

Unit 6

Models of Urban Growth : Concentric Zones, Sectors, Multiple Nuclei, Exploitative, Symbolic

Contents

- 6.1 Introduction
- 6.2 Structure of Cities
- 6.3 Concentric Zone Model
- 6.4 Sectors Model
- 6.5 Multiple Nuclei Model
- 6.6 Exploitative Model
- 6.7 Symbolic Approach
- 6.8 Conclusion
- 6.9 Further Reading

Learning Objectives

After studying this unit you should be able to:

- discuss the structure of cities;
- describe the concentric zone model of studying the structure of cities;
- explain the sectors model;
- describe the multiple nuclei model;
- discuss the exploitative model; and
- explain the symbolic approach to the study of city.

6.1 Introduction

Under the rubric of urban ecological process and theories, you have already learnt about the processes of invasion, succession, concentration, centralisation and segregation which characterise different kinds and dimensions of cities. Here in this unit you will learn further about the different aspects of cities and their formations.

As you already know, urban society is defined as a relatively larger, dense, permanent, heterogeneous settlements whose majority of inhabitants are engaged in non-agricultural occupation. The development of such urban society is very much determined by socio - cultural organisation, climate, topography and economic development. The earliest cities of the world originated near river valleys such as early civilization of Indus (Mohenjodaro, Harrappa), Tigris - Eupharates (Lagas Ur, Uruk), Nile (Memphis, Thebes)

and Hwang Ho (Chen-Chan An Yang). These early development of urban settlements evolved with changing technology and human needs. Trade and commercial activities and settled agriculture were major facilitators; even today these factors are very much relevant in the growth of a city. As cities are viewed as the places where markets, governments, religious and cultural centres exists.

6.2 Structure of Cities

The distinct features and characteristics of cities have evolved over time and vary significantly in time and space. The concept of city in ancient society was different from medieval and modern city. The growth was irregular in form, sensitive to changes in the habits of people, and dynamic in character. They began as free cities, which were settled voluntarily. Geometrical form often emerged. It was introduced according to the structure of the land and nature of society. Early development of city structure is discernible in two basic urban forms: the walled town and open city. Within these basic forms a wide variety of patterns can be observed in different shapes and designs. Different cities are shaped by the different character of their society. More than the structures, it is the dwellings of the people that mark the different cultures of cities.

For Max Weber the city is a market place as mentioned in the previous unit. Market has always been the focal point of the city, a centre for the exchange of goods in pre-industrial cities about which you will learn more in the next Block. The development of transportation and money systems transformed this barter system to a form of retail enterprise. Thereafter, cities were known as modern business centres. Weber also observed changes in demographic features that the more dense sections are, in general, losing population and the areas on the outer zones of cities are gaining population. In between the area is predominantly either static or shows moderate growth.

Each city has certain degree of internal organisation and regularities in its growth. This internal organisation of cities includes both physical as well as human aspects—the land use pattern and residential settlements. The city constitutes all the people who inhabit it, the entire collection of houses the people live in, the shops in which they work, the streets they traverse and the places in which they trade. The industrial revolution was a significant turning point where urban development is concerned. Industries have attracted labour force and also created a market for their produce. Charles Colby 'analysed' these forces and explained the movements of people in the form of centripetal and centrifugal forces. Centripetal forces are the results of a number of attractive qualities of the central portion of the city. Centrifugal forces on the other hand are not only opposite forces, but are made of merging influences — a desire to live in one part of the city or an urge to move to another part of the city, such as, suburbs.

The 'internal structure of city' refers to the location, arrangement and interrelationships between social and physical elements in the city. Hence, the purpose of this unit is to explain the spatial distributions and the interactions between these distributions. The spatial distribution of a

particular city also depicts social organisations and cultural relationship with structure of that period. The form and structure of the modern city is the result of numerous economic, social and cultural factors operating through many decades since their evolution. Some of the most significant factors of modern urbanization are rapid and massive growth, a heterogeneous population, changing forms of urban transportation, growing spatial and social mobility. The classical studies of modern American cities are some examples.

The major theories of the internal structure of urban settlements has been given after the study of western urban society, as the proposition is based on empirical studies of North America and Europe. Hence, the growth pattern of cities is part and parcel of American society that accounts for the increasing importance and dominance of American culture, society, and economy.

6.3 Concentric Zone Model

Ernest Burgess propounded the concentric zone theory in order to explain the structure and growth of city. The hypothesis of this theory is that cities grow and develop outwardly in concentric zones. In other words, the essence of the model is that as a city grows, it expands radically from its centre to different concentric circles or zones. Burgess offers a descriptive framework in which both aspects of human ecology – physical land use pattern and human relationships are implicit. Using Chicago as an example, Burgess viewed that as cities expand outwards, the interaction among people and their economic, social and political organisations also create radical expansion outward and form a series of concentric zones.

The concentric model is based upon a process of invasion and succession about which you learnt in the previous unit. Invasion is a process which necessitates continual expansion of inner zones into outer zones, due to the natural 'aggression' of the migrant into the city. While succession occurs when an area becomes dominated by the activity invading that zone. There is competition in city among people for limited space. Only those can succeed who can afford best to pay and get the desirable location for their business and homes. Therefore, concentric zone theory reflects on going conflict between city dwellers and periphery villages. It also describes the process of concentration and segregation of social groups with the growth of city structure.

According to this theoretical model there are five major concentric zones. These are as following:

1. Commercial centre
2. Zone of transition
3. Working class residence
4. Middle/ higher class residence
5. Commuter zone

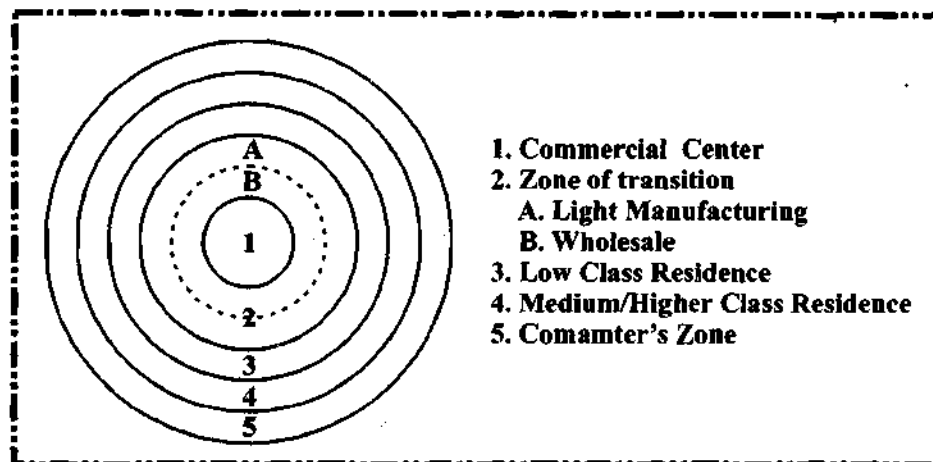


Figure 6.1

First, the inner most ring zone or nucleus of the city is a commercial centre also called Central Business District (CBD) in North America and western countries. This zone is characterized by high intensity of commercial, social and civic amenities. It is the heart of the city which includes department stores, office buildings, shops, banks, clubs, hotels, theatres and many other civic buildings. Being the centre of commercial activities and location, it is accessible from all directions and attracts a large number of people. Therefore, it is a zone of the highest intensity land use and social interaction. High intensity of land use further indicates the high value of land and rents. As a result, the residential population in this zone is very small. People are always in search of cheaper, spacious and pollution free accommodation away from the core of the city. This is one of the reasons that the congested city area is deserted at weekends or on non-working days.

Burgess further describes that the morphological structure of CBD is changing rapidly with our changing needs. Morphological structure of city includes buildings, roads and infrastructure. These rearrangements occur, in part, through demolition and new building construction. This is a continuous process of rebuilding since city began. Hence, it is obvious that older parts of the city are rebuilt and old land uses replaced. Study reveals that these changes in rebuilding are from lower to higher density, higher uses and higher rents.

Zone of transition: Light Industries and slums mainly occupy this zone, may be seen in as many American cities. This zone was the home of numerous first generation immigrants. It has low income households, retrogressing neighbourhoods, one room houses and homeless men. It is a breeding place of crime, gambling, sexual vice and other social deviances. The physical deterioration and social disorganisation leads to concentration of poor housing, poverty, juvenile delinquency, family disintegration, physical and mental diseases. Burgess studied Chicago city and the found second concentric zone to be transitory in nature, comprising an area of residential deterioration due to congestion and encroachment. The zone surrounds

the CBD area and fulfils their needs, like light industrial production and business extension houses. He also predicts that CBD will expand in this zone, as it will grow.

Models of Urban Growth:
Concentric Zones,
Sectors, Multiple Nuclei,
Exploitative, Symbolic

Working class residence : Basically it is planned residential area, close to places of economic activity which often shift and moved to the outward rings. Being close to transition zone it is influenced by that zone, in terms of quality of life. It reflects the negative impact of industrial pollution and the cultural impact of slums. The working class residences subsequent outward ring/ rings are occupied by middle or higher-class residences. These may be separated in different rings in terms of class character and corresponding facilities. This is a residential area with all modern amenities of civic society. People who reside in these areas are native born Americans in single-family houses or apartments. The houses are spacious in a pollution-free zone. Sanitation, health facilities and all other requirements of a good quality life are found here. Proper transportation, communication and parking facilities are an added feature of this residential zone. The above features of this concentric zone clearly indicate a particular class character.

Commuter zone: it is located in the outermost concentric zone, beyond the area of higher class residence. This is a ring of encircling small cities, towns, and hamlets which taken together constitute the commuter zone. People from these areas commute on a daily basis towards the CBD or commercial centre for employment and business purposes but live in their small cities, towns and hamlets. Commuter zone is characterized by low density. It is relatively isolated and located in suburbs and satellite towns. Later on Burgess writes that there was no circle of towns or cities in the outer concentric zone of Chicago but a pattern of settlement existed along the railroads radiating out from CBD like - spokes of a wheel.

Burgess made a first brilliant and comprehensive analysis of pattern of city structure. In the 1920s, there was a tremendous growth of urban population throughout the world, particularly in the United States and European Countries. This growth has changed the form and social structure of urban communities. At this time, Burgess' Concentric Zone model is the earliest effort to explain the internal structure of city within the framework of the ecological theory. The application of this theory to American cities was widely accepted and considered a significant contribution and a guide to understand other subsequent studies of city patterns.

The theory has also limitations as it is based on Chicago city or North American cities. It is unable to explain the structural pattern and growth of cities in developing countries. It is not applicable to all developing countries. Homer Hoyt 'refutes' this concentric model and argues that the growth of city didn't always form a circle completely. It is often rather distorted by major transport and topographical features. In this theory, Burgess assumed that succession and invasion are determinant processes in structural growth of city. He ignored the significant role of endogenous forces.

Reflection and Action 6.1

You have just read about the Concentric Zone model given by Burgess in his study of the city of Chicago, U.S.A. As you know India belongs to the developing countries, do you think any city structure in India can be explained using this model? Try to apply it to your own city/town/village and write a report of two pages on "The structure of My City and the Concentric Zone model".

Discuss your report with your Academic Counsellor and other students at your Study Centre.

6.4 Sectors Model

Following Burgess, Homer Hoyt, an economist, propounded an alternative proposition of urban structure and its growth pattern in 1939. Through sectors model, Hoyt tried to overcome the weaknesses of the earlier theory. It was mainly based on residential rent pattern and impacts of transportation development. This theory is the result of an empirical study of 34 American cities, in which he observed that high rent areas are located in one or more sectors of the city. He prepared a map showing how rent changed by sectors irrespective of concentric circle. Generating from the maps of housing features and land uses pattern of cities, he analysed the impact of transportation the recreational areas and other changes.

Hoyt further provided factual evidence through his survey of Washington DC metropolitan area in 1954. Apart from North American cities the evidence from Latin American cities showed that the finest single family homes and apartments were located on one side of the city only, such as Guatemala city, Bogota, Lima La Paz, Quito, Santiago, Buenos Aires, Montevideo, Rio de Janeiro, Sao Paulo, and Caracas. Further the main concentration of high-income group families was found in the form of scattered clusters. He also illustrated similar observations from New York metropolitan area and Latin American cities as well.

Sectors Model

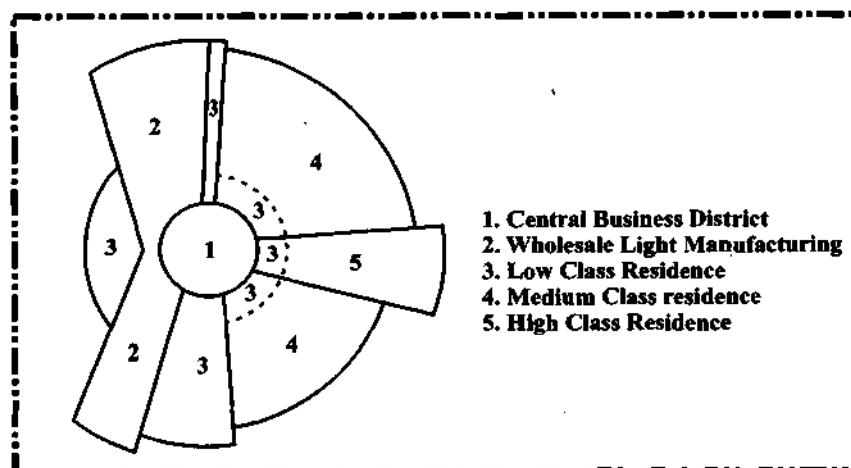


Figure 6.2

**Models of Urban Growth:
Concentric Zones,
Sectors, Multiple Nuclei,
Exploitative, Symbolic**

6.5 Multiple Nuclei Model

Multiple nuclei theory differs from the earlier theories, like sectors and concentric zone theories. It believes that city has not developed around a single centre or CBD but it has a group of many minicentres. However, the phases of development may be simultaneous or in different periods. The multiple nuclei type is further divided into ten major areas—central business, wholesale or light manufacturing, low income residential, medium income residential, high income residential, heavy industry, outlying business, residential suburb, industrial suburb, commuters area. While these various parts of city are fairly clear when analyses of the social organisation of the city is made. It has developed through a natural process rather than a planned process.

Multiple Nuclei Model

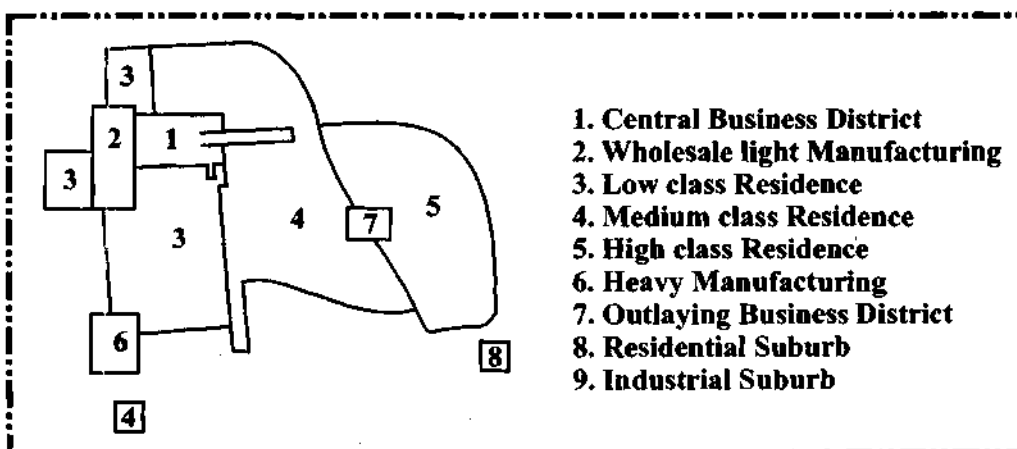


Figure 6.3

6.6 Exploitative Model

The exploitative model divides the city into three semi-circular concentric zones on the basis of ownership of resources and ability to pay. It clearly shows how money flows from inner-city to outward zones towards affluent urban sections. He formulated three semi-circular concentric zones as follows:

- 1) The city of death
- 2) The city of need
- 3) The city of superfluity.

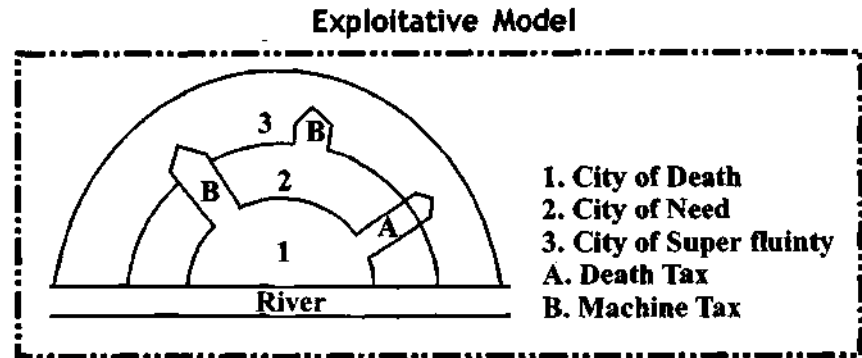


Figure 6.4

The city of death is the inner-city characterized by a centre of exploitation by the rest of the two areas. People living in this zone are poor who are exploited through paying two different taxes—Machine tax and Death tax (Figure-6.4). Machine tax is paid through wage payments below the workers worth. Hence, if workers are paid less than their work output surplus exaction is viewed as machine tax. The poor residents in this area also pay a death tax in terms of paying higher price of food, housing, other consumer items and services. Not only this, this area suffers additionally from a lack of city services and civic amenities due to congestion and encroachment and has status of a slum.

The city of need occupies an intermediate location between the city of death and the city of superfluity. Like working class zone in Burgess' concentric model, the blue-collar working class inhabits 'the city of need'. William Bungee characterised these inhabitants as the hard hats, the solid union members of middle class America. This area is also exploited by the suburban based business interests and politicians. Like inner city residents, they also pay the 'machine tax' but are relieved from the 'death tax'.

The third and the outermost ring is called 'the city of superfluity'. This area is a home of the elite entrepreneurs, managers and higher-class people, who live a leisured life and indulge in mass consumption at the cost of the other two cities. According to this model, the population of this outer zone city is small in number but the very affluent group which reside here controls the allocation of resources and this play a decisive role in governance.

