a ruler, son of Kuśa) and named after himself. Kuśāmba was the tenth in descent from Pururavas. It was the capital of Vatsa kingdom before and after the time of Buddha. Cunningham has identified it with the modern Kosam on the Yamuna, 38 miles south-west of Allahabad. According to him, not only do the people themselves put forward this claim, but it is also distinctly stated in an inscription of the time of Akbar, which is recorded on the great stone pillar, still standing in the midst of the ruins, that this is Kauśāmbī-pura. The present ruins of Kosāmbī consist of immense fortress formed of earthen ramparts and bastions with a circuit of 23,100 feet and ramparts are over 30 feet high. Originally there were ditches all around the fortress, but at present, there are only a few shallow hollows at the foot of the rampart.
Madhura or Madhupurī (modern Mathura)

Madhura or Madhupurī as the capital of Sūrasena janapada, was situated on the bank of the Yamuna, being the abode of Madhu whose son Lavana was killed by Satruighna, who founded the present city on the site of Madhuvana. It looked like a half-moon (corresponding Kārmuka pattern of planning), where magnificent houses, streets, cross-roads, shops were resplendent. It was a rich and prosperous city visited by merchants of various regions. There were many pleasant retreats, groves and charming parks. It was the main market and trade centre in the Rāmāyanic age because the Rāmāyaṇa itself mentions that it was inhabited by foreign merchants. Law has identified Madhura or Madhupurī with Maholi, five miles to the south-west of the modern Mathura and this is not on the ancient site. Modern Mathura has moved to the north owing to the encroachment of the river. The Greeks were acquainted with this city by the name of Methora and Madaura (the city of the gods) and the Rāmāyaṇa itself mentions that it was built by gods.

Giribraja

Giribraja, the capital of Magadha janapada, locally known as Rajgir, is one of the oldest cities of India and has a glorious history in the domains both of politics and religion. It was founded by the king Vasu and was, therefore, called Vasumatī. The city was named Giribraja being guarded by a cluster of close-set five hills and thus, it was a hill-girt city. But the Rāmāyaṇa does not mention the name of the five
hills. In the Mahābhārata⁷⁵, these five hills have been named as Vipula, Varāha, Vriṣabha (Ṛṣabha), Risigiri (Mātaṅga) and Caityaka. At the time of the Rāmāyaṇa, the river Sumāgūḍi flowed through the town. It is identified with modern Rajgir. As far as the defence is concerned, Giribraja was a unique city in ancient India. Perhaps, there was no city in India which was so well-guarded by nature herself. 'The walls that surrounded the old city are still fairly complete, but the area inside these walls is now covered with jungle.'⁷⁶ Giribraja was an important trade centre where merchants, flocked from different quarters and routes from different janapadas, passed through the city. It was one of the great six cities during the lifetime of Buddha.

Rājagrīha

Rājagrīha, the capital of Kekaya janapada, was situated in the east of the Vitastā (Modern Jhelum) river. It was also known as Giribraja, which meant the agglomeration of hills, the foremost city⁷⁷. It was ruled by the king Aśvapati, the maternal grand-father of Bharata. The city was good in appearance and the moat, enclosing the city, was unassailable by the enemies⁷⁸. Cunningham⁷⁹ has identified it with the modern Jalalpur (Girjak) in Pakistan. It is believed that the battle of Alexander and Porous took place in this city⁸⁰.