Therefore, the exploitative model provides the picture of exploitation and problems of inner-city dynamics. The poor people of inner-city have less

opportunity of jobs, enhancement through skill development and training due to perpetual system of exploitation. They pay more tax in various forms that reduces their chances of growth or development.

Models of Urban Growth:
Concentric Zones,
Sectors, Multiple Nuclei,
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Other Models

The above described models of city's spatial structure of economic activities and residential areas are some of the major studies of internal structure of city. One such study made by Mann (1965), who tried to apply Burgess' concentric zone and Hoyt's sector model to three industrial towns in England-Huddersfield, Nottingham and Sheffield. He assumed that because the prevailing wind direction from the southwest, the higher-class housing would be in the southwestern part of the city, while industries would be located in the north east of the CBD. Some significant conclusion of his study are as follows:

- The higher-class residences are not concentric of CBD but are located on one side of a few pockets of the city.
- Like Sector model, he observed that industries are found in sectors along main lines of communication.
- Further he called the lower class housings area 'the zone of older housing' whereas area of higher-class housings are relatively modern houses and situated away from industries and smoke.
- Unlike Burgess and Hoyt, he also describes the role of local governance in slum clearance and gentrification. As a result of this the emergence of large council estates protect the interest of working class/ low income group in the city.

Mann's study is different from the existing models, as his observation is based on European city which has its own historicity and social structure which is different from American cities. Secondly, he suggests that even through a small sample we can generalize the fact. His model shows that a variety of approaches are possible to the study of urban structures.

6.7 Symbolic Approach

Another model to study urban structures is the symbolic approach. It developed as a corrective to the ecological and functional approach to the study of the internal structure of cities. Walter Firey (1945) first contributed to this approach and analysed the land uses in Central Boston. He has highlighted the importance of symbolism as an ecological variable which emphasized the independent role of social symbolism as a major force in shaping the internal structure of cities, particularly with respect to historically meaningful public buildings and open spaces. Later on, major developments in this approach occurred with Wheatley's two studies of Asian cities - the Chinese Cities (1971) and the Japanese Cities (1978).

According to him, ancient cities developed in terms of their religious or cosmological meanings. The site of the city or particular structure has its own symbolic meanings and is regarded as the centre of the world. The alignment of the walls, gates, roads and other designs often reflects its context. The structure consists of temples,

power. Similarly, modern skyscrapers have become as much a symbol of corporate activities as a place of work in modern cities.

6.8 Conclusion

All the above four theories of city structure and growth pattern developed during the early twentieth century and is based on the study of the American urban society. The major factor of changes in city structure and organisation due to population growth, changing technology, growing economic activities, transportation etc. All these models assume that as cities grow, the residential areas move outwardly and the concentration of population in suburbs increases invariably. Both Concentric and Sectors model are similar in this assumption. However, vary in spatial distribution. Harris and Ullaman in Multiple Nuclei theory also explain this proposition through the concept of 'minicentre', which also changes with time. They reject the over emphasis on one commercial centre.

They also agreed on differential residential patterns based on their class. The first three theories explicitly locate lower, middle and higher classes residential areas. Similarly, exploitative model describes three different cities in semicircular pattern representing three different classes and levels of exploitation. The residential pattern is based on land value or rent but depicts the kind of social hierarchy and mutual relationship of city. Hence, all these cities structure and growth explains the rigid social segregation found in different cities.

Recent changes and transformations in urban structure in the above theories have altered the basic assumptions and expected outcomes of these classical models. These changes include the impact of the automobile, population growth after the Second World War, housing construction, shopping facilities, social and industrial mobility. Hoyt in his review also observed that the apparent rigidity of older patterns in the city has been substantially reduced by increases in city size, personal income, and mobility. Brian Berry synthesizes the transformation in three aspects of research to understand the internal structure of the city. These are urban population densities, the socio-economic pattern of neighbourhood, and the changing pattern of retail and service business.

6.9 Further Reading

Max Weber, (1905). "The City", Translated and edited by Don Martindale and Gertrud Neuwirth, New York, Free Press.

Burgess, Ernest W., (1925). "The Growth Of The City: An introduction to a Research Project", In Robert E. Park and Ernest W. Burgess (eds). The City, pp. 47-62 Chicago: University of Chicago Press.

Unit 7

Social Area Analysis and Recent Advances

Contents

- 7.1 Introduction
- 7.2 Historical Review
- 7.3 Concept and Technique of Social Area Analysis
- 7.4 Factorial Ecology
- 7.5 Recent use of Social Area Analysis in Different Fields
- 7.6 Critique of Social Area Analysis as a technique
- 7.7 Conclusion
- 7.9 Further Reading

Learning Objectives

After studying this unit, you should be able to:

- explain the technique of social area analysis;
- analyse diverse populations by using this technique; and
- explain more recent techniques like Factorial Ecology and GIS (Geographical Information System).

7.1 Introduction

In the contemporary world, societies have become diversified and heterogeneous. From the second half of the 20th Century, internal, regional and international migration increased manifold due to expansion of capitalism, new power equations, and decolonisation. The outcome was ethnic diversity in most parts of the world. Urban Sociologists attempted to understand and assess diversity of various kinds in the population especially of large cities. Social area analysis was one of the techniques evolved to study diversity in income, status and ethnicity and mobility in urban population. This technique was a part of the methodological developments under the rubric of ecological school. Social area analysis is used more by urban geographers than sociologists.

7.2 Historical Review

The Ecological Approach was the most dominant and popular approach in urban sociology from the 1920s to the 1950s. Also known as the Chicago School, scholars belonging to this school studied urban populations by using biological principles like succession, competition, expansion and so on. You will learn more about the Chicago School, in Block 4 of this course. Robert Ezra Park, the most well known scholar of the school believed that the principles in the human world are similar to those in the biological one. (Spates and Macionis, 1982:110,111).

While the scholars belonging to this School used assumptions from biology, like 'survival of the fittest', they also were the pioneers in empirical study

of city life. Park argued that migration, that is, movement of the population in search of better jobs was one of the important reasons for changing the composition of large American cities like Chicago. Their detailed studies of big cities set the standards of 'how to do urban sociology?' in the early 20th century. They extensively used census data produced by governments on the one hand and processed it for various purposes and on the other, pioneered what is today known as 'urban ethnography'. Observation of daily routines of migrants, ethnic communities, labouring classes, delinquents and thieves, and what sociologists today would call 'the marginalized communities' was one of the main ways to study urban reality for the Chicago School practitioners and their followers. For this participant observation, life history and survey were the preferred techniques. (Spates and Macionis, 1982:46,47).

Park, Burgess, and others thus contributed to the theoretical and methodological aspects of the new field of sociology called urban sociology. America witnessed the emergence and expansion of many large cities in the beginning of the 20th century, and therefore, a manifold study of the urban subject-matter was the need of the hour. Also, it was believed that the American way of life was based on industrialization and the human spirit of achievement and this modern urban world was expected to create a new identity of 'modern human being'. In reality, however, ethnic enclaves emerged in all big cities of the world and social networks played a very important role alongside wealth and power. Burgess, in the analysis of his famous 'concentric zone theory', pointed this out. (Burgess, 1967: 50). The famous diagram illustrating the land use and distribution of population in Chicago city states that manufacturing activities determined the nature of city life in America in the early 20th century. Migrant labourers, who were attracted to these large centres of western capitalism, usually settled in working class neighbourhoods. With low skills and educational levels and no economic resources to bank upon, these immigrants were concentrated in the inner city area and took up jobs in factories in the central areas of the city. (Spates and Macionis, 1982:110,111).

Though very influential in the early decades of the 20th century, the Chicago School theorized a typical American city – a centre and symbol of Western capitalism with a high degree of industrialization. The ecological theory proved to be ineffective in assessing the changes in other settings.

In contemporary urban theory, therefore, other theories and models have assumed importance as scholars across the world attempted to analyse the urban scenario in different settings. Within urban ecology, along with the Concentric Zone theory of Burgess, other urban land use theories were employed widely in the second half of the 20th century. These are: the Sector theory by Hoyt, the Multiple Nuclei theory by Harris and Ullman, and the Social Area Analysis by Shevky and Williams and later by Shevky and Bell. Later Factorial ecology, a similar technique using computers, came into vogue.

Studying high rent districts of 142 cities in the US developed the Sector theory. Hoyt used a comparative approach since he simultaneously analysed

such a large number of cities. Also, the study examined cities in three different time periods – 1900, 1915 and 1936. As you had learnt earlier in Unit 6, in the Concentric Zone theory, Hyot argued that Sectors looked like a pie. New rings were added to the existing areas as the city grew due to competition and population movement. Other important observations were that fashionable districts increased to two or three over time and industry moved out of the city.

In 1945 Harris and Ullman developed Multiple Nuclei theory. This theory forwarded the principle of diversification as an important component of city growth. Attempting to engage with the concentric zone theory, these scholars argued that over time multiple nuclei of business, residence and middle class locations evolve as the city grows.

Contrary to these urban land use theories about which you have learnt in the previous unit, Unit 6, Social area analysis suggested that social factors like prestige, status, ethnicity are very important in determining the location of various communities. Around the late 1940s Social Area Analysis was developed and employed as a technique to analyse diverse urban populations mainly in the U.S.A.

In recent years related techniques like Factorial Ecology are used to analyse spatial differentiation of diverse groups and communities across the world.

7.3 Concept and Technique of Social Area Analysis

Since the Concentric Zone theory could not be applied to many American and non-American cities, other theories of land use developed as stated earlier. Due to their limited applicability, urbanists tried to offer new explanations of patterns of city expansion and growth.

Eshref Shevky and Marilyn Williams (1949) pioneered 'Social Area Analysis'—the identification and description of areas according to their social characteristics. They argued that urban land use could be explained in terms of social characteristics alone. They examined social rank, family status and ethnicity. This technique was based on using a statistical procedure to identify selected important variables from a very large database of economic and social variables. Using census tract information prepared by the American government, they argued that the variance in all the census information could be explained in terms of two or three chosen variables which were arrived at after combining several other variables. First, Shevky and Williams applied it to Los Angeles and later to studying San Francisco city data.

Social Area Analysis thus signifies a statistical procedure of analysing available large-scale data of diverse populations. It became popular as statistical processing of large databases was commonly attempted during the 1950s. Some scholars have noted that this approach was very popular in the 1970s. From then on it is referred to and used from time to time, but there seems to be very little theoretical development in this direction. Social area analysis and factorial ecology have also been quite important in marketing research.

Residential differentiation has been explained at the zonal level in this method. To do so, indicators of socio-economic, demographic and housing data for small intra-urban districts is analysed, to test general hypothesis that the pattern of residential differentiation can be reduced to a small number of general constructs (Johnston, 2000).

Reflection and Action 7.1

As you already know, Indian society is largely agrarian even till date. More than 70% of the population lives in villages. However, cities have existed in the ancient past, in the medieval period and in the contemporary period which are entirely different from the Western cities.

Do you think the technique of Social Area Analysis will be useful to study the cities in India? Write your opinion with valid arguments in about two pages. Compare your answer with those of other students at your Study Centre.

Following Shevky and Williams a score of studies on large American cities emerged from the 1950s to the 1980s, basing the analysis of census tract information on social characteristics like family status, and ethnicity. Studies in North American (Murdie, 1969; Davies and Barrow, 1973; Rees, 1979) cities have shown that three components of urban space have exhibited significant regularities in a number of cities, that is, socio-economic status, family status/life-cycle characteristics and ethnic component.

For example, see the maps of Toronto city marked with census characteristics. Here the types of differentiation are shown with the income and social status that tends to produce sartorial patterns.

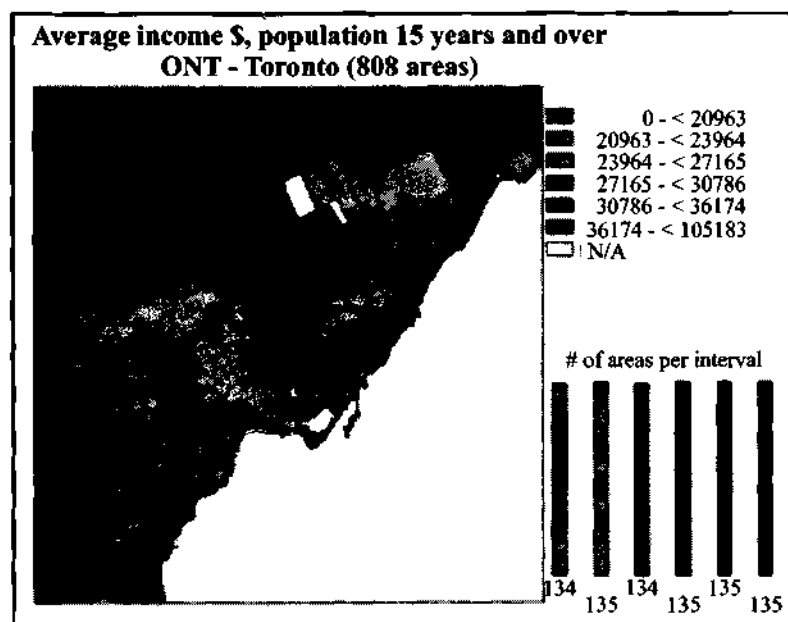


Figure 7.1

The second type of differentiation is shown in the map (Figure. 7.2) with the ethnic differences that tends to produce clusters in a city.

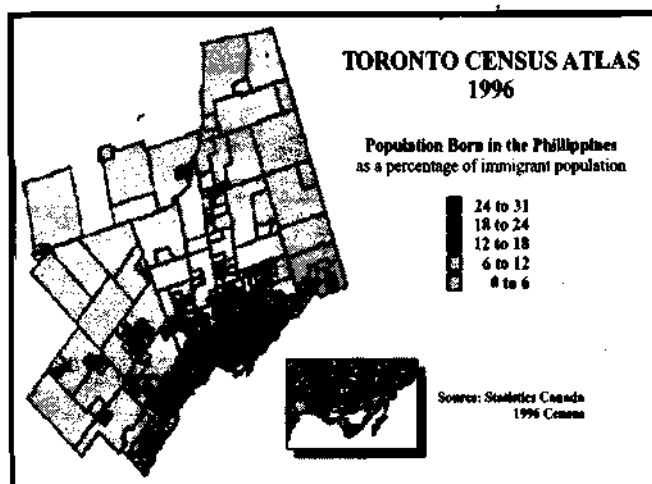


Figure 7.2

As seen in one of the recent research papers, some scholars are analysing the applicability of Social Area Analysis in urban planning research. The authors argue that they 'appraise the potential of social area analysis – for planning and policy-related research'. on multivariate statistical techniques, notably principal components analysis and cluster analysis important uses for a wide variety of planning research exercises. (Brindley T.S., Raine J.W., 1979, pp. 273-289(17)).

More recently, some scholars look at 'social space' from a sociological rather than geographical perspective using social area analysis. (see Heye C, Heiri Leuthold, 2005). The authors argue that the existing social area analysis was not based on sound theoretical principles, and hence argue that use of sociological concepts like 'social space' would help the understanding of cities by social characteristics.

7.4 Factorial Ecology

Factorial ecology is used to find the social characteristics used by an urban population with computer technology. There is a difference between social area analysis and factorial ecology, because, instead of starting with the reselected social characteristics (such as social rank) all characteristics considered to be potentially important in a city are analysed. The comparison takes place at the computer front. Computer compares all these characteristics with one another to see the linkages between these characteristics. The linked characteristics are called factors and are given descriptive names. Once the analysis is completed, the city's land use pattern as a whole can be described. (See Spates J., Macionis J., 1982).

For example, R.J. Johnston (1976: 193-235) used factorial ecology to examine Whangarei, a city in New Zealand. He took eight social characteristics, which he thought were important, and instructed the computer to use them in an analysis of each of Whangarei's twenty-two census-tract areas. His results indicated that some areas of the city had high concentrations of male workers who were in professional or managerial occupations, who earned over \$ 6,000 a year, and who also held a university degree. As these characteristics were strongly linked to one another, Johnston combined them into a single factor called 'socio-economic status'.

Another finding was about the people over 16 who were unmarried and lived in rented households in other residential areas of the city. Once again, the association among these variables was so high that Johnston designed 'family status' as a second important factor. Although the correlation was weaker, there was also some evidence that ethnic factors were of some importance in determining residence in Whangarei. Interestingly, when taken together, these three factors- socio-economic status, family status and ethnicity could account for over 86 % of the residential patterning of Whangarei. Johnston's findings are important especially because they have been simulated by other scholars using factorial ecology in other cities. (See Spates J., Macionis J., 1982).

Application of factor analysis to identify correlated indicators/attributes, combining the correlated aspects such as the indicators mentioned above into an index and then identifying, homogenous areas based on such composite indices is a method to study the urban societies.

Critique of Factorial Ecology

The main critique of the factorial ecology states that cities in different areas, with different cultures, have been concerned with different values. In some of them technology is hardly concerned whereas in some cities religious values play an important and influential role. The cultural and social settings, socio-economic status, family status or even the ethnicity may have different or no role to play in certain cities.

Different cities may have different land-use patterns, or cultural influences. Sometimes the social status related with caste plays an important role and makes a difference. The cities in Europe, Asia, America would definitely mark a difference since the whole social and cultural set up is different.

Reflection and Action 7.2

Do you think the study of city in terms of its social characteristics is important? In what ways will it help us? Write an essay on "Role and Significance of Sociological Study of cities?" In about two pages.

Discuss your essay with other students at your Study Centre.

7.5 Recent use of Social Area Analysis in Different Fields

In recent days factorial ecology with its emphasis on computer techniques has been revived through other sophisticated techniques. Advancements in satellite based communications and computer based technologies have helped the field of urban policy and planning.

GIS (Geographical Information System) is called as 'smart maps' (Hanna and Culpepper, 1998:7). These are prepared by using computerized databases. Though other maps are representations of flattened earth —

a two-dimensional image of the earth – GIS gives better results as computers can show curvatures of the earth in a very accurate, graphic and clear way. Recently GIS is also used for identifying social characteristics of cities. For example, a GIS based analysis of a locality can reveal how many houses are permanent structures, how many water sources are available, and so on. Accordingly, using the indices like permanency of housing structure, poverty levels of the population can be discerned.

7.6 Critique of Social Area Analysis as a Technique

Scholars have pointed out that Social Area Analysis was in a way a part of the rubric of urban ecology. It was also associated with industrial manufacturing under Fordism. In the 1940s, urban populations were arranged along zonal and sectoral lines on the basis of social differences. (Burgess, in Park et al., 1925/1967; Bunting, 1991; Harris and Ullman, 1945; Hoyt, 1933, 1939, 1966; Murdie, 1969; Shevky and Bell, 1955).

As times changed, sectoral or zonal segregation did not always happen in big cities. Earlier also, in cities like Chicago, ethnic enclaves like Little Sicily were observed by Chicago School theorists. With the passage of time and changing housing policies of governments, etc., the technique of Social Area Analysis proved less useful.

Social Area Analysis cannot fully explain urban land use. So the need to explore more sophisticated techniques based on the Social Area Analysis was felt.

The approach of social area analysis was also criticized for the lack of theory. Though it was successful in examining the major social characteristics of different residential groups in a city, it was unable to explain why those people lived there.

Some scholars have criticized that factorial ecological analysis fails to provide a satisfactory explanation of the process of residential differentiation, the way in which different areas of the city come to be associated with different types of people (Timms, 1978). Alternatively, they argue that to do so, it is necessary to adopt a micro social approach focused on the relationship between residential location and patterns of individual decisions and behaviour, generally at the household level. Households may be seen as decision-making units whose aggregate response to housing opportunities is central to ecological change (Knox and Pinch, 2000).

7.7 Conclusion

The technique of Social Area Analysis has proved to be very useful in the decades of the 1940s to the 1970s. This technique made a case for the use of social characteristics using census data to analyse large populations.

In contemporary times, some scholars have attempted to use this technique again in other parts of the world also. Increasingly, however, scholars argue that a satisfactory explanation of residential differentiation can be offered by combining various methods like Social Area Analysis, factorial ecology and so on.

7.8 Further Reading

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Unit 8

Ancient, Medieval and Colonial Cities: Case Studies

Contents

- 8.1 Introduction
- 8.2 Emergence of the City of Ujjain
- 8.3 Shahjahanabad: A City in the 17th Century
- 8.4 Kolkata: A Colonial City
- 8.5 Conclusion
- 8.6 Further Reading

Learning Objectives

After studying this unit you should be able to:

- discuss the emergence of the ancient city of Ujjain;
- describe some of the socio-cultural, economic and political aspects of agricultural settlements and resettlements around Ujjain;
- discuss the medieval city of Shahjahanabad in the 17th century;
- describe its architectural journey through history during the medieval times;
- explain the different parts of the colonial city of Kolkata and their social significance during the colonial period.

8.1 Introduction

Cities have challenged human imagination ever since they came into existence. From the smallest to the largest, the earliest to the latest, cities have been the greatest points of concentration of humans and their social relationships. We wish to enquire about the Indian experience of urbanism. We shall begin with a study of the origin of urban centres. This will be followed by brief descriptions of cities in ancient, medieval and modern India. Urban centres emerged in ancient India around 2500 BC. The impressive ruins of cities like Harappa and Mohenjodaro are a mute testimony to this remarkable development. However, we have not been able to decipher their script. So, our understanding of the structure of urbanism is limited. We do not know whether the rulers of Harappa were traders, priests or warriors. That is why we intend to take up the study of a city from the sixth century BC usually referred to as the period of second urbanization.

For the study of city in ancient India we shall focus on Ujjain, a city located in the state presently known as Madhya Pradesh. This will be followed by a case study of Shahjahanabad i.e., old Delhi. For the modern period we shall study the structure of the city of Kolkata, the modern capital of West Bengal. These case studies are presented to show the similarities as well as the dissimilarities in their structure.

8.2 Emergence of the City of Ujjain

Before we begin with the discussion on the emergence of the city of Ujjain, it will be appropriate to understand what is meant by "urbanism" in the Indian context. Let us examine how it is defined.

A Definition of Urbanism

The sixth century BC saw the emergence of Ujjain as an important urban centre. Urban centres emerge in the context of very significant changes in the society. The society of the preceding period was based on kinship. Social differentiation was minimal, meaning that categories like rich and poor did not exist. Urban centres emerge in societies which are divided between rulers and ruled and rich and poor. The rich and powerful maintain and display their wealth and power by building mansions and acquiring things considered precious by society. For example, they try to acquire precious stones from distant lands since the possession of these stones will add to their prestige. Precious things are usually acquired from distant lands. Thus, there is a need for people who will bring those stones and people who will cut and polish them. Urban communities possess groups like rulers, traders, priests and craft specialists. None of them produce their own food. People who do not produce their food too need to eat. Their food is produced by agriculturists in the surrounding areas. That is why it is important to learn about the agricultural communities in areas surrounding Ujjain.

The Prehistory of Urbanism in Ujjain

To be able to understand the emergence of Ujjain we need to go into its prehistoric past. Agricultural groups had colonized Madhya Pradesh from about 2500 BC. The next 1700 year saw the expansion of agricultural communities. However, there were periodic breaks. At some point the agricultural communities would disappear. After a gap of a few years new groups of agriculturists would again found new villages. All these agricultural groups were using primitive tools made of stone and copper. From a long term perspective there seems to have been an increase in the number of agricultural settlements as a whole between 2500 BC and 800 BC. Some of these settlements were large enough to have more than a thousand people living in them. The growing density of settlements meant that the isolation of the agricultural communities of Maharashtra, Malwa or eastern Madhya Pradesh gave way to a continuous string of settlements. Along these ribbons of more or less continuous settlements emerged trade routes.

Desertion of Agricultural Settlements and Re-settlement around Ujjain

Around 800 BC many settlements were abandoned. Not much is known regarding the causes of this desertion. Many scholars believe that it was caused by climatic changes. What is more likely is that this period witnessed the coming of warlike communities from Rajasthan and Uttar Pradesh. These communities had strong notions of hierarchy. Conflict between the local communities and the immigrants seems to have produced a new society based on centralization of power and hierarchy. The area witnessed large scale re-settlement of the population.

An important new development was the emergence of a large number of agricultural settlements in and around the Ujjain area. The concentration of settlements in the Ujjain area shows that agriculturists were concentrating on better quality land rather than expanding to the marginal areas. The relative closeness and contiguity of the settlements would help powerful leaders keep a larger population under their control. It is likely

that the powerful leaders would force people to settle down in the surrounding areas. This would help state systems to consolidate their power. It culminated in the emergence of a few large settlements like Ujjain, which could dwarf the largest settlements of the preceding phase.

Some of the settlements were surrounded by fortifications. Building fortification must have required mobilisation of a large manpower. Such mobilisation was possible only in the context of the siphoning off of a large surplus by a powerful class. Our tenuous evidence suggests that a class divided society had emerged. Such societies need to define their frontiers much more clearly than kinship-based societies. They can wage wars to take captives for labour and military service. They would not allow uncontrolled movement of outsiders into their territory, for its prosperous upper classes might be attractive targets of attack. Perhaps, fortifications were the first tentative steps of state societies in defining boundaries.

Two processes are visible in Ujjain and the surrounding areas. One is the concentration of a large number of villages around Ujjain which is in sharp contrast to other areas of Madhya Pradesh. In the earlier period agricultural communities were evenly spread across various parts of Madhya Pradesh. On the other hand if we study the settlement pattern of sites around the sixth century BC, villages seem to converge on the modern district of Ujjain. This change in settlement pattern has less to do with factors like presence of water bodies and good agricultural land and more to do with the institution of power. Probably, the powerful rulers forced people to settle near Ujjain to be able to collect taxes. So, urban centres seem to have emerged in a situation of conflict and resettlement of population. The other important process that is visible is the building of fortification. A fortification, a mile long and three quarters of a mile wide was erected soon after the founding of Ujjain. It has been suggested that building such a fortification required a workforce of 34,666 individuals working for 150 days. The size of the settlement of Ujjain suggests that it would have a population of about 38000. In that case the construction of fortification in Ujjain would have required the mobilization of almost 91% of the population. The mobilization of such a large part of the population points to the emergence of a powerful ruling class, since such an enterprise would not be undertaken by common people who would have little or nothing to defend. It was within the context of a strong political power that other features like use of coinage and writing emerged.

Reflection and Action 8.1

Visit your local library and borrow a book on the stories of Vikramaditya and Raja Bhoj or any other story which describes an ancient city/town in India, like Vaishali, Taxila, etc.

Read this book and write an essay of about one page on the city/town which forms the background of this story. Discuss the architecture, landscape, social and cultural significance of different parts described in the story in your essay.

Compare your essay with that of other students at your Study Centre.

A Literary description of Ujjain

In the sixth century BC Ujjain emerged as the centre of a very powerful kingdom. It was called the Avanti Mahajanapada. We find many descriptions of Ujjain as an important urban centre. It remained an important urban

BC mention it as an exporter of semi-precious stones to Greece and Rome. Literary references to Ujjain are plentiful. Here is a description of Ujjain taken from a book named Kadambari which was written in the seventh century by writer named Banabhatta.

We quote from Kadambari—

There is in the country of Avanti a city called Ujjaiyini which excels in splendour the world of gods... It is (so holy that it is) as if it were the birth place of the Krita age. It is as if it were a second Earth created suitable for residence by the divine Siva... It is surrounded by an encircling ditch full of water... It is surrounded by a circular rampart...It is decked with long, big market roads...have in them exposed (for sale) heaps of conches, oyster-shells, pearls, corals, and emerald gems... It is decked with picture galleries. Its squares are decked with sacred shrines...It is decked with suburbs, in which there are reservoirs of water...in which there is (always) darkness on account of (the presence of) green gardens...In it is publicly announced the worship of the God of Love...In that city the sins (of the people) are all wiped off by the noise of the (sacred) studies which are always carried on there. There the intoxicated peacocks, ardently engaged in dancing and having their plumages unfurled to a circle, set up a loud tumult with their cries, in houses furnished with water fountains in which there is the deep rumbling of clouds in the form of the dull sound of the drums (beaten therein during music practice). The city is inhabited by pleasure loving people, ... Like the moon in the matted hair of Siva, they possess wealth in crores. Like the law codes called Smritis, they cause to be built public halls, caravan sarais, wells, public places for drinking water, gardens, temples, bridges, and mechanical contrivances (like water-wheels etc.). Like the mountain Mandara they wear upon their persons all the choice jewels ... They have a special knowledge of (i.e., are experts in the chief points) of all the arts...their dress is brilliant and they learn all the dialects (prevailing in all parts of the country)...and they know all the alphabets...the city...has large colonies of cowherds occupying (all its parts in) all directions...it is full of thousands of sacred temples...it exhibits (in its gambling saloons) the throws of golden dice...it gives delight to large crowds of gallants... it is charming on account of the various sports of children....In that city the divine Sun daily appears...his horses turn their mouths downwards, being attracted by the very melodious sounds of the singing of ladies practising music on the terraces of lofty mansions....In that city, the auspicious songs, sung at dawn by numerous caged parrots and starlings(mainas) awakened at the close of the night, are rendered vain...on account of the jingling sound of the ornament of the ladies...In that city ...there was examination of Varna (testing of colour), but only in the case of gold (and not of the castes of the people) (Translation, Kane:67-74).



Ancient City of Ujjain

This description begins with an architectural presentation of the city. Having described the parapet and defences of the city, the author Banabhatta takes us to the 'path through the market'. The window-shoppers' description of the wealth of the city shows the power of the merchant-class. This is followed by a description of sacred shrines and suburbs watered by beautiful ponds and gardens. This architectural presentation is followed by a description of the animate world of people engaged in festivities, gambling in saloons, worshipping Mahakala and Kamadeva, engaging in chanting sacred incantations, frolicking in the waters of the river Shipra, donating money for building public halls, places for drinking water, temples etc. Their speech is agreeable and they are familiar with diverse scripts and dialects. They dress brilliantly and are familiar with all the arts. The melodious songs of the singers are specially mentioned. The city is a hub of secular activity, of movement.

Cities in ancient India emerged in the context of population shifts and warfare. Warriors and priests were the dominant figures in this period. Walls of the city provided the safety and security for it to develop as centres of trade and exchange. The extract from Kadambari presents the different foci of the city. The overall image is one of tremendous diversity. Our description shows elements related to trade and religion. However, it is political power that seems to organise the shape of urbanism.

8.3 Shahjahanabad : A City in the 17th Century

New Delhi, the modern capital of India has a long history. It is believed to have been the capital of the mythical Pandavas. The presence of Ashoka's inscriptions in Delhi indicate that it was an important centre in the third century BC. It was the capital of many Turk kings from the thirteenth century. The long history of Delhi as an urban centre does have something to do with its location in the watershed between the Gangetic and Indus river systems. However, its predominance and decline seems to coincide with the fate of dynasties that ruled from here. Here, we shall discuss the structure of the city of Shahjahanabad, the last pre-modern city of Delhi.

Shahjahanabad: An Architectural Journey

As the name suggests, Shahjahanabad (modern old Delhi) was founded by the famous Mughal king Shahjahan. Hitherto, the Mughals had ruled from Agra. Shahjahan shifted the capital from Agra to Delhi in 1639. The new city was named after the emperor. He built a city surrounded by a fortification. He also built his palace (Red Fort) and the famous Jama Masjid. Members of the royal family and his nobles built various palaces, gardens and mosques in the fortified enclosure.

The fate of Shahjahanabad was inextricably bound with the state system created by the Mughals. The imperial household located in the majestic Red Fort was the central institution of the city. The palace fortress was a huge enclave. The wall surrounding this fortress was made of red sandstone 60 to 75 feet in height. It covered an octagon nearly two miles around. It enclosed an area of about 125 acres. This palace fortress was studded with beautiful mansions, fountains and gardens. Surrounded by a moat it had four large gateways.

Red Fort was not simply the king's private mansion where he lived with his family. It was virtually the microcosm of the empire. The emperor's 'Hall of general audience' and 'Hall of special audience' were the centres where

all decisions concerning the empire were taken. It was here that decisions about war and peace were made, ranks of officials were decided and generals and officials were dispatched to different parts of the empire. The palace fortress also contained a large bazaar, a number of offices for clerks who kept accounts of the taxation and expenses of the empire. Then there were stables for horses, elephants, camels and cows. Other rooms held workshops where weapons, carpets, fine cloth, gold work and jewellery were manufactured. There were store rooms for food and clothing and buildings for treasure. Then of course there were houses for soldiers, clerks, merchants, physicians, poets, religious specialists and astrologers of the imperial household. According to one estimate the Red Fort contained about 57,000 persons. This is larger than the population of many towns and cities in pre-modern and modern times. For example, the population of the city of Harappa is believed to have been anywhere between 25,000 to 35,000.

The Red Fort was part of a larger city called Shahjahanabad. A massive wall made of stone 3.8 miles in length encircled Shahjahanabad. It was 27 feet high. It enclosed an area of about 1500 acres. This city had mansions of the Mughal nobles. Each of these mansions was a mini Red Fort in terms of its structure. The household of the princes and nobles would be organised along the same principle. So, the mansion would contain not only members of the family of the noble, it would have its own set of soldiers, clerks, servants, crafts persons and small traders. According to an estimate princes in Shahjahanabad maintained a household of about 12,500 people while the nobles had a household of 3100 persons on an average. These people often lived inside the mansions or around them in mud thatched houses.

Reflection and Action 8.2

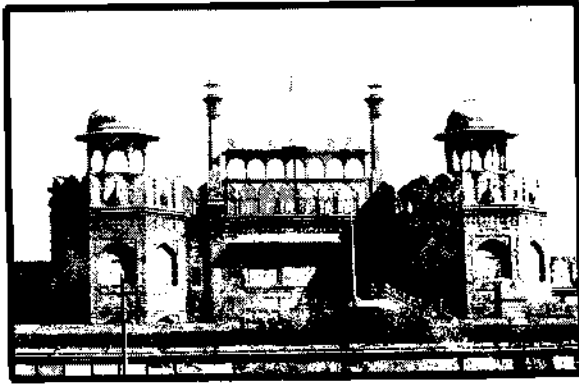
If possible, visit the Red Fort in Delhi. Find out the architectural design and history of the Red Fort from the notice boards, or the Sound and Light programmes held there. If not, find out about different parts of the Red Fort and its significance from the website.

Write a report on "History and Architecture of Red Fort, Delhi." Discuss your report with other students at your Study Centres.

Markets in the City

There were two important bazaars in the city. Chandani Chowk stretched from the Lahori gate of the Red Fort to the famous Fatehpuri mosque. A canal flowed through its centre, watering a row of trees that provided shade and a place to rest. The other bazaar known as the Faiz bazaar stretched from the Akbarabadi gate of the Red Fort to the city gate of the same name. In these markets one could get anything ranging from delicious kababs to expensive diamonds. Each prince or noble maintained a separate market staffed by client merchants.

Merchants and bankers staying in the Chandani Chowk areas were not dependent on emperors and nobles for their survival. This will be clear from the fact that the Mughal empire represented an incredible centralisation of the economic resources of the empire. According to an estimate, in the year 1650 four princes and sixty nine great nobles received about 38 percent of the revenues of the empire. As a result more than 40 percent of the revenues of the empire were concentrated in Shahjahanabad alone. It is the nobles and their retainers who effectively created a demand for items to be purchased in the market.



Red Fort of Delhi (Shahjahanabad)

Suburbs of Shahjahanabad

There were many suburbs of Shahjahanabad. There were a large number of tombs, gardens and bazaars where lot of economic and social activity was carried out. Many of the older settlements of Delhi continued to co-exist with Shahjahanabad. Before the city of Shahjahanabad was founded it was an important pilgrim centre for Muslims. It had tombs of saints like Nizamuddin Aulia, Nasiruddin Chirag Dilli and Bakhtiyar Kaki. To these centres came innumerable pilgrims.