Takshasila and Puṣkalāvata

According to the Rāmāyaṇa⁸¹, Bharata, the younger brother of Rāma, founded two towns in the country of Gāndhāra
(this included the west Punjab and east Afganistan) one Takshasilā and another Puskalāvata. In these two cities, Bharata placed his two sons as kings named Taksha at Takshasilā and Puṣkala at Puṣkalāvata. Treasures in large quantities and gardens of various kinds embellished both the cities. Intensive commerce and a great concourse of people lent fame to both. In both of them, shops were symmetrically arranged in rows on both sides of the main thoroughfares. Many splendid shrines, useful trees like tāla, tamāla, bakula and the like rendered these cities pleasing to the eye. Cunningham places the site of the Takshasilā near Shadhneri, one mile north-east of Kala-ka-Serai between Attock and Rawalpindi, where he found the ruins of a fortified city. It was on such a trade route that the ancient city Takshasila grew up. 'The valley, in which the remains of Taxila lie, is a singularly pleasant one, well watered by the Haro river and its tributaries, and protected by a girdle of hills; on the north and east by snow mountains of Hazra and the Murree ridge, on the south and west by the well-known Margalla spur and other lower eminences. This position on the great trade route which used to connect Hindustan with central and western Asia, coupled with the strength of its natural defences, the fertility of the soil, and a constant supply of good water readily accounts for the importance of the city in early times.'

After the Rāmāyanic age, Takshasila became the celebrated place of Buddhist pilgrimage. Takshasila contained the celebrated university of northern India, where the Vedas, all
the arts and sciences including Archery were taught and people from very distant parts of the country and abroad came here. It was Takshasālā where Pāṇini, the celebrated grammarian, Jivaka, the celebrated physician and Cāṇakya, the great politician received their education.

Puskalāvata, the capital of Gāndhāra janapada is identified with modern Charsadda (or Hastanagar), a little above the junction of the Swat with the Kabul river, eighteen miles north of Peshawar. It was also known as a lotus city in ancient times.

Māhismatī

It was the capital of Haihaya, the kingdom of the myriad handed Kārtya-Vīryārjuna of the Rāmāyaṇa. The city was crowded with happy and prosperous people and was famous for its splendour. It is identified with modern Mahesvāra, on the right bank of the Narmadā, forty miles to the south of Indore.

Besides the above capital cities, the Rāmāyaṇa mentions various cities and towns of ancient India but their detailed accounts and plans are not mentioned, therefore, it is enough to mention their names here for the references. The towns are as follows - Avanti (IV.41.10), Avantī (IV.42.14), Abrajantī (IV.41.10), Kanakhala (II.71.12), Ujjihāna (II.71.12), Kāmpilya (I.33.19), Kuliṅga (II.68.16), Kuśāvatī (VII.108.4), Candraśaṅkha (VII.102.9), Jatāpura (II.42.13), Dharmāraṇya (I.32.7), Pāṇḍya (IV.21.20), Pratiśṭhāna (VII.56.26; VII.59.19), Prāgyvata (VII.71.9-10), Mahodaya (I.32.6), Visālā (I.45.10; I.47.12-18).
Vaijayanta (VII.55.6), Sānkāsyas (I.70.3.7; I.71.16,19),
Hastināpura (II.68.13), Aṅgadiya (VII.102.8-13), Aṅgalepa
(IV.42.14), Kaliṅganagara (II.71.16), Madhumāna (VII.79.18),
Mithilā (Janskapura) (I.66.21-22); I.73.5; VII.38.4,8),
Śrīgaverapura (I.1.29; II.50.26; II.83.19; II.113.22; VI.123.53;
VI.125.4-21) etc.

The cities and towns can be classified into various
categories:

(i) **Capital cities** - Ayodhyā, Kīśkiṃdhā, Vārāṇasī, Madhura etc.

(ii) **Market towns** - Ayodhyā, Madhura, Vārāṇasī etc.

(iii) **Route centres** - Kauśāmbī, Rājagriha, Hastināpura,
    Viśālā etc.

(iv) **Fort towns** - Most of the capital cities were fortified.

(v) **Religious centres** - Prayāga, Puskara, Naimiśāranya,
    Kurukshetra, etc.