Some Suggestions

The description of Shahjahanabad shows that all aspects of the urban life bore the stamp of the imperial household. The emperor treated the empire as an extension of his household. This was an empire that sociologists call 'Patrimonial bureaucratic' state systems. The crucial role of political power in the creation of cities is also proved by the fact that Shahjahan's shift of capital from Agra to Delhi in 1648 caused an immediate decline in the fortunes of the city of Agra. Surrounding communities pillaged Agra despite the protection of the Mughal force. The decline was so marked that the English and the Dutch closed their factories in Agra.

We are suggesting that the medieval cities had a large network of trading communities. The centres of pilgrimage too flourished in their own right. The case of Shahjahanabad has been presented to show the overarching presence of political power in the life of a city. It was power structures which seem to have determined the ebb and flow in the fortune of cities. We shall follow our review with a description of the city of Kolkata in the time of British rule.

8.4 Kolkata: a Colonial City

In this section we wish to describe the structure of a colonial city. An interesting fact about Kolkata is that it was founded in the same century as Shahjahanabad. However, its ambience and image are radically different from Shahjahanabad. This difference is related to the structures of power that created these cities.

Kolkata is the capital of West Bengal. It is located on the bank of the River Hooghly. The city's history begins with the arrival of the British East India Company in this area. In 1699, the British completed the construction of Fort William, which was used to station its troops. It was named the capital of British India in 1772. It functioned as the capital of the British India for about 140 years until the shift of capital to New Delhi in 1911.

Kolkata's long history as the hub of British domination and as the focus of resistance to it have created a rich web of images about it. While one set

of scholars talk about the architectural grandeur of Kolkata, others describe the filth and squalor of its slums. One set would conjure images of leaders trying to ban Sati, introduce women's education and forge an Indian identity, others would talk about them as upper caste anglophiles least concerned with the fate of the poor. Most of these images were a product of the happenings in 19th century Kolkata.

We wish to focus on the 19th century Kolkata as a classic colonial city. A colony is a territory under the immediate political control of a geographically distant state.

The top-level administration of a colony is under the direct control of that distant state. It is from this point that we begin our description of Kolkata. It was a city which showcased the strengths of the state that controlled it. According to one estimate for 1914 three fifths of the British capital invested in India was based in Kolkata. Apparently, 81 percent of investments in Kolkata were of European origin while Indian investments amounted to only 3 percent.

Plan of the City

The White Town

Kolkata was founded by the British. The British had come here to promote their business interests and acquired an empire in the bargain. Kolkata was a typical colonial city. It could be seen in the landscape of this city. It was divided into three sectors. The dominant sector was the British part of the city called the 'White town'. Planned, spacious and grand, it would be the envy of the rich and powerful anywhere in the world. Here were located the buildings that would decide the fate of the empire in the Indian sub-continent. In the 'White town' the headquarters of the imperial government were located on Dalhousie Square. Impressive government buildings were complemented by the markets and bungalows spread along Esplanade, Chowringhee and Park Street.

This was also the area where one could find the offices of corporations having global reach. One could find offices of organisations dealing in tea plantations, railways, coal mines, jute mills, finance and commerce. So, business and politics mingled in these parts of Kolkata. This area had a population of about ten thousand. For a city that had a population of about half a million this was a miniscule number. But this was the sector of Kolkata that ruled not only the city but the entire sub-continent. Books written on Kolkata in this period would talk endlessly about this Kolkata. For example, a book written by one Mr. Cotton says—

There is everything to remind her citizens ... that she is the capital of British Raj: Wellesley's stately Government House, the statues of past Governor-Generals...the massive blocks of Government houses, the long array of palaces upon Chowringhee, the rows of warehouses and jetties and docks... the large European colony...the signs upon every hand of opulence and prosperity...

In a ninety page section of this book devoted to historic houses and famous localities of Kolkata there are just fifteen pages devoted to the Indian part.

The Intermediate Zone

Around the margins of the 'White town' had emerged an intermediate zone. It was inhabited by poor whites, Eurasians, large number of Muslim

service groups (mainly cooks and servants), and small groups of Jews, Armenians and Chinese. There were more prosperous Muslim groups too. They had migrated from outside Bengal. Many of them were part of the entourage of defeated kings like Tipu Sultan and Wajid Ali Shah. A large number of migrant workers from Bihar, United Provinces and Orissa also stayed in this area. They did not speak Bangla. Most of them spoke different varieties of Hindustani.

At the north-western border of the intermediate zone was located the Barabazar (the Great market). It was a traditional market with rows of shops along narrow lanes. While the sophisticated Dalhousie Square would be completely deserted at night, Barabazar would be bustling with people in day time as well as night time. This was the hub of Kolkata's commerce which spread out to the subcontinent and beyond. Here could be found 'Persians, Arabs, Jews, Marwaris, Armenians, Madrasees, Sikhs, Turks, Parsees, Chinese, Burmese and Bengalees'. Although some Bengali merchants had done well as British agents earlier, it was the Marwaris who were emerging as the key figures of this market complex.

The Bengali Zone

Beyond this circle was the area predominantly peopled by Bengalees. They formed about 55% of the population. This upper caste dominated group lived to the north and north east of the intermediate zone. This zone lacked planning and its filth and squalor begged description. Here lived the Bengali Bhadrak and a large unskilled and semi-skilled labour population, who earned their living as hawkers and housecleaners. There were a few areas like Bhowanipur on the fringe of the 'White town' where Bengali lawyers, doctors and other professionals lived.

The Bengali society was dominated by the families of merchant princes. They had made their fortune by acting as business agents of the European traders. Their palaces seemed more in the tradition of Shahjahanabad mansions where such buildings were surrounded by the mud houses of servants. The Bengali Bhadrak group which has dominated the images of Kolkata came into its own towards the second half of the 19th century. They defined themselves as the middle class situated below the aristocracy of merchant princes and above the menial workers. They went for Western education in a big way because this was the key to getting professional jobs of lawyers, doctors, teachers or clerks. It was this group that provided leadership to Bengali society. Beginning their career as assistants of the British they gradually emerged as a coherent group. Many of the members of the Bhadrak group provided leadership to movements against colonial rule.

8.5 Conclusion

We presented case studies of urban centres from ancient, medieval and colonial India. The presentation is sketchy – When we deal with an ancient city, the information available to us is limited. Nevertheless, the power and domination of the political elite is visible in the surviving fortification. The Medieval Shahjahanabad was willed in to existence by a king. That does not mean that the ancient or medieval cities did not have powerful merchant groups or religious elite. In fact the political elite was heavily dependent on funds provided by the merchant groups. Similarly, complex rituals were built into forms of political domination. This is usually called legitimization. However, the example of Shahjahanabad showed that the class of merchants and bankers was completely dependent on political authority. Its fortunes fluctuated with those of its political masters.

The colonial city of Kolkata was a marginally different case. This was because it had some elements of modernity in it. Kolkata too was created by political force. Fort William with its military architecture is testimony to the political might of those who created this city. This political power brought in its wake modern forms of control. This was a form of control exercised by a country tens of thousands of kilometers away. The earlier forms of control centred on episodic use of violence. The new forms meant creation of a network through which the ruled were made aware of the continuous vigil by the state. That is why a very small number of Englishmen could control the entire subcontinent. Because of the distance from Britain very few British were available for administration, they needed subordinate classes of Indians to run their administration and business. These subordinate groups spawned the class of the Bhadrakalok. This class itself was a very small section of the Bengali population. The Bengali population in turn was only about 55% of the population of Kolkata. But the dominant image of Kolkata is not that of the British architecture. Neither is it that of the successful Marwari business class. It is the image of the Bhadrakalok class which was economically and politically marginal to the life of the city. This was possible only in the context of a colonial city where forms of control were radically different from those of the earlier times.

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Unit 9

Typologies of Cities

Contents

- 9.1 Introduction
- 9.2 City: Emergence and Growth
- 9.3 Cities and Their Types
- 9.4 Classification of Towns and UAs (Urban Agglomerations) according to Census
- 9.5 Historical Traces of City Types
- 9.6 Conclusion
- 9.7 Further Reading

Learning Objectives

After studying this unit you should be able to:

- describe the emergence and growth of city from the ancient times to the contemporary period;
- discuss some of the major types of cities in general;
- explain the classification of cities according to the census i.e., based on population; and
- describe the historical traces of city types found through a period of time.

9.1 Introduction

Cities and towns have become dominant features of spatial landscape, laying down a framework of human existence throughout the world. In the developed world presently, the transformation from rural to urban life-styles occurred during the 19th and early 20th century. The role of cities and towns has been important in the development, maintenance and expansion of all great civilisations throughout recorded history. Thus cities have held a central role in the political, social and cultural life of almost all parts of the world and in almost all stages of human history.

9.2 City: Emergence and Growth

The growth of cities unleashed revolutionary changes. There emerged several towns and cities which were the main place for the rulers and the tradesmen in those times. Towns and cities are of many kinds—temple towns, garrison towns, seaports, political capitals or administrative towns, resort centres, industrial cities, trading centres, and other types of cities. The company towns are a unique kind of community which has nearly disappeared. Most large cities are diversified, carrying out a number of activities simultaneously.

Modern Indian cities have generally undergone a well defined socio-historical growth process. Though the origin of cities permit a great deal of speculation, by associating it with colonial period or modernisation, it transcends the realm of speculation. It is to be viewed through a definite

framework both as a dynamic social process as well as a result of specific social trends. These specific social trends were unleashed in the 18th century when the rise of scientific technology and the accumulation of capital took place. In the colonial period the urban centres were used as the suppliers of number of raw materials as well as the consumers of foreign products. The old urban centres went through transformations; some became solely military centres, while others were filled with the labour force and industries. However, all the features of the western cities are not seen in Indian urban areas, even though their growth coincided with the growth of large scale industrial and modern capitalism.

According to Adna Weber, concentration of people into cities was a product of the economic forces which were becoming significant with the industrial revolution, which introduced changes such as steam power, mechanization, and trade and commerce etc. The political causes of the emergence of cities were as follows:

- i) Legislation on promoting freedom of trade.
- ii) Legislation promoting freedom of migration.
- iii) Centralised administration with its location of persons in civic centres.
- iv) Free forms of land tenure politically defended in the city.

The social causes were as follows:

- i) Education.
- ii) Amusements.
- iii) Higher standards of living.
- iv) Attraction of intellectual association.
- v) Habituation of an urban environment.
- vi) Diffusion of knowledge of the values of city life.

In ancient India there were no great differences between a village and a town. Some essential conditions and requirements gave rise to towns and cities in India. The first and foremost factor among them is the availability of water. Second, the place must offer good possibilities of defence. The third essential condition was the easy supply of foodstuffs. Finally, communication lines were also a factor determining the fortune of the city. In the third millennium BC, the first probable urban civilisation emerged in India in the Indus valley with Mohanjodaro and Harappa as the most elaborate urban forms. According to Gordon the foundation of the city of Mohanjodaro was laid around 2600 BC. Then the Aryan version of urbanisation took its roots around 600 B.C. During the times of the Mahabharat, there were a number of cities like Hastinapura, Indraprastha, Mathura, Kanayakubja and cities like Kashi and Kausambi. Urbanisation during the Mughal period spread out all the way from north to south, east to west. In the colonial period the urban upsurge in India began after the First World War. The three major port towns,—Calcutta, Bombay and Madras owe their existence to these developments.

9.3 Cities and Their Types

If we are talking about the types of cities, one can say that there is no absolute classification system for cities. All classifications are only relative, there can be no single typification of city which is exclusive. Also there are

several types of characteristics found in a single city. Several cities fit in more than one category. Thus once we classify any city we have to see as to which of its feature is most important. We must bear in mind that the classification of types of cities has been done on the basis of the most fundamental or most important and crucial aspect of the city. On the basis of prominent or significant feature of a city we determine which type it is. Suppose a city is an administrative center and also a capital city, then we have to see which activity or character of the city is most important. For example, the city of Hyderabad is considered important as software city. It is also the capital city of Andhra Pradesh state. But as regards its prominent character, then we consider the city as software hub rather than the capital city.

On the other hand some cities are big production centres naturally. Thus we can say that in modern times it is very difficult to find a pure type of city. On the basis of some broad criteria Noel P Gist and L.A. Helbert have classified cities. According to them cities are of the following types:

- i) Production centres.
- ii) Centre of trade and commerce.
- iii) Capitals and administrative centres.
- iv) Health and recreation centres.
- v) Religious and cultural centres.
- vi) Diversified cities.

i) Production Centres

We know that most of the cities emerged as a result of the development of industries and industrial production. In modern times also one of the important reasons for the growth of cities is the process of industrialisation. This is evident from the fact that the industrial revolution in the modern era is associated not only with the industries only but with the urban revolution as well. In India most of the large cities are also industrial and the production centres. Production centres can be further classified into two broad types: (a) primary production centres, and (b) secondary production centres. The primary production centres are those where primary products for industries are being obtained. They are mainly the suppliers of raw materials. The persons living in these centres are directly or indirectly involved in the production of the raw materials. Some examples of these cities are Nellore, Kolar, and Bareilly. In secondary production centres most of the final products come into existence. Most of the centres of production are included in this category. In these types of cities the population is very large and it keeps growing day by day, for example Mumbai, Chennai, Aligarh, Gwalior, Moradabad etc.

ii) Centres of Trade and Commerce

In some cities and towns the trade and commerce is the dominant activity. In these cities the production is a secondary activity. A typical example is Mumbai where though production is an important activity, trade and commerce is the most important activity. By and large, the cities which are connected with sea routes are important centres of trade and commerce. The important ports of India are Calicut, Cochin, Visakhapatnam, Calcutta, Kakinada, Muslipatnam, Tuticorin, Chennai etc. While it is true that the ports are usually the centres of trade and commerce, it is by no means always the case.

iii) Capitals and Administrative Centres

The capital of a state is normally a big city which has seen much growth. These cities are important due to the power centre that exist in them. Indeed once a place is made the capital, business and industry are but the sequel of the main fact of its being the capital. Before the process of industrialisation and globalisation, the capital cities were the most important cities of the world.

iv) Health and Recreation Centres

Many towns and cities are famous for their beautiful and healthy climate. In general, the towns situated near the sea-coast and the hill stations are health recreation centres. Hill towns are cool in the summer and so tourists rush towards them during this period. In order to attract more tourists to such places, municipal and state authorities do lots of beautification work. In almost every state of India, there are one or more important hill resorts. The livelihood of the people of these places greatly depends upon tourism.

v) Religious and Cultural Centres

In India where religious sentiments dominate, many towns have become famous and developed into big cities due to their prominence as a religious centre. For example, Allahabad or Prayag, Kashi or Benaras, etc. All the towns situated near the holy rivers have the religious importance. Apart from that, we know that India is a multi-religious country, and every religion has at least one or two important religious centres. For example, Amritsar is regarded as the holy city of the Sikhs. Ajmer is a place of pilgrimage for Muslims. Similarly, among Hindus, Varanasi or Benaras, Kashi, Haridwar, Ayodhya, Tirupati, Rameswaram, Puri etc are holy places. Similarly, Bodh Gaya is holy for Buddhists. Apart from the religious significance there are many cities which are important for the historical sites and monuments like the Taj Mahal in Agra, the Qutab Minar in Delhi. Bijapur is famous for its Gol Gumbad or the circular towers, and Chittorgarh for its victory towers. Nalanda and Taxila are famous for their ancient universities which are now in ruins. Pondicherry is famous for its Aurobindo Ashram.

vi) Diversified Cities

Besides the cities which fit into one or the other of the above categories, there are some towns which fit into none of these categories. For example, they may be holy but the fundamental reason for their eminence is not holiness. They may also be the capital cities but their fundamental reason for growth may be other factors. Thus, it will not be correct to put them into some specific category. Such towns and cities are accordingly referred to as the diversified towns.

Some Other Classifications

Apart from the above classifications there are some thinkers who have classified cities according to their different characteristics such as their basis of development, establishment, and law etc. Camille Rosier has classified the cities according to their creation and establishment. According to him cities are of two broad types. They are:

- i) Natural cities.
- ii) Created cities.

Natural cities are those which have evolved in the due process of time due to their strategic and natural location. They are primarily the ancient cities which we have already explained in our above analysis. On the other

hand, created cities are established by us for some special requirement. They are normally new cities. As civilisation progresses the process of industrialisation too has taken place in them. The created cities are the result of this process of industrialisation. The examples of created cities are Jamshedpur, Rourkela, Bangalore, Bokaro, Coimbatore etc.

Apart from the above classifications we can also classify cities according to the time periods in India. They are as follows:

i) Ancient City

Ancient cities have their own characteristics. The nature of the city was largely dependent on the causes of its development. According to Anderson, ancient cities have the following characteristic features. First of all most of the cities were ruling centres. Thus these cities were army oriented. If there was any trade practised, it was to serve the large standing armies of the ruler or the state. The authorities were mainly concerned about the needs of the army and the state. The main responsibility of the social authority was the construction of the walls and buildings and the organisation of the army. Favourable climatic conditions were the important reason for the growth of these cities. That is why in India most of the cities are situated on the banks of the major rivers and on the seashore. In ancient times, favourable agricultural conditions were mainly responsible for the development, growth and establishment of cities. The ancient cities were mainly political capitals and rulers and their ruled mainly lived in them. They were the main education centres and the places of learning. In India there are approximately 45 towns and cities which have been classified as ancient cities and they have a historical past. One thing remarkable about these historical cities is that they have a religious and cultural background.

ii) Medieval City

Medieval cities were basically trade centres and mainly served the interest of the trading communities like merchants and rich businessmen. Its population was well defined and, consisted of trading people and their dependents and ancillaries. A large number of these towns developed on the sea shores. The medieval towns and cities were largely dependent on the rural areas for their different needs and purposes. The political structures of these cities and towns were autocratic in nature. Social life in these cities was largely conventional. During this period the local ruler, who himself was a major landowner, tended to invite merchants, artisans, administrators, and professionals to settle in his fortress headquarter towns. These tradesmen and professionals were landless and dependend on the ruler for protection. Not being tied to the land, they had great mobility which they could use as leverage against the ruler in case of oppression or excessive taxation. The towns and cities during this period constituted hinges linking vertically the lower levels of the settlement hierarchy with the higher ones. Their main role was to act as military headquarters in the basic antagonistic relations with neighbouring towns, most of which were at the same hierarchical level.

Reflection and Action 9.1

Write down some of the major features of the city/town where you live. If you live in a village, describe the features of the nearest district town. From the dominant features of this city/town, mention which type of city/town it is in about two pages.

Compare your essay with those of other students at your Study Centre.

iii) Modern City

Modern cities in India emerged during the colonial period. They have a large population and there is social heterogeneity. The modern cities are commercial centres. They have elected governments which have specialised functions and very complicated organisations. The modern cities are cosmopolitan in character. These have a large population who are engaged in the service sectors and other related activities which were not seen in the old cities. They are the fashion hubs. In modern cities there are large numbers of voluntary organisations which serve the needs of the large number of people. Social mobility is one of the most important features of the modern cities. In these cities we find many diverse groups and each group represents a different culture of its own. As already stated, the livelihood of the city people is greatly dependent on the service sector and the industrial sector and thus they are not at all dependent on agriculture and farming. The modern city represents a modern lifestyle and modern ethos. The lifestyle of the people is quite different from the rural counterparts. Modern cities have the best means of communication and transportation. Apart from this there are modern health facilities existing in these cities.

9.4 Classification of Towns and UAs (Urban Agglomerations) According to Census

- i) Class I (100,000 and more population)
- ii) Class II (50,000 to 99,999 population)
- iii) Class III (20,000 to 49,999 population)
- iv) Class IV (10,000 to 19,999 population)
- v) Class V (5000 to 9999 population)
- vi) Class VI (less than 5000 population).

The Census in India divides the towns and cities into six types according to population. The population of 100,000 or above in a place is kept under a city category. In this way there are 423 cities in India according to the census of 2001. In other words there are 423 class I cities in India. An urban place which contains less than one lakh population is termed as a town in India according to the census. There are 498 towns and urban locations which have a population ranging from 50,000 to 99,999. Similarly, there are 1386 towns and urban areas which have population ranging from 20,000 to 49,999 and 1560 towns have a population ranging from 10,000 to 19,999 persons.

Within these cities, the city which has a population between one to five million is a metropolitan city. Most of these metropolitan cities are called urban agglomerations. According to the census definition an urban agglomeration is one which exhibits the following characteristics. These are:

- i) A town and its adjoining urban outgrowths.
- ii) Two or more similar towns with or without their outgrowth.
- iii) A city and one or more ancillary cities or towns with their outgrowths together forming a similar spread.

Within one decade i.e., from 1991 to 2001 the number of cities and urban agglomerations have increased from 23 to 35. Greater Mumbai has the largest urban agglomerations consisting 16.4 million people. In these cities the total number of persons who reside is 107.88 million according to the 2001 census. The population which resides in the metropolitan and class I cities are about 65 per cent of the total urban population. Within class I cities, 23 cities with a million or more population claims 51 percent of the population. This is also indicative of the high rate of concentration of urban population in large cities, further deepening the urban-rural divide. Most of the class III and class IV towns are growing quite rapidly, while class V and class VI cities have declined. If we take the share of urban population accounted for each class of towns, we find that all classes except class I has lost or declined. The main reason for this is the concentration of industrial and commercial activities in large cities and also due to the pathetic condition of rural development. In the absence of any meaningful employment opportunities in rural areas, people have no choice but to move to cities and towns. Among the 35, million plus cities of India, six are termed as mega cities i.e., cities with more than 5 million population as mentioned in Unit 3 of Block 1. They together account for almost one fourth of the total population living in class I cities of India, and rest of the cities have population of all the remaining million cities of the country.

9.5 Historical Traces of City Types

The First Cities

The very first city developed in the wake of the agricultural revolution of the Neolithic period. The very first city marked a great deal of change in human settlement. Before any city to evolve a number of preconditions had to be met. One of the first and foremost precondition was the agricultural production and food surplus. There should be surplus of food in order to feed the large population of these cities. The creation of the food surplus also requires a class of people who could be able to exercise power and authority over the food producers. One of the important features of the first cities was that they were the locus of power. Trade was the most important function of these cities. Most of the large cities have grown on trading routes. Paul Wheatley has identified seven areas of primary urbanisation: Mesopotamia, the Indus valley, the Nile valley, the North China plain, Mesoamerica, Central Andes, and South West Nigeria. Here primary urbanisation means those areas of urbanisation which were generated through internal forces and not through secondary forces and through the diffusion of the other urban parts. According to Mumford, the very first urban settlements grew up in Mesopotamia between the two rivers Euphrates and Tigris. Most of the cities during this period were walled and well protected. The city walls were an important division between protected and unprotected sites. These walls were also the reflection of the areas under control of certain regime. Grouped around the city centres were the ruling elites. The central area of the city was the site of the palace housing which was the apex of the social hierarchy and the granary, the community store house, and the temples. In these cities the place of religion was very important. Religion in its various guises provided the justification for the *status quo*. In other words religion provided the cement binding the urban society.

The Classical City

The classical cities were the first real cities of the world. For example, the city of classical Greece, evokes admiration as well as wonder. The Greek urban culture and civilisation of the first millennium BC has been a cultural yardstick with which later civilisations have measured and modelled themselves. The Greek city emerged during the dark ages (1200-900BC). The Greek dark ages officially end in 776 BC and at that time the first Olympic Games took place. After the end of the Dark Age, there emerged a number of city states which were ruled by aristocrats. Within these city states there were a strong political struggle. Politics was dominated by a few rich merchants. Women and slaves were not allowed to vote. The classical Greek experience was an explicitly urban one, so the main theme of political debates was only the urban administration. In the course of time the form and structure of the Greek city changed. When the city states emerged during this period, the population was around 20,000, with poor sanitation and no clear cut plan. The cities during the classical period were built around sacred hills-and acropolis which provided religious significance as well as good defensive positions. Many houses grew up around the hills, which produced a mazy pattern of unplanned streets winding around public and private buildings. As time passed there came the concept of urban planning and management. The new towns were constructed on the principle of grid square, with standardised city planning. The Romans were able to extend the Greek urban tradition all over the world. Thus, we can say that the classical cities were the ground on which later on various improved versions of cities were built according to the needs of the period and the needs of the people.



The Greek Acropolis

The Merchant City

Merchant cities were the cities which were able to transform Europe from feudal to an urban society. Up to the end of the first millennium AD Western Europe was a feudal and rural society. The people worked on the land and practised agriculture in most of the feudal societies. The peasants had to surrender their surplus produce and labour power to the local feudal lords. Feudal Europe was a slow and backward small scale society. In this era towns and cities emerged as trading centres and for small scale

industries. With the growth of trade and commerce from the 10th to the 13th centuries the merchant cities had grown up simultaneously. The feudal fortress gathered around its wall groups of dwellings, and towns provided the homes for priests, prelates, deacons and acolytes kept alive by church tithes (taxes) and wealthy endowments, but the merchant towns became the centre of activity. The merchants congregated in space and in economic enterprises.

The growth of trade also saw the growth of the merchants as a class. The merchants thus started living in the cities and towns. By the 12th century the old feudal towns were swamped by the aggressive merchant towns and cities where the market place and the rich merchant's houses were jostling with the dwellings of the aristocracy in the urban landscape. The growing towns thus attracted expanding industries. An urban location provided a better place for supply of the products and their easier sales and consumption. In this period the most important industries were clothing industries. The early industries formed associations of producers called guilds. These medieval guilds regulated entry into the professions and controlled the supply of various finished products. This city type was also the important part of the culture. The cradle of the renaissance in Europe was the merchant cities of Southern Europe. With the growth of trade the need for money and banking arose. As trade moved beyond the simple exchange of commodities, there arose a need for a universal medium of exchange. Thus with the growth of the trade and practice of money and the role of finance capital also arose. In Europe, the first merchant cities were the Hanseatic League towns in the north and Geneva, Venice, Milan and Florence in the south. The towns relied on the surrounding areas for the supply of food and the rural areas and agricultural hinterlands were dependent on the markets of these towns. Thus, we can say that there was an economic symbiosis between town and country. The cities were the rich places for trade and commerce and had immense wealth and there lived many rich merchants. Within the merchant cities there was the development of trading and market areas and the development of distinct residential areas. In this city type the urban land day by day became a valuable commodity. In the era of merchant cities systems of cities developed, grew and declined according to the changing patterns of trade. So we can say that the fate of any single city hung on the threads of trade. Thus, we can conclude that the merchant cities were a transitional category from rural feudalism to urban industrial capitalism. It grew up in a feudal period but paved the ground for a different society which was a whole new social order.

The Industrial City

As we have seen above, the merchant cities paved the way for the industrial city growth and development. This development was an important ingredient for the industrial revolution all over the world. In this period factory production was the most important and most significant development. The industrial cities were distinct from the merchant cities in one most important respect, which was the introduction of the factory production. By concentrating production in factories the owners reduced production costs and increased profits. Factories were set up near the sources of power. At that time the main source of power or energy was coal. In this process of factory production, several cities grew up which we can see even now. In this process of industrial revolution the first industrial cities grew in Britain, which was the first country to experience the The industrial cities were fast growing cities and alarming pace and speed. We can understand

this fact with the example of Manchester which was an industrial city in England. Its population in 1760 was 17,000 and by the year of 1830, it had increased to 180,000. We can thus see a strong connection between industrialisation and the process of urbanisation. Actually, it was the process of urbanisation which paved the way for industrialisation, as the growth of the merchant cities showed the way to industrialisation. This holds true for the other parts of the world too. Other countries industrialisation process too went through many of these stages. The population of these industrial cities had alarmingly grown during the industrial period. The nature and character of these industrial cities were entirely different from other old city types. There grew side by side, a number of unhygienic and slum areas in these cities. The old social norms became weak and the old family and kinship ties either broke down or became loose in the process of the new city life. There also grew many social evils which were not witnessed during earlier periods.

The industrial cities consisted of a central area in which the factories and railway yards exist. Encircling this industrial and business core were the poor housing areas of the mass of the workers. Around the slums, along with the factory and the railway yards, there were the houses of the wealthier class who sought to escape from the unhygienic condition and the noise of the central business districts. The city thus became dense and populated coupled with all types of social evils during this period of its evolution. The shadow or exposure of the city covered wide areas. The rural-urban distinction could be made easily in the industrial cities. Thus the industrial cities were marked with the characteristics of the modern city which we witness during our times. The pace of growth stretched the existing infrastructure to its limits and beyond. Pollution increased in these cities due to industries without industrial waste management. These cities, therefore, had several negative aspects like development of slums, lack of infrastructure, unhygienic conditions, disparity between rich and poor, congestion, crime and delinquency.

Reflection and Action 9.2

From your own imagination write about a virtual city of the future based on science and technology in about two pages. If possible, you may even give a sketch of this type of city.

Share your essay with other students at your Study Centre.

Post-Industrial City (a future construct)

Cities are agglomerations as you have learnt so far. The reason for their growth was the need of the people and their activities who reside within their limits. The industrial cities grew as stated, as a result of the industrial revolution. Now in advanced countries there may be two trends which can affect the future form of city. The first trend is the replacement of manufacturing is the information processing stage. The second is the advance in telecommunications. In the contemporary period face to face communication does not require physical proximity it is possible through other means, such as, through internet, mobile etc. Industrial houses do not require establishing their offices in a particular city only. The post-industrial city in a way will be no more a city. People may be located anywhere across the surface of the earth in their respective houses. Expansion of the service sector of the economy and development of Call Centres, for example, are all evidence of this factor,

On the basis of the above types of cities we may conclude that no single system of classification can truly depict the varied features of the cities. But these classification and typologies help us to understand the general character of a city. If we consider the Indian city or for instance any European city, we can see more than one type in a single city. So in a strict sense we cannot give an accurate and precise typology of the cities. The maximum that we can do is to categorise them on the basis of their broad features. Most of the Indian cities are administrative centres of high, intermediate or low levels. But side by side they are also religious and cultural centres. The religious cities also happen to be where large scale production is also going on. So no typification system can be pure. Not long ago, a city was easy to define. In olden days it had a defensive wall around it. In due course, the wall was scaled and the city spread to adjoining areas. Delhi is a good example of this kind of city. Their functions thus also get diversified according to the changed time and changed needs of the people. So a single city may exhibit the character and nature of more than one type of city.

9.7 Further Reading

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Unit 10

Temporal Evolution of Ancient, Modern, Pre-Industrial and Industrial Cities

Contents

- 10.1 Introduction
- 10.2 Ancient Cities
- 10.3 Modern Cities
- 10.4 Pre-Industrial Cities
- 10.5 Industrial Cities
- 10.6 Conclusion
- 10.7 Further Reading

Learning Objectives

After studying this unit you should be able to:

- describe the features of ancient cities;
- explain the major characteristics of modern contemporary societies;
- discuss the nature of pre-industrial and industrial cities described by scholars like Gideon Sjoberg.

10.1 Introduction

In the previous Unit 9 Typologies of Cities, you had learnt about the different types of cities. In this unit the time element i.e., temporal factor has been considered in the formation of different cities.

Temporal analyses of cities refers to the changes experienced by a city through a period of time. These changes have arisen due to a number of factors. Historians have looked at social, economic, political and technological factors that have led to these changes. As you have seen in Unit 8 of this Block, cities have undergone change and during each period of history—ancient, medieval or modern—we see changes in the character of the city. The city can also be characterised as pre-industrial and industrial city. An industrial city is one that emerges on account of the process of industrialisation, such as Jamshedpur. A pre-industrial city is a city which has emerged not on account of the process of industrialisation, such as Banaras. It has been assumed by scholars that the pre-industrial city pre-dates the industrial city but this is not always true. The pre-industrial and industrial cities are not related to the time aspect only as they may exist simultaneously at the same time. Different kinds of cities that have existed at different points of time and performed function that were required by the regional/national economy and society.

We will now examine changes that have taken place in cities and categorise these different kinds of cities and look at their characteristics: The four kinds of cities that are seen in terms of chronological or temporal change are:

- i) Ancient
- ii) Modern
- iii) Pre-industrial cities
- iv) Industrial cities.

10.2 Ancient Cities

Archaeology has been useful for the study of ancient cities. An ancient city is identified by archaeologists on the basis of its size and from the scale of its remains. (Fagan, B., 2004). We will be examining the first cities that emerged in India. The cities first emerged during the Bronze Age and then the second phase of urbanisation took place during the 6th century B.C. First we will look at the Bronze Age cities:

Bronze Age

The earliest cities in India can be traced back to the 'Bronze Age' Indus civilisation that witnessed the emergence of well organised cities, planned and inhabited by specialists – such as carpenters and metal workers. **Bronze Age** refers to a period in history when there was an increased dependence on copper and copper alloys (when copper is mixed with other metals such as arsenic, tin or lead to manufacture bronze. V. Gordon Childe (1979) puts forward ten criteria based on archaeological data, to distinguish the earliest cities from older cities the villages found today. These are the ten features that he postulated:

- 1) In terms of size, the first cities should have had larger and more densely populated areas than any previous settlements, although considerably smaller than many villages found today.
- 2) The composition and function of the urban population differed from that of a village. There may have been citizens who were cultivating land near the city. The city must have accommodated full-time specialist craftsmen, transport workers, merchants, officials and priests.
- 3) Each producer paid a tiny surplus as tax to an imaginary deity or a divine king and the surplus concentrated in his hands.
- 4) Monumental public buildings not only distinguish each known city from any village but also symbolises the concentration of the social surplus. The city of Harappa in the Indus valley was dominated by a **citadel**, **rampart** and **baked bricks**. **Citadel** is a term used for that part of the city that houses the important buildings and is higher than the other parts of the city. It is often walled by brick or stone as seen in the excavations of the Harappan cities. A **rampart** is an **embankment** built around a space for defensive purposes. **Baked bricks** are those bricks that have been manufactured in a brick kiln.
- 5) All those people who were not engaged in food production were supported by the surplus accumulated in temples or royal granaries. The priests, civil and military leaders and officials absorbed a major share of the concentrated surplus and thus formed a "ruling class". They were exempt from all manual tasks. While the lower classes were not only guaranteed peace and security but were relieved from intellectual tasks. The ruling class did confer substantial benefits upon their subjects in the way of planning and organisation.

- 6) The ruling classes were compelled to invent systems of recording. Writing is a significant mark of civilisation. The engraved seals from the Indus valley civilisation provide evidence of writing.
- 7) The invention of writing or scripts enabled the clerks who were now relatively free to engage in the sciences, arithmetic, geometry and astronomy. Calendrical and mathematical sciences are common features of the earliest civilisations.
- 8) Other specialists supported by the concentrated social surplus, gave a new direction to artistic expression. The Bronze Age cities had artists/craftsmen, full-time sculptors, painters or seal-engravers who began to carve or draw likenesses of persons or things according to conceptualised and sophisticated styles which differ in each of the four Bronze Age civilisations.
- 9) A further part of the concentrated surplus was used to pay for the import of raw materials needed for industry or cult and not available locally. Regular 'foreign trade' over quite long distances was a feature of all early civilisations.
- 10) In the city the specialist-craftsmen were provided with raw materials needed for the employment of their skill.

Cities existed in and beyond the Indus Valley around 2500 B.C. The important cities have been located in Harappa in Punjab, Mohenjodaro in Sind, and Lothal in Saurashtra. The city of Mohenjodaro clearly revealed many features of urbanism. It was a well planned city, with an efficient drainage system. The houses were well-planned with sanitation facilities. A large granary has been found, an assembly place and a ritual centre. The cities of Harappa and Mohenjodaro had a citadel made up of mud and mud brick which was raised above the ground and demarcated from the rest of the city. The important buildings for administrative and ritual purpose were placed here. Thus, we see systematic town planning, administrative functions, military, agriculture and commercial economy, craft production and ritual organisation.

Second Urbanisation

The second phase of urbanisation in India can be seen during the 6th century B.C. Historians view that the second phase of urbanisation was ushered in due to several factors. It is also known as the early historical period in Indian history and we see the emergence of a definite system of coinage which was essential for organising trade and commerce. There was an abundance of silver punch-marked coins. There developed a system of writing and there is the reappearance of the baked brick which is used for monumental architecture, including fortification. (Ghosh, A. 1973 : p. 14).