**Fortification in the Rāmāyanic Age**

Ancient Indian cities are the most convincing records
of the evolution and progress of the people who imparted to the
city a permanent value and embodied them in different designs.
The most conspicuous characteristic of the ancient Indian towns
was their fortification. In the Rāmāyanic age, India was a
congeries of many small principalities which were often engaged
in warfare with one another to gain over lordship. The life of
citizens was necessarily insecure due to these internecine
conflicts and this insecurity was further accentuated by the
barbarian aborigines. Besides, the whole country was inter-
spersed with thick forests alive with wild animals who, every
now and then, carried havoc into human habitations. These causes combined to impress upon the ancient civic architect the indispensibility of effective defence against the inroads of deadly foes, rational or irrational.

In the Vedic literature, references are available for forts of stone and sun-dried bricks which indicate that the inhabitants of ancient India were excellent fort-builders. The word 'pura' of which frequent mention is found in the Rigveda and later Brāhmaṇas, means a stronghold or a castle. Archaeological finds of the Indus valley have confirmed this notion and also show that stone fortification had perhaps a continuous history in India.

The capital cities in ancient India were invariably surrounded by fortifications either natural or artificial. The esteem in which the fort was held in India, can well be estimated from the fact that it has been recognised as one of the constituents of a state. Fort was considered an unfailing form of defence and it can be inferred from a passage of the Rāmāyaṇa which states, 'And occupying the fortress of Lāṅkā, you will be unassailable by enemies and capable of destroying them.' The name 'A-yodhyā' for Kosala's capital also corroborates this view.

On the basis of the nature of defence, the Rāmāyaṇa mentions four types of forts. One, situated in the midst of a river (or rivers), seems to have been a 'nādeya dūrga'. One, built in a valley in the midst of an encircling the range of
hills, was a 'parvata durga'. One, defended by the belt of forests on all side, was 'Vana durga' and one, having the protection of dug out artificial moat and wall, was a 'Kritrima durga'. In making citadels, the strategical strength of site was kept in view and advantage taken of the natural features of the ground. Kuśatī and Madhumantā were, for instance, built on mountain slopes, both having the Vindhyān ranges as their natural defence. Some forts, having no natural advantage, were defended by artificial means like Ayodhya, while, some others such as Laṅkā possessed all the strategic advantages supplied by man and nature.

In the Ramāyanic age, capital cities were systematically planned. Dwelling houses for the subjects, ministers and state-officials and palaces for the princes and kings had their exact positions. Public places, highways and cross-ways were discreetly ramified. The city was provided with impassable deep ditches full of dreadful aquatic creatures for defence purposes. The city was provided with a strong rampart encircling it, above which parapets and pinnacles were erected. On the top of the rampart and in the turrets, heavy rocks and logs were heaped, to be hurled against the enemy forcibly trying to enter the fort. There were a number of huge and strong gates fitted with massive bolts in the rampart. All sorts of arms and powerful and enormous catapults discharging darts and stones were equipped on the arches and above of the gates. The gates were also furnished with formidable sharp-edged steel clubs known as sataghnīs and other contrivances. The units of the army, fully
equipped and commanded by trusted officer, were also stationed on the gates. On and along the wall, high watch-towers were erected. In front of the gateways, there were extensive draw-bridges across the moats which were equipped with numerous engines. The forts were always garrisoned with a complete army of four limbs and large supplies of food and drinks were stored.

The account of the forts in the Rāmāyana will remain incomplete without a reference to what the Rāmāyana mentions 'bilas'. The word 'bila' literally meaning a hole or a cave, seems to have been employed by the author in a technical sense, viz., a 'mountain fort'. Two significant references to the 'bilas', are found in the Rāmāyana. Māyāvī, an Asura, being chased by Bāli, the Vānara king, entered a 'bila', a capacious and impregnable orature in the earth covered with grass on the surface. Bāli immediately followed him leaving Sugrīva at the mouth of the 'bila'. It is significant to remember that in the 'bila', the Asuras (perhaps the relations and followers of Māyāvī) were already present, and after more than a year (a complete Sāvatsara since Bāli had entered), Sugrīva heard the roars of Asuras. Taking Bāli to have been killed by the enemy, Sugrīva blocked the mouth of the 'bila' with a huge rock and returned to Kīśkīndha.