There were different kinds of cities during the ancient period (Rao, M.S.A. 1991 : p. 21-69). The *Vastu-Sastra* talks about the science of town-planning and presents different categories of towns based on the kind of functions it performed such as trade, commerce, manufacturing, administration and military. Now we will discuss the different kinds of cities categorised on the basis of the functions they performed:

Nagara: This was an ordinary fortified town where inland trade was an important activity.

Pattana: This was a large commercial port situated on the bank of a river or sea. It was inhabited by the trading castes such as the *Vaishyas* and

abounds in a lot of wealth and a large number of valuable luxury objects such as silk, perfumes and other articles.

Dronamukha: This was also a market town located on the delta of a river or sea shore and was frequently visited by traders. It was also a small marketing centre among four hundred villages.

Kheta: This was a small walled town situated on the plains, near a river or a forest, located in between villages and having communication facilities.

Sakhanagara: If a kheta was combined with local industries such as mining, then it was known as Sakhanagara.

Kharavata: It was similar to a kheta but was an inland town lying in the midst of about two hundred villages.

Nigama: This was mainly a market town but consisted of artisans. It was also a resting place for traders and caravans.

Rajadhani: The royal capital or *Rajadhani* which was another type of elaborately planned town. It was surrounded by walls and ramparts and ditches and military outposts were constructed for defence purpose. Separate places were assigned for the palace, royal officers, the army, citizen's quarters and shops. It also provided services to the citizens as several tanks were constructed, wells were dug, gardens and temples were also made for the people. An example was the capital of the Mauryan Empire, Pataliputra.

Durga: This was a fortified town equipped with a weapon store and also had facilities for the storage of food products. It was mainly a military town and there were many military encampments. The *sivira* was an encampment of a king's army that was out on war.

Senamukha: This was a military base which was also a suburban town, located at a distance from the main city and protecting it.

Shaniya: This was a local fortified town which was the seat of the king with barracks and police. However, it was not a permanent capital.

Matha or Vihara: Another kind of town that was a centre of education or the university town, called the Matha or Vihara. A classic example of a university town was Nalanda, which developed as a centre of learning and a centre of Buddhism. Excavations at Nalanda reveal that there were several cells in the monastery for the monks.

Temple towns: This formed another category of towns. There are central spots where these temples are located and have several circumambulatory paths where the devotees can move around the deity as a form of worship. Some examples of this type of city are Tirupati in South India or the Puri temple in Orissa.

Sacred cities: Besides temple towns there were sacred cities which attracted pilgrims. Towns like Haridwar, Nasik, Ujjain and Mathura were important pilgrim centres in India.

Of all the different types of cities during the ancient period the capital cities were the most significant. Pataliputra was an important city during the Mauryan Age. The area of the city was 20 square miles. It also had fortification, towers and gates. It remained a seat for political power under various dynasties and with the Buddhist influence it was also a centre of learning. It even had a large population during the reign of King Chandragupta. Ujjain about which you learnt in unit 8 of this Block, was

another important city during the ancient times. It was not only the ruling centre of the Saka dynasty, but it was considered important from a religious point of view by the Hindus, Buddhists and Jains. It was also an emporium of trade, exporting precious and semi-precious stones. In southern India, Kanchipuram was the capital of the Pallavas and Cholas. It was also a place where a number of religions flourished, as it was home for the Vaishnavites, Saivites, Jains and Buddhists. Several literary and artistic developments took place in this city. It was a well-fortified city and the temple dedicated to the Goddess Meenakshi is situated at the centre of the city. It also housed the royal palace, the royal classes, the merchants and artisans and various religious specialists.

10.3 Modern Cities

Generally speaking 'modern cities' have been defined as 'those that belong to the present and recent times' (King, A.D. 1930 : pp. 1-19). All terms of 'modernisation' refer in some way not only to change but to the emergence of efficiency, increased human and spatial interaction, and extraordinary complexities of social relationships (Weiner, M. 1966 : pp. 140-155). Cities are associated with more efficient means of production and provide heterogeneity of goods and services and with a range of contacts among peoples and places. Modernity can be seen in two ways:

- It can be seen in terms of a model of a 'modern' western city.
- It can also be compared with its own immediate past and looking at the amount of 'development' that has taken place.

A third approach would be to first define an ideal pre-modern city and then use it as a model to focus on the kind of changes that have occurred in the 'modern cities'.

The dimensions of a modern city are as follows:

- i) Spatial morphology and location
- ii) Economic Structure
- iii) Demographic and Sociological Structure
- iv) Technological structure.

Spatial morphology and location

Many modern cities have been developed either through colonial enterprise or due to administrative and political reasons by its colonial rulers. Cities generally have a dual character, as they comprise a traditional section along with the modern characteristics. We see this in the case of Delhi, as it comprises both Old and New Delhi. Old Delhi represents the traditional part, whereas New Delhi comprises the new elements. In its spatial structure, it is relatively a new city, founded and developed primarily after the beginning of the nineteenth century. Commercial activities tend to dominate the central part of the city rather than government buildings and religious structures.

Economic Structure

The traditional city was primarily concerned with religious, ceremonial, political or administrative functions. It is characterised by an overly large tertiary or service sector. Tertiary sector refers to those services or professions which involve activities other than production such as teaching, administration, transportation, etc. The city also provided large markets

for goods that were not brought from outside, but had to be made within the city itself.

Demographic and Sociological Structure

In the modern city death rates have fallen significantly, but the birth rates have continued as before or even risen. Due to the decline in the infant mortality rate, there has been a natural population increase in large cities. There is added pressure due to the migration of people seeking employment or for educational purposes, etc.

There are other social trends in 'modernisation' such as changes in family structure, literacy, sex ratio, etc. In the sphere of changes in values, attitudes and forms of social relations, it has been observed that 'rural' and 'non-urban' forms of social organisation, values and attitudes persist in the city. During social occasions such as marriage or the birth of a child, city dwellers tend to follow social observations.

Technological structure

The modern cities witness technological changes such as a network of good roads, modern and efficient means of transportation, etc. These amenities are important in large cities for communication networks with suburbs. Suburbs are satellite townships situated on the outskirts of large cities and towns, providing residential areas for the population working in the cities.

Reflection and Action 10.1

From the map of India, prepare a list of cities that you think are modern. Why you think they are modern? Write a page on your findings about modern cities in India. Compare your list with those of other students at your Study Centre.

10.4 Pre-Industrial Cities

The term pre-industrial cities (Sjoberg, G. 1971 : pp. 11-70) has been coined by social scientists for those cities in Asia and Africa that have arisen without stimulus from a form of production that is not associated with the European industrial revolution. It is characterised by a complex social organisation, a highly developed state or religious institutions and a rigid class structure. Now we will discuss three aspects of a pre-industrial city:

- i) Ecological Organisation
- ii) Economic Organisation
- iii) Social Organisation.

Ecological Organisation

Pre-industrial cities depend for their existence upon food and raw materials obtained from outside and they serve/act mainly as market centres. A number of handicrafts are also manufactured in these centres. Important political, religious and educational activities take place in such cities. For example, the cities of Benaras and Haridwar are best known as religious centres. Benaras is also famous for the manufacturing of Benarsi sarees, which are not machine made but hand-made. Benaras is also an important pilgrimage centre for the Hindus. The people offer a variety of offerings

to the deities in the temples. In this manner the temple priests and administrators get access to a variety of resources. The people living in the city perform a variety of administrative, economic or religious services.

The internal arrangement of such a city is closely related to the city's economic and social structure. The provision of modern transportation systems, good roads, etc. are lacking in these cities. The city may be congested as there may be just narrow passages for people and animals used for transportation. The city may also face sanitation problems due to its congested nature.

There are several social divisions reflected in such a city. There may be different areas allocated for different sections and these areas may be demarcated by a wall. Even the occupational groups, reside apart from one another. Often a particular street or part of the city is occupied by members of a particular trade or craft. For instance, in many cities in India we see areas that are known for a particular craft or for a particular kind of trade. Such instances are Johari bazaar in the city of Jaipur and Chandni Chowk in Old Delhi, which are famous for their silversmiths and goldsmiths.

Finally, in pre-industrial cities it is not the 'business-centre' which holds the position of dominance, but it is the religious centre that is usually the focal point of community life. In Banaras we see that the 'ghats' are of significance as the temples and shrines are situated on the banks of the Ganga. People visit Banaras for a holy dip in the river Ganga.



Ghats of Banaras City

Economic Organisation

The economy of the pre-industrial city differs from an industrial city. The main difference is that there is the absence of industrialism. Industrialism is defined as a system of production where inanimate or non-living sources of power are used to increase the amount of production. Pre-industrial cities depend for the production of goods and services upon animate (human or animal) sources of energy—used either directly or indirectly through mechanical devices such as hammers, pulleys, and wheels. In industrial societies, electricity and steam is used, which increases the quantity of production. This form of production which requires the development of several institutions, results in changes in the ecological, economic, and social organisation in industrial cities.

Another aspect of pre-industrial city is associated with its unique system of production. There is an absence of fragmentation or specialisation of work. The handicraftsmen participated in nearly every phase of the manufacture of an article, and carry out the work in his own home or in a small shop nearby and within the limits of certain guild and community regulations, maintaining control over the methods of production. Most commercial activities also are conducted in pre-industrial cities by individuals without a highly formalised organisation. The craftsmen market their own products. The various occupations are organised into what have been termed "guilds." Guilds have existed for merchants and handicraft workers e.g., goldsmiths and weavers.

In a pre-industrial city there is non-standardisation in the way goods are manufactured as well as in the products and this is also seen in the way it is marketed. Generally, there is no fixed price allocated for the goods. Business is conducted in a leisurely manner and earning money is not the sole criterion. Furthermore, the sorting of goods according to size, weight, and quality is not common.

Social Organisation

There is a clearly demarcated class structure and family, religious, educational and governmental systems. The most striking component is a literate elite controlling the masses as well as dependent on it, as we see in the case of the caste system in India. The elite comprises of individuals holding positions in the government and in religious and educational institutions in society. The masses produce handicrafts and provide services mainly for the elite. There is a sharp division between the elite and the lower class, but in both these classes there are various levels as well. The members of the elite families enjoy power and property. Their position is legitimised by sacred writings.

Social mobility in such a city is minimal. There is no threat to the elite from the lower classes within the city, it usually comes from outside. There is an absence of a middle class in the pre-industrial city. The marginal or 'outcast' groups, who are not an integral part of the dominant social system, play a significant role. The untouchables or lower castes in India provide a number of services to the upper castes. They rank lower than the urban lower class, performing tasks considered especially degrading, such as burying the dead. There is a formalised system of age grading as a mechanism of control in pre-industrial cities. In a family the eldest son is privileged. Children and youth are considered subordinate to parents and other adults. Older persons hold considerable power and prestige in society.

On the peripheries of the modern city a number of residential suburbs are located, which are economically tied to the central city. The modern city is much larger than its predecessors. Some of these cities specialise in different kinds of activities and they carry out manufacturing activities to a large extent. Modern cities also play a number of roles such as administrative, commercial and other service functions. The development of the modern city is linked with industrialisation, with the development of manufacturing processes based on the factory. Most of the land used in modern cities is used for industrial purposes. A large segment of the population is employed in secondary or industrial activities. The factory and the modern city are associated with the usage of non-living sources of energy for manufacturing purposes.

10.5 Industrial Cities

A city is known as a city not only because more diverse populations live together but also because more work and different kinds of work are performed there. It is not just the density of population that makes a city, but the population must be organised into a meaningful structure (Anderson, N. 1964 : pp. 134). Let us now look at some of the characteristics of a city:

- i) Ways of Work
- ii) Mobility and Transiency
- iii) Impersonal Social Interaction
- iv) Time and Tempo Compulsions
- v) Family Living and the Individual
- vi) The Man-Made Urban Environment.

Ways of Work

Work in cities is usually described as industrial work which does not mean work in factories only. It also includes work in commerce, transportation, in communication and many other services. Mainly non-agricultural activities are carried out such as different kinds of public works mainly carried out in cities. Emphasis is placed on the use of machines and on refined ways of organising the workplace to increase the efficiency of workers.

Mobility and Transiency

There is continuous movement of people towards the city and away from it, or even from one city to another. This movement of people is due to the search for better opportunities found in the cities which are centres of wealth, power and creativity. The mobility or movement of people increases as cities become more and more industrial and because of mobility industry often increases. There is another kind of mobility seen in cities where people change jobs. This type of mobility is known as occupational mobility. Occupational mobility may also take place when a person shifts from a lower to a higher position.

Impersonal Social Interaction

In a city the social interaction among persons is usually impersonal. There is an element of anonymity in city life. However, there is primary group interaction between family members, friends and neighbours. The 'community' as a pattern of association is not destroyed, but certain new forms called 'networks' replace old neighbourhood forms. Large family networks may diminish but friendship networks remain alive.

Reflection and Action 10.2

Prepare a diagram showing you as an ego and all your relationships with family, friends, servants, service men, etc. with whom you have interacted for a day. List the relationships which fall under the family kinsmen and friends category. List other kinds of relationship as well which are impersonal. Write a page on the topic of "Urban Society and its Nature". Discuss whether your social life is urban or rural depending on the lists of relationship or interaction that you underwent in a day.

Share your views with other students at your Study Centre.

Time and Tempo Compulsions

Due to the nature of the 'industrial' work, life in the urban community becomes 'clock regulated'. There is some amount of order maintained when it comes to maintaining regularity and punctuality. Village life is strictly controlled by the cycles of nature but city life is regulated by more precise timing through the clock. For instance there are fixed working hours for a number of people working in industries, for transportation, etc.

Family Living and the Individual

Traditionally, the family has been, and in a large measure remains, the unit of production and consumption. The status of the individual depended on his or her membership in the family, mainly a joint family. The joint family system begins to disintegrate and the nuclear family system begins to emerge. The family tends to lose some of its old functions such as economic and educational functions. Other institutions like Play-Schools, Day-Care Centres and Creches, etc. take over some of the functions performed by the family.

The Man-Made Urban Environment

The urban environment is man-made and mechanical. The city has been called 'unnatural' as everything has been constructed and created by men such as pavements, gardens, streets, etc. Several changes are made in the environment to provide civic amenities such as the laying of water supply lines, sewers, channels for electric power or gas supply. Transportation maybe carried out under-ground, overhead or on the landsurface. Lighting system is provided on the streets for easier movement of people. There are phone lines laid and other systems used for better communication.

Now after looking at the meaning of city life, let us now look at the meaning of Industrialism:

Industrialism is related to the work that is carried out in a city. In industrialism hand labour is replaced by machines and these machines are further replaced by even more efficient machinery. Creative methods are used for organising the work process. In most industries unskilled labour has been gradually eliminated. The features of an industrial city are as follows:

- 1) A new role has emerged of the city, as it is not restricted to merely a single market selling one kind of good but there are special markets for each good and each service. Each market serves customers who may come personally as well as customers who send in their orders. The city is also a market for special services, such as the publishing business, finance and insurance, selling of machinery and tools, etc. All these services are separate from each other and also interlinked to each other at the same time.
- 2) Cities acquire a new character with the rise of industrialism as they become highly interdependent on each other and there may also be competition with each other. There are linkages between larger cities and smaller ones.
- 3) The people in the city are usually engaged in industrial work. Tasks become specialised and specialisation leads to interdependence of activity. There is individualism to a great extent due to the impersonal nature of his/her work. Other workers depend on his/her work as s/he depends on their work.

- 4) There is a need in cities of some regulating authority to regulate the dealings between buyers and sellers. Authority was needed to establish weights and measures, money values had to be decided, disputes had to be resolved; authority was needed even to establish a market. This authority that keeps things in balance takes the form of a government. The governments are at various levels but it is the local government that is the principal civil authority.
- 5) Industrial cities are usually planned. Planning may imply the pattern of streets, parks, housing areas, etc. There may also be an interest in planning the distribution of industrial sites and related facilities. There maybe some people who are concerned about housing programmes and the rehabilitation of slums.

10.6 Conclusion

In this unit you read about the characteristics of cities and how a city undergoes change. These changes that a city undergoes are a continuous process. Cities have undergone change and this has lead to the emergence of four kinds of cities; ancient, modern, pre-industrial and industrial. We see constant changes in the character of the city. We see the emergence of the earliest cities in India in the form of the Ancient city during the Bronze Age and later during the Second phase of Urbanisation. The Modern city is a more recent phenomenon. The city can also be characterised as pre-industrial and industrial city. An industrial city is linked with the process of industrialisation. A pre-industrial city is a city which has not witnessed industrialisation and has other factors leading to its formation.

10.7 Further Reading

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Unit 11

Functional Classification of Cities: Commercial, Administrative and Pilgrimage Towns

Contents

- 11.1 Introduction
- 11.2 Functions of Cities
- 11.3 Commercial Centres
- 11.4 Administrative Towns
- 11.5 Pilgrimage Cities and Towns
- 11.6 Interconnectedness among Commercial, Administrative and Pilgrimage Centres
- 11.7 Conclusion
- 11.8 Further Reading

Learning Objectives

After studying this unit you should be able to:

- describe the different functions of cities;
- discuss the nature and character of commercial centres;
- explain the characteristics of administrative towns;
- describe the features of pilgrimage cities and towns; and
- analyse the interconnectedness among commercial, administrative and pilgrimage cities and towns.

11.1 Introduction

In this unit the functions that a city performs have been discussed. Functional analysis of cities and towns is based on the various functions which they perform according to the needs of time and place in any country. They exist to perform certain functions and provide certain services for the area around them. Consequently each urban centre, whether a metropolis or a small town can be characterised in terms of their functionality. In other words the activities of people of that particular area constitute the function of that urban area. It is the functional specialisation which distinguishes them from the surrounding areas. Their status is generally determined by the number and nature of functions they perform. With the rapid pace of urbanisation and increased opportunities of employment the functional specialisation of cities and towns have become more and more complex. Though several functions are common in most of the towns and cities, there exist marked disparities in the degree of functional specialisation as determined by the factors of site and situation, economy and culture and the stages of their development.