Besides the above, a more detailed description of the 'bila dūrga' is mentioned in the Rāmāyana. When Vānara party in quest of Sītā reached in the south of the country, there they saw a cave named Rikshabila, which was open, and entered
it. The Vānaras moved and moved in darkness crossing over an hundred yojanas till they saw light. Then, they beheld trees, tanks, various birds wet with water, elegant dwellings all round veiled with nets of pearls. From Svayamprabhā, a female ascetic, living there they learnt that fort was constructed by Maya, the 'Visvākarma' of the principal Dānavas. Rikshabila was really a fort, is clear from the statement of Aṅgada, who proposed to settle there permanently because the place was incapable of being approached and abounded in viands and drinks. It may be pointed out that Rikshabila was also provided with an artificial defence in the nature of an elementary maze, for before their chanced meeting with Svayamprabhā, the Vānaras had roamed about there in darkness for a considerable period and later, they were delivered from it by Svayamprabhā, only on the condition that they will cover their eyes.

The above meaning of the word 'bila', is further corroborated by the use of the word 'guhā' in this context. Guhā means a cave but at one place it expressly stands for Kiskinādhā which was definitely a fort.

Thus, ancient Indians may be credited to some epoch making contributions. The Rāmāyana provides sufficient testimony to their scientific concepts and methods and knowledge of town planning was as extensive as it was intensive. In the epic age, civic sense was quite developed because the cities were more than centres of trade and corporate life. They were the ultimate resorts of the people against hostile invasion. Settlements were scarcely possible in the open country remote
from the walls of the towns or town-like villages\textsuperscript{105}. Indeed, most of the ancient cities were, more or less, garden cities, and it can be well attested from the ancient literature. The most advanced science of Europe has not yet improved upon the principles of the planning of garden cities of India based upon the Indian-village-plan as a unit\textsuperscript{106}. In the epic age, villages, towns, cities and forts were scientifically established with full considerations of the geographical factors which govern the situation of the settlements. The credit goes to the \textit{Rāmāyana} which presents before us the clear picture of human society living in the villages and cities.
REFERENCES


6. Rigveda, I.44.10; I.141.1; I.149.14; X.146.1 Cf. Das, A.C. (1971), 'Aryan Culture', p. 121.


11. Dates have been given on the basis of Carbon 14 dating and other evidences. Cf. Sankalia, H.D., 'Traditional Indian Chronology and C14 dates of Exavated Sites', in Indian Prehistory, (Eds., V.N.Mishra and M.S.Mate), Poona, Deccan College (1965), pp. 219-235.

12. Rām. II.31.22.
13. ‘ग्रामाण्य च शते परम्’ राम. VI.125.44.
14. राम. II.57.4 and II.83.15 respectively.
15. राम. II.83.15.
16. राम. I.5.22; V.4.7-8; VII.70.11.
18. राम. IV.40.23.
20. राम. II.116.8.
22. राम. III.6.1; III.7.17 and II.116.24 respectively.
23. राम. III.1.1; III.11.21-22.
25. राम. II.89.23; II.91.9.
26. राम. II.56.20; III.1.15.
27. राम. II.91.11; III.12.5.
29. राम. II.54.11-12.
30. राम. III.15.21-22.
32. राम. II.90.8; III.74.8-9.
33. राम. II.90.6-7.
34. 'नयो दैवेः प्रजातः .....' राम. III.7.19.
35. राम. III.13.13, 18-19; III.15.3 ff.
36. राम. II.68-67.
37. राम. II. Canto 71.

39. 'Kapvatē is identified with modern Bhaigu, a branch of the Ramaganga', Dey, N.L. (1979), The Geographical Dictionary of Ancient and Medieval India, p. 92.

40. Rām. II.115.10,12.

41. 'वो भाष्मावै क्षयोपृष्ठया:' Rām. VI.125.29.