When important cities and towns are classified according to their respective functions, it stands out clearly that these functions cannot be performed effectively by any substitute centres. Examples of this phenomena are service centres, local market centres, mining centres, shipping port cities etc. For example, it would be more profitable to have steel industries near iron ore sources.

11.2 Functions of Cities

The functions of towns have been investigated within a number of conceptual frameworks including central place theory and the urban economic base. It might be asserted that the geographical study of urban functions is well accommodated within these two frameworks, but if this claim is accepted then it is necessary to explain the need for functional classification of towns and cities.

According to Auroousseau's (1924) there are six urban functions:

- i) Administrative function.
- ii) Defence functions.
- iii) Cultural functions.
- iv) Production functions.
- v) Communication functions.
- vi) Recreation functions.

He noted that while a combination of these functions was performed by any given city, one function usually tended to overshadow the rest. Thus he enunciated the concept of functional differentiation and functional specialisation.

Cities serve manifold functions in the economy and culture of a society. All cities have some functions in common, all cities have some functions peculiar to their sites and situations, to the people whom they serve, and all cities have some functions peculiar to their development and their history. Hence cities may be classified more effectively on the basis of their functions as a criterion than perhaps according to any other attributes.

The classification procedure that is adopted should produce groups of towns about which the greatest number, most precise, and most important standards can be made for the differentiating characteristics, and more generally, to be justified on other than pedagogic grounds. Thus any classification should be relevant to a well defined problem or group of problems. Thus when towns and cities are classified we not only want to be able to say something about the function or the functions typical to that group; but there should be knowledge of additional characteristics of the towns in that group.

Several classifications of cities in terms of the functions that they perform have been developed within the past decade by different social scientists and geographers. For example, Chauncy D. Harris and Edward L. Ullman have classified cities as:

- i) Central place: These areas perform comprehensive services for those areas which fall outside of the central city. The central places are often seen in the big cities and they are like the main market. There may be several services like production, distribution and other trading

works and functions. The central places are the core part of any city. But in modern urban centres and in modern cities there may be many central places, a number of business centres as well as industrial and residential areas.

- ii) **Transport cities:** They perform bulk and allied services along the transport routes, and they are supported by the areas that may be remote in their distance but close in connection because of the city's strategic location on the transport routes. These towns either produce transport equipment or serve as the main transport junction or they are situated and connected near rail and road links. Transport towns are situated near a chain of routes of transportation. Transport cities are also cities which are situated at the meeting point of transport routes. Transport cities are very crucial in modern days of urban functions because the main cities provide several types of goods and services to the other parts of the country.
- iii) **Specialised function cities:** These cities perform a single service such as mining, manufacturing, education, recreation or administrative. The specialised function towns and cities are thus located in such a way that they may perform any single and specialised function and this may be due to their strategic location like their closeness to coal mines, river banks, iron ore etc. But it should be kept in mind that all functions are likely to be present in some degrees in every city.

Thus we have seen how the functional classification is very vital for city analysis and city understanding. Functional classification of towns indicates the activities mix of urban places. In India the Census has classified ten main urban functions. These are as follows:

A) Primary functional activities

- i) Cultivators.
- ii) Agricultural labourers.
- iii) Livestock, forestry and fishing.
- iv) Mining.

B) Industry

- i) Manufacturing.
- ii) Processing.
- iii) Servicing and repairs.
- iv) Construction.

C) Trade

- i) Trade and commerce.

D) Transport

- i) Transport.

ii) Storage.

iii) Communication.

11.3 Commercial Centres

Trade and commerce were the two major activities of medieval towns and cities as discussed earlier. Merchants and traders were organised into guilds. Besides the distribution of goods and services these guilds were acting as banks. They usually received public money and paid regular interest on it. Guilds also functioned as ordinary courts and the king recognised their customary laws. In the past also skilled workers were organised into factories. R.K. Mukherjee has presented a systematic account of state enterprises in the Mughal period. Besides state enterprises there were individual entrepreneurs. There was an interesting fact that the growth of the commercial centres have taken place in the respective state capitals also. This happened because the merchants needed the kings and state patronage for their safety. The merchants were organised on the basis of appropriate hinterland and availability of channels of communication. There were both inland market towns and the sea ports for trade and commerce.

The rise and fall of different commercial towns and cities and markets are dependent, on political security. They are also dependent to a great extent on hinterland commodities, transport, trade and commerce in large cities, and the discovery of new maritime trade routes. Thus with the discovery of new sea trade route by Vasco-da-Gama, Calicut became an important commercial centre, and with the development and growth of Bombay under British rule, Broach and Surat suffered a setback. However, many market towns and urban places which were dependent on the inland supply of raw materials continued to function despite the political neglect and different changes in international markets. There was also a network of commercial centres with a multiple level of hierarchy. The commercial centres came up more smoothly with the political stability. Market towns and cities had a large number of merchants in contrast to the villages. Many craftsmen such as weavers, oilmen, smiths and shoemakers traded their goods and maintained contacts with both large market towns and the villages. The increased magnetisation led to the consumption of some urban goods and adoption of the urban style of life.

Today the cities have the focal point for economic processes and activities. They exist and develop in terms of their commercial and economic activities. The cities provide commercial services to their hinterlands and the surrounding areas. The city offers a wide variety of goods and services and these are sold and purchased both within and outside the city. From this viewpoint, we can say that in modern times the cities are essentially a centre for commercial and economic activities.

In the post-independence period, the emergence of mining towns is a typical example of commercial towns. Their character and nature can be easily seen to be based on the mining activities only. The list of mining towns in India is large. Commercial agriculture in modern times also gave rise to many towns and cities. There are lots of tea plantations in south India, Assam and other parts of the country. These tea plantations have given rise to several factories for processing tea. According to Ashok Mitra (1973) there are about 656 towns and cities which are recognised as agricultural towns and centres. As perceived earlier, agriculture was a village activity, but today it is no more a village activity only, rather it is also an urban phenomenon. A substantial number of India's innovative and prosperous farmers live in towns. The Green Revolution in Punjab and western Uttar Pradesh had vitalised and generated a number of towns which provided a number of amenities to the new rural middle class farmers and agriculturalists.

Cities and towns have been main centres of secondary activities for a long time. In post independence period we have seen a number of secondary activities which have come up in the modern cities and towns. After five decades of independence, India has possessed a large number of commercial and industrial cities. We can see that industrialisation and the commercialisation process have already contributed to the rapid growth of cities in India. In the contemporary period the main metropolitan cities like Mumbai, Kolkata, Chennai and Delhi are the most important centres for commercial and industrial activities. Apart from the metropolitan cities we have other port cities like Visakhapatnam, Cochin, Surat, etc. which have been prime centres of commercial activities. The other such cities are Ahmedabad, Kanpur, Poona, Bangalore and Hyderabad. The emergence of Hyderabad and Bangalore are the two recent examples of the commercial and industrial cities which have emerged in recent times due to their commercial and service industries. Bangalore and Hyderabad are famous for their software industries worldwide. On the other hand, the growth of tertiary sectors also contributes in a direct way to the city growth. In every city, part of city tertiary activities is meant for the city's own population. The role of the tertiary sector in the city growth and development is very important in contemporary times. The city and the countryside interact more closely today than ever before. The range of tertiary sector and activities has expanded to include educational institutions, hospitals, cinema houses, courts, banks and other financial institutions. Thus, we can say that the contemporary towns and cities are acting as service centres for rural areas. There is a daily movement of people from rural to urban centres for these tertiary services. Thus we have seen how towns and cities are acting as centres for all the three levels, viz., primary, secondary and the tertiary sectors.

Reflection and Action 11.1

Identify a city in India, such as, Patna, Jaipur, Agra, Chennai, etc. Visit a library and collect as much material as possible on this city and the dominant function for which it is known.

Write an essay on "The Functions of ----- City". In about two pages. Also note down the type of function that it performs. Discuss your essay with the other learners at your Study Centre.

11.4 Administrative Towns

Administrative towns and cities have a long history and still they occupy a central place in the emergence of the city. Several administrative urban centres emerged and declined in Indian urban history with the rise and fall of different kingdoms. Pataliputra, Vijaynagram, Madurai, Golconda are all examples of administrative cities and towns which are no more identified as administrative towns. It is noteworthy that different political regimes had selected the same cities and urban centres for locating their political capitals. Thus each of the several cities of Delhi was built by a different dynasty. Similarly, in the case of Agra in the Medieval period and Pataliputra have become capital cities again and again.

So we can say that what was being known as administrative towns in earlier times are now known for some other function. The emergence of towns and cities as important places in Indian history has not lost significance even now. Throughout history the administrative cities have held an eminent position among the various types of cities and towns. In the past history, the wealth and happiness of the kingdoms were measured

in terms of the prosperity of capital cities. At the lower levels several provincial and lower administrative capitals owed their importance to political and administrative processes within the kingdoms. So we can say that the capital and other administrative cities and towns have kept a significant place in Indian society. At present too, great importance is attached to administrative capitals.

Several administrative towns and cities are the headquarters of different states such as Patna, Lucknow, Chandigarh, and Guwahati etc. Administrative towns not only include state capitals but also other cities and towns which perform other important administrative and public functions. The colonial rulers established a series of cities which served as administrative centres for them. There were also many small kingdoms at that time whose capitals vary from small to big urban administrative towns and cities. We have the sources to establish the fact that at that point of time Banaras, Poona, and Ahmedabad were medium size towns, whereas Mysore, Udaipur, Jaipur, Bikaner etc. were small towns. Throughout history it was the administrative towns and cities which have flourished and dominated the urban scene in terms of their numbers and population.

During British rule over India, the administrative factor played an important role in the process of urbanisation. The provincial capitals, the district headquarters, and the tehsil towns grew in importance and overshadowed the earlier urban centres. The administrative towns and cities began to acquire a new urban form in the presence of the civil lines and cantonments. The national capitals and some of the provincial capitals as well shifted to hill stations, such as Shimla, Darjeeling, and Shillong during the summer, thus generating a new class of transient capital cities. After independence, the administrative aspects of urbanisation and the growth of the cities and towns is seen in the emergence of new state capitals like Chandigarh, Bhubaneswar and Gandhinagar. The number of states in India has increased and the political process in India could well bring about further division of the larger states on administrative and political grounds. Naturally it increased the number of administrative cities and administrative towns in the country. This paved the way for the emergence of new state capitals and the related urban paraphernalia. At a lower level there has been a constant increase in the tehsil and district headquarters which is fast growing in the post independent era. Thus, we can see a close relation between administrative cities and origin and growth of other types of cities. While we have seen that the commercial and industrial cities also flourished during the earlier period, but primarily the commercial activities were present due to the administrative character of these cities and towns. We have already mentioned above that during the colonial phase the administrative reasons and factors have played an important role in the emergence of various capital cities in India. During this period the commercial centres of earlier period have transformed into administrative cities in the forms of the provincial capitals, tehsil headquarters, and district headquarters. The administrative towns and capitals began to acquire a new urban form in the form of civil lines and cantonments.

11.5 Pilgrimage Cities and Towns

Pilgrimage journey is a hierarchical form of rite of passage. It involves mainly three stages of functions. The first is initiation, second is liminality and the third one is reaggregation. The first stage is the awareness to start the journey; the second is the journey itself and the different experiences of the pilgrimages; and the last stage is returning home from

the pilgrimages. The notion of pilgrimage has four main connotations in Hindu religious literature viz.

- i) a route going to a place where one can receive manifestive power.
- ii) the bank of a river where one can take the holy dip as the rite of the purification,
- iii) a sacred site where lies the power of manifestation and finally,
- iv) the religious territory which became sacred due to several divine activities and work of the Almighty.

Box 11.1 Sanctity of Pilgrimages

The studies of functional classifications of the pilgrimage centers are quite necessary as Indian religious entity is based on the different types of pilgrimages and holy journey. Above all, pilgrimages are universal in character. A pilgrimage belongs to human experience of sanctity of place. It also generates a particular geographical behaviour in journey and rituals performed as expressed in the ties between the religious attitudes and lived space. The sanctity of place forms a life cycle like that of human beings. During medieval period many writings are available describing the glory of holy places in different ways at different magnitudes.

Religion always played an important role in the life and culture of Indians. There were several religious centers which emerged in India side by side with other urban centres. It is a well known fact that Hinduism comprises various forms of rituals. Among the various rituals there is a practice of pilgrimages. The most important places of worship were temples, which were situated in various towns and cities. The Hindu temple was the house of God and constituted a self-sufficient and autonomous unit. In olden times it is known that there were no transport facilities like today, people and urban communities often grew around temples and sacred places, mostly to cater to pilgrim needs. This paved the way for traders and other business communities to establish their own trade and business in these temple towns. In other words the flow of pilgrims created a circulation network of a religious nature, promoting secondary flows of traders and artisans who catered to the needs of these pilgrims. The pan-Indian centres of pilgrimages were situated in all parts of the country from Kedarnath, and Badrinath in Himalayas in the north, to Rameswaram in the south. Puri in the east and Dwarka in the west of India.

Holy places thus contributed to the circuit pattern of the pilgrimages. This included the most important pan-Indian religious centres. But it is not compulsory that all the religious centres develop into full-fledged urban centres. In recent times the most urbanised religious centres are Allahabad and Varanasi or Banaras. This could be explained by the fact that both these cities had significant locational advantages and their central regional locations encouraged their urban development, much beyond their role as pilgrimage centres.

During the medieval period many writings are available describing the glory of the various religious places in different ways at different magnitudes. Many temples have a network of subsidiary temples but some didn't have subsidiary temples. These temples usually did not develop into fullfledged urban areas. Only temples in urban centres which had been connected with military or trade centres became part of fully evolved urban centres.

Geographers and social scientists divide the holy places and pilgrimage centres into mainly three groups.

- i) The holy places near a river or the water flows.
- ii) Particular deity site or any shrine which is associated with a particular deity.
- iii) Mandala sites which have importance in terms of the visit paid by the worshipers. For example, Varanasi or Benaras, Mathura and Kashi are the examples of some of the mandalas which a devotee tries their level best to visit once in this life time.

The holy places which are near water flows are numerous in the Indian subcontinent and in the country. Examples of pilgrimage centre which are situated on the banks of rivers are Varanasi, Haridwar, Rudraprayag, Buxar, Allahabad, etc. Similarly, there are the urban areas in which a particular deity is assumed to be born or has a special influence on that particular place. This urban centre attracts lots of pilgrims annually. The result is that they are now more and more urbanised due to the flow of devotees. The last category comprises mandala site. Since ancient times there are several mandalas which are prescribed for the Hindus for the pilgrimage. These are centres like Badrinath, Rameswaram, etc. so we can say that the mandalas also have a significant place in the growth of urban centres in India.

The role of religion and pilgrimages are of particular interest to sociologists and this is a special case for urban growth in India which is not found anywhere in the world. This is due to the fact that India is dominated by its Hindu population and the religious importance of the pilgrimages is immense in this religion. Talking about other religions like Islam and Sikhism, we have several places which can be termed as their holy places and is being visited by the respective followers. But there is a difference between the Hindu pilgrimage centre and the other religious communities' holy places. Places like Ajmer Shariff and Jama Masjid of Delhi are important for Muslims in India, but we cannot claim that the cities of Delhi and Ajmer were constructed for this purpose, or that these cities are known only for the pilgrimage purpose.

Reflection and Action 11.2

Have you visited a pilgrimage centre recently or in the recent past? If so, describe the pilgrimage centre and the nature of the city in which it exists in about two pages. You must focus on the religious element and its socio-historical significance for the people in general. If you have not visited a pilgrimage centre, read about a centre like Haridwar or Tirupati and write about its nature and function as a pilgrimage city.

Share your account with other learners at the Study Centre where you attend counselling sessions.

11.6 Interconnectedness among Administrative, Commercial and Pilgrimage Centres

The cities since ancient times have been formed for administrative, commercial or religious purposes. The pre-colonial urban centres tended to be political at the core. This can be seen from the fact that the rise

and fall of the city structure was closely associated with the rise and fall of the regime, though the addition of commercial and religious activities would give the urban centres a certain immunity from political vicissitudes. This was also due to the fact that the merchants needed protection for their trade and commerce. To protect and profess the religion, the kingdoms also started building several beautiful temples and shrines during this period. These towns were built around the ruler and his kinsmen and other followers. Physical changes in these towns and urban centres during the 19th century can be analysed as the urban centres were used and built as administrative outposts for collecting land revenue and other taxes. They were also used as an army post etc. particularly during the British period.

Thus, when a ruler in pre-colonial period built a city, lots of commercial and religious activities were bound to occur. The royal towns and cities were elaborately planned. Within the metropolis a separate place was assigned for the royal palace. Temple towns were formed with distinct characteristics. They had several successive rings of circumambulatory paths to go round the central plots where the temples were situated. A number of minor shrines were also set up in these towns. A temple town such as Srirangam, Tirupati, Kashi or Puri were the centres of diverse cultural activities. The employees of the temple included priests, musicians, attendants, dancers and other staff. Generally, the temples maintained educational and other cultural institutes. Temples were also landowners contributing in their own way to the economic development of the region. Temples in some parts of south India were also corporate bodies exercising secular powers. The Tirupati temple is one of the richest temples in India and funds several institutions like University and Hospital, etc. Thus these temple sites attracted lots of pilgrims. While some were known as the all India pilgrim centres, others were regional ones. The former included Hardwar, Gaya, Nasik, Ujjain, Pushkar and Mathura. All these cities formed part of the sacred places of India and pilgrimage centres for the people. With the movement of large number of people to these centres there came to exist trading and servicing activities. Along with trade and commerce, the rulers were always present to protect these holy places.

Thus, we can see an intricate relationship between administrative, commercial and pilgrimage towns and urban centres in India. Religion and pilgrimage centres were socially being sustained by the political power. It is seen that kings and different kingdoms adopted a religion and military expeditions were motivated to spread of that religion. The king always acted as a chief patron of the religion. One of the chief activities connected with the religion was the construction of the temples and different types of mosques. The social organisation of various cities reflected all the three characters of the city viz. administrative, commercial and religious. It is also to be noted that different political regimes selected time and again the same site to build their political capitals. For example, the city of Delhi was built by several dynasties. A great city always nourishes a particular religion of its own. In other words the cities became the concrete symbol of the culture and aspiration of the emperors. Pataliputra under the rule of Samrat Ashoka, who turned Buddhist, changed its character completely. He disbanded his standing army and the city was thrown open for Buddhist pilgrims. Similarly, Jainism was promoted by the commercial section of society. Thus we can say that the sacred places were not isolated, rather they were closely associated with the administration and the commercial parts of the society and urban centres in Indian history.