46. Rigveda, I.53.7; I.58.8; I.131.4; I.166.8; III.15.4; IV.27.1.


50. 'सत्यनामा वृद्धिवरा...१' Rām. II.100.40.
51. Rām. I.5.5-22 and also II.51.21-23; II.66.19-21.
53. Idem.
55. Rām. IV.26.41; IV.31.16.
56. Rām. IV.14.5-6.
64. Brihadāraṇyaka Upaniṣada I.2.1.
66. ‘तद्भवात्मक काण्य गुरूः काल्पनिका श्रवण घरक्षिणी नृत्य | नमस्ते त्वम् तत्त्वं ज्ञातं सुप्रसारं सुन्दरित्यन्त।' Rām. VII.38.18.
67. Excavation at Rajghat (Vārāṇasī), Dept. of Ancient Indian History, Culture and Archaeology, B.H.U. (A Pamphlet) pp. 5-6, quoted by Dube, B. (1967) op.cit., p.144.
68. Rām. I.32.6.


70. Rām. VII. Canto 69; VII. 70.11.

71. Rām. VII. 70.5-14.

72. Law, B.C. (1976), Historical Geography of Ancient India, pp. 107-108.

73. 'उसं मधुपुरी रम्या मधुपुरा देवनीमिता ' Rām. VII.70.5.

74. 'अङ्के पुरवर्त राज्य बसुनामा गिरिखजस्
ब्राह्मण बसुनाम नाम असोस्तत्स्य महामन्यं। रत्न शैलबर्ता, पञ्चः प्रकाशितं सामन्तवः।
सुमानुजधि नयो रम्यं माण्डलम् किमुलता स्वयं। रत्नवानं शैलमुख्यानां मध्येमालिके शोभते।' Rām. I.32.7-9.


77. Rām. II.68.21.

78. 'यो विश्व राष्ट्रं रम्यं राजगृहं पुरम् ' Rām. II.70.1.


84. (a) Cunningham, A., op.cit., pp.41-44.

(b) Agarwala, V.S. (1969), Pāṇini Kālīna Bhāratvarṣa, p.49.

85. Rām. VII.31.7-9; VII.33.2-3.
86. Dey, N.L., op.cit., p.120.

87. Rigveda. IV.30.20 and II.35.6 respectively.

88. Rigveda, I.53.7; I.58.8; I.131.4, I.166.8; III.15.4;
IV.27.1; VII.3.7; VII.15.4 and Taitt. Brā. I.7.7.5;
Sat. Brā. III.4.4.3; VI.3.3.25, for details vide, Das,A.C.

in Ancient India, No.3, 1949, pp. 61-74; vide Dube,S.
(1967), op.cit., p.146.

90. Rām. II.100.68. The Rāmāyaṇa mentions the term 'Septa
Varga' for the seven limbs of a state i.e. king, minister,
country state, Fort, Treasury, Army and Allies.

91. Rām. VII.5.28.

92. Rām. II.100.40.

93. 'नद्विय वर्तिल जान्य क्षत्रियम च निरुविनधम्' Rām. VI.3.20.
N.B. Five types of forts seem to have been indirectly
referred to the Rāmāyaṇa. II.100.68. i.e. Jaladūrγa,
Pārvata dūrγa, Bṛikṣa dūrγa, Iriṇa dūrγa and Dhanañā dūrγa.

94. Rām. VII.108.4 and VII.79.16-18 respectively.


96. Rām. VI.3.15 ff.

97. Rām. I.5.6-18; III.48.10-12; V. Canto 2 and 3; VI Canto 3.


99. Rām. IV.50.7 ff.

100. Rām. IV.51.10-11.


103. Rām. IV.52.27-28.

104. 'अविबेश गुहां रम्यं किषकन्यां रमणश्लासनात् ' Rām. IV.33.1.
‘रम्यं रच्यमाकाणीं बच्चे महतीं गुहाम् ' Rām. IV.33.4.


106. Havell, E.B. (1915), 'Ancient and Medieval Architecture'