11.7 Conclusion

A town or city normally performs various functions. In modern times, no city performs a single function. Rather, a city can be termed as a multifunctional entity. One can however, easily identify the single most dominant function of a city or town. But since the city is a dynamic process and a dynamic entity, the primary function can change over a period of time. An administrative city may later on become a pilgrimage centre and vice versa. Similarly, a commercial centre of yesterday may act as the political capital of today. So the functional classification cannot be done based on a rigid principle. The growth of the market and commercial towns followed a different pattern although trade and commerce were concentrated in the capital cities, as they needed political protection. They were also organised on the basis of the availability of channels of communications. There was also a proliferation of the temples and sacred places along with administrative and commercial centres and they ultimately became pilgrimage centres. With the growth of Sikhism, several sacred towns like Amritsar and Anandpur Sahib came into existence. These towns and cities thus functioned as religious centres. There is a network of pilgrimage centres now available for Hindus, Muslims, and Sikhs etc. The religious centres became closely associated with the broad ethnic and religious identities of the several communities.

The functional classification of the Indian cities thus poses several problems. There is an overlapping character of various cities and towns. They have a long urban history and are very complex in terms of economy, culture, planning structure. But the functional analysis is vital to understand the various types of cities. The functional analysis also gives us the understanding with a different viewpoint. Mark Jefferson (1939) has rightly remarked that, 'cities do not grow up of themselves; rather countrysides set them up to do tasks that must be performed in the central places'. In other words, a city functions not only for its own sake but it discharges certain functions for its surrounding areas also. The functional specialisation thus takes into account the surrounding areas of the city. The surrounding areas on the contrary functions for the need of the main city.

11.8 Further Reading

Rao, M.S.A.(eds) (1974). Urban Sociology in India, reader and source Book, Orient Longman, New Delhi.

Mitra, Ashok (1973). Functional classification of India's Towns, Institute of Economic Growth, Delhi.

Unit 12

Trends and Pattern of Urbanisation

Contents

- 12.1 Introduction
- 12.2 Census Classification of Urban Settlements
- 12.3 Trends and Pattern of Urbanisation in India Across Size Class of Urban Settlements
- 12.4 Pattern of Urbanisation: An Interstate Analysis
- 12.5 Trends and Pattern of Urbanisation Across States at the Size Class level
- 12.6 Analysis of Growth of Urban Centres
- 12.7 Growth Rates of Common Towns/UAs during 1971-91
- 12.8 Growth Pattern during 1991-2001
- 12.9 Disparity in Growth Across Size Class of Urban Centres
- 12.10 Conclusion
- 12.11 Further Reading
- 12.12 Tables
- 12.13 Appendix*

Learning Objectives

After studying this unit you should be able to:

- define the towns in India as per their size class distribution;1
- describe the trends and pattern of urbanisation in India across size class of towns;
- describe the trends and pattern of urbanisation in India across states at size class levels;
- understand the problems of calculating growth rates of urban centres;
- analyse the growth pattern of common towns/UAs during 1971-91 and 1991-2001; and
- analyse the disparity in the growth across size class of urban centres.

12.1 Introduction

Units 1-4 have dealt with the concepts of urban sociology as well as urbanization and urban growth at the macro level. This unit tries to define towns based on their size class distribution. It also attempts to analyse the trends and pattern of urbanisation across size class of towns in the country and explain their development dynamics. It further attempts to describe the pattern of urbanization across states and size class of settlements. It also tries to underline the problems of calculating growth rates of urban centres and calculate the same by taking common towns in both the base and terminal years for the past three decades. Finally, it attempts to analyse the disparity in the growth across size class of urban centres and bring out the emerging pattern. This unit concludes with a summary of the main observations.

*Check all numbers in the text in Appendix Section

12.2 Census Classification of Urban Settlements

The Indian Census presents demographic data separately for rural and urban areas. The units of classification for urban areas are towns. In keeping with the age old tradition of the Indian Census, the urban units have been categorised into six population size classes by the Census as follows:

Size class	Population
I	100,000 & above
II	50,000–99,999
III	20,000–49,999
IV	10,000–19,999
V	5000–9999
VI	Less than 5,000

The class I urban units are generally called cities. In other words, all urban agglomerations /towns with a population of 100,000 and above are called cities. Urban agglomerations/ cities with a population of a million and above are often referred to as million-plus cities or metropolitan areas. Towns with a population ranging between 20,000 and 99,999 (classes II and III) are called medium sized towns and those smaller in size (classes IV, V and VI) are generally designated as small towns.

The total number of towns in a district, state or country can be counted by two methods. Firstly, taking the urban agglomeration as one unit (ignoring the number of towns and cities constituting the agglomeration) and secondly taking each constituent town / city separately within the urban agglomeration. In the former, the total numbers of towns are much less since many towns are part of the urban agglomerations and their inclusion as units of the UA reduces the number of towns in the final summation. For example, the 1991 Census reports the total number of towns as 4689 whereas the total number of UAs and cities/ towns are reported as much less at 3768.

12.3 Trends and Pattern of Urbanisation in India Across Size Class of Urban Settlements

It may be noted that the 2001 census reported a total of 5161 towns which is a thousand more than 1981¹. The 1991 Census reported 3768 urban agglomerations and towns and 4689 towns as noted above. The 2001 census reported 68.67 per cent of the urban population in class I cities (with a population above one lakh). There are 35 cities or agglomerations each with a population of ten lakh or above. These cities are also called million plus cities and they constitute about 38 per cent of the country's urban population with a total population of 108 million.

The process of urbanization in India is largely large city oriented. This pattern is evident at the national level as well as in most of the states. Importantly, the share of the class I cities has been going up systematically in all the decades in the last century.

The present section focuses on the analysis of the changing structure of urban population across size class of settlements over the decades especially after independence. The growing top heaviness has been examined in the context of shifting of urban centres across size class of urban centres. Explanation of the changing settlement structure has been sought in terms

Table 12.1 shows that class I cities dominates the urban structure of the country. This share, though very high, was still comparable to the smaller towns. In 1901, the share of class I cities was 26 per cent whereas the class IV and class V towns contributed 20.83 and 20.14 per cent of the urban population. The share of class I cities since then increased and recorded a significant increase during 1931-41, a decade before the partition of the country. At the time of independence, a large proportion of displaced persons were absorbed in the large towns resulting in an increase of the share of urban population to 44.63 per cent in 1951 from 38.23 per cent in the previous decade. This increase of about 7 percentage points of the share of population of the class I cities was maintained in the next two decades as well. Increment in the percentage share of population in these cities has been about 3 percentage points since the 1970s. This has been maintained till the nineties as well when the percentage share of population was reported to be 68.67 as compared to 64.89 in 1991. The share of population in class IV, V and VI towns maintained a steady decline during 1901 to 2001. Their combined share declined from 47 per cent in 1901 to about 7 per cent in 2001. The percentage share of population in the medium sized towns, viz., class II and class III towns have remained by and large stable over the century. Their shares have fluctuated between 11 and 13 per cent respectively.

The tremendous increase in the share of class I cities may be attributed to faster growth of these towns as well as increase in the number of towns as they graduate from lower order towns. In 1901, there were only 24 towns in this category. This figure increased to 393 in 2001. This can be attributed to natural increase in population as also migration to large towns which together result in increase in population of towns below 100,000, enabling these to cross this cut-off point.

Significantly, the general perception among planners, administrators, statisticians and academicians in the country is that larger urban centres in the country are growing at a higher rate in comparison to the small and medium towns. The population census computes the growth rates of towns in a size class by considering the population belonging to a particular size class in the initial as well as terminal years, without taking note of the generally upward movement of the urban centres. As a consequence, the growth rate of class I cities work out to be very high since this is the category which over time gains in the number of cities. On the other hand, those lower order size categories that lose in the number of towns because of the upward graduation of towns generally show a low growth rate. Indeed, the small towns (class V and class VI) at times show negative growth rates not because those towns are facing depopulation but because of the fact that many of them graduate to higher order towns.

In view of the problems of comparability, scholars have proposed that for computing the growth rates, the base year classification of urban centres should be maintained both for base as well as terminal years. This would imply that the population of only those towns that belong to a particular category in the base year should be added up in the terminal year as well. This would make the number of towns at both the time points the same for each category, in computing their growth rates. Fortunately, the 1991 census has given population of common towns in Appendix 10 of the provisional population tables². This information is extremely useful in comparing the growth rates across size classes. It may, however, be noted

that all new towns get excluded from this calculation since the base year categories constitute the basis for classification of towns. Moreover, even the towns declassified in the terminal year get excluded. This might be responsible for an upward bias in the growth estimates in small towns (class V and VI categories) as these would claim most of the declassified towns.

It has been mentioned above that the class I cities have experienced growth rates that are more than that of the smaller towns in most of the states. However, in many states, class VI towns (with population below 5000) have registered phenomenal growth. This is due to the special status accorded to these settlements and corresponding high public sector investment in them. It may be noted that many among the class VI towns have been established or are managed by government departments, public agencies, military establishments or private industries.

A section of scholars have argued that the Indian urban structure reflects no distortion and a stable morphology as the population growth is more or less uniform across the size classes. It is however, evident from (Table 12.1) that this is not the case. The urban centres in the class I categories are growing at a higher rate than the smaller towns. This was evident in the 1981 census except for the class VI towns. Indeed, the class VI towns show higher growth rates. This is because these towns show different development dynamics as most of these belong to a special category of industrial townships, pilgrimage centres or settlements through establishment of a public sector industry in greenfield locations as mentioned above.

The pattern is identical in the 1991 census, although there is a general deceleration in urban growth in all size categories. However, one notes that the class I cities have grown faster than the towns belonging to the smaller size classes during 1981-91. An attempt has been made by Kundu, A. (2005) to recalculate the figures using data from the 2001 census. The analysis reveals that there are 3415 towns common in both the 1991 and 2001 censuses, after excluding the new towns and the towns that are declassified in the 2001 census. The class VI towns have once again registered a higher growth rate compared to even class I cities³. However, the class I centres continued to have an edge over the other towns in terms of their growth rate. One would therefore, argue that the urban structure is becoming increasingly skewed due to higher demographic growth in larger cities.

The adjusted annual exponential growth rate for class I towns (common) during the 1970s and 1980s have been worked out as 3.46 and 2.96 respectively. The 2001 census has indicated a slight decline in the growth rate of class I towns to 2.76 per cent, computed on the basis of 291 common class I towns during 1991-2001. Small towns (IV-VI together) indicate a growth rate of 3.07 and 2.57 per cent growth during 1981 and 1991. This has gone down to 2.22 during 1991-2001. One may, therefore, argue that the decline in the growth rate of small and medium towns (non-class I) is sharper in comparison to the class I cities. This may be attributed to immigration to larger towns and higher natural increase. Further, emergence of satellite townships in the peripheries of large towns and their absorption into the urban agglomeration over time are also explaining factors. There are also outgrowths that have been treated as parts of the agglomeration by the census. Moreover, there have been expansions in the municipal boundaries of the class I cities, contributing to urban growth. All these factors have resulted in higher growth of class I cities.

Metro cities, or cities having a population of a million or more, also corroborate the thesis of concentrated urban development. Million-plus cities have, on the average, grown at the rate of 3.25 per cent during 1981-91, which is higher than the growth rate of common towns at 2.83 per cent, during the same period. The 2001 census, however, brings out that the growth rate of all towns has gone down across all size categories, including that of metro cities. The growth rate of metro cities has gone down to 2.88 but that of common towns has declined more sharply to 2.6 per cent. It is, thus, obvious that the growth of metropolitan cities is higher than that in common towns or class I cities. The spatial concentration of urban population is in class I cities, and more so in metro cities. The share of million plus cities was about 26.41 of the urban population in 1981, which increased to 32.54 in 1991 and 37.81 in 2001.

Significantly, most of the million plus cities comprised at least one municipal corporation and several municipalities. Such agglomerations have the municipal corporation of the biggest city at the core with municipalities of relatively smaller towns forming the periphery. Kundu et al (2005) noted that over the last two decades the metropolitan cities have exhibited four important features, namely, a) declining core-growing periphery, b) growing core-declining periphery, c) growing core and growing periphery, d) declining core and declining periphery. They observed that Greater Mumbai, Kolkata, Delhi and Chennai have recorded a higher growth in their peripheries in comparison to their cores. Pressure of population, deficiency of infrastructure and basic amenities, higher cost of living, and stringent land laws may have decelerated the capacity of core areas of these cities to absorb the incremental population. Such section of the population get settled in the periphery resulting in the faster growth of UAs. Cities like Jamshedpur and Asansol, which have recently attained the status of metro cities have shown fast growing peripheries. This is important from the point of regional development. Bangalore, however, is an exception to this pattern and has a faster growing core. Another pattern of urban growth that has emerged is that of corridor development. This is observed in some cities like Amritsar-Jalandhar-Ludhiana, Vadodara-Ahmedabad-Surat, and Kolkata-Dhanbad-Jamshedpur. This type of spatial development of urban centres is also emerging in other parts of the country as has been brought out by a recent study by the Centre for Policy Research, New Delhi (2001).

It is important to observe that demographic growth in the capitals of the major states and in the national capital is almost at par with that of the million plus cities. This further confirms the proposition of unbalanced urban growth across size categories. It may, however, be noted that the growth rate in ten capital cities has declined in the nineties compared to the previous decades. This may be because of structural adjustment, expenditure control and/or decline in public investment in infrastructure.

12.4 Pattern of Urbanisation : An Interstate Analysis

The dynamics of urban development in a large country like India would be understood by examining the changes in the levels and pace of urbanisation across the states and at the size class level. The present section attempts to do that based on the data from Population Censuses from 1951 to 2001 with special emphasis on the developments in the post liberalisation phase. It analyses the regional pattern of urbanisation focussing on the nineties and examines how it makes a sharp departure from the past pattern.

The Census data reveals that the levels of urbanisation in most of the economically developed states were high in the post Independence period (Table 12.2). Developed states like West Bengal, Maharashtra, Tamil Nadu, that had high per capita income, reported a large percentage of population residing in urban areas. This is due to concentration of economic activities in the three metropolises of Calcutta, Bombay and Madras (now Kolkata, Mumbai and Chennai respectively) and a few of their linked towns. The strong positive correlation between economic and urban development indicators can be explained in terms of location of agro-processing and manufacturing activities in a handful of port cities during the colonial period. The rural population thrown out of the agrarian system due to frequent natural calamities, tottering agriculture and lack of sectoral diversification, sought absorption in these cities. In fact, the correlations of urbanisation works out as positive not only with per capita income but with many other indicators of economic development like share of manufacturing employment, availability of infrastructural facilities, levels of social development etc. The correlations, however, have weakened over the subsequent decades due to diversification of the process of urbanisation, as many among the less developed states have experienced high urban growth.

An analysis of the pattern of urban growth during the decades since independence until 1991 (Table 12.3) reveals that the growth has generally been high in relatively backward states. Bihar, Uttar Pradesh, Rajasthan, Orissa and Madhya Pradesh would figure at the top in the list of the states arranged in a descending order in terms of urban growth. This implies that the relationship between urban growth and economic development was generally negative. The correlations among the relevant indicators, however, were not very strong as a few among the developed states such as, Maharashtra, Gujarat and Haryana, too, recorded high or medium growth, although the others like West Bengal, Tamil Nadu, Punjab etc. experienced low urban growth.

Reflection and Action 12.1

Find out from the various sources available in your city/town/village about the population size of that area for the last five years. You may collect other data regarding out-migration, as well as, in-migration within this region; as well as natural growth.

Based on the data collected, write a report on "Population Trend: Urban Growth in My Region". Compare your report with those of other students at your Study Centre.

One observes dualism in urban growth in the post Independence period. The developed states reported in migration and attracted population in urban areas due to industrialisation and infrastructural investment. Interestingly, a few of the backward states too – particularly their backward districts and small and medium towns - experienced rapid urban growth. This can partly be attributed to government investment in the district and taluka headquarters, programmes of urban industrial dispersal, and transfer of funds from the states to local bodies through a need based or what is popularly known as "a gap filling approach". Migration into smaller towns from their rural hinterland in backward states could partly be explained in terms of push factors, owing to lack of diversification in agrarian economy. The rural poor are pushed from their original locations due to reasons of extreme poverty.

Nineties, however, makes a significant departure from the earlier decades. The developed states like Tamil Nadu, Punjab, Haryana, Maharashtra and Gujarat have registered urban growth above the national average. West Bengal is the only exception whose growth rate is not very high. The backward states, on the other hand, have experienced growth either below that of the country or at the most equal to the national average.

During the nineties, one thus observes that the process of urbanisation has become more concentrated in developed regions to the exclusion of the backward states. Furthermore, the larger cities have recorded relatively higher growth in comparison to the small and medium towns. This could, at least partly, be attributed to the measures of globalisation and decentralised governance. Under this new system of governance, the responsibilities of resource mobilisation and launching infrastructural projects have been given to the local bodies (municipalities). Large municipal bodies that have a strong economic base, particularly those located in developed states are in a position to satisfy the conditions required for accessing funds both from national and international agencies. These cities have an advantage that has clearly been manifested in their high economic and demographic growth.

12.5 Trends and Pattern of Urbanisation Across States at the Size Class Level

The size class distribution of urban population and changes therein over the past decades (Table 12.4a) provides interesting insights into the development dynamics of the country. An analysis of the 1981 and 1991 Census shows that the share of population in class I cities has been going up consistently during the seventies and eighties. One, however, notes that the interstate variation in their share is very high and reveals a distinct regional pattern of concentration. The economically prosperous states of Maharashtra, Tamil Nadu and West Bengal have high concentration of urban population in class I cities besides the smaller states like Chandigarh, Delhi, Pondicherry and Meghalaya. This may be a reflection of the impact of colonial regime wherein much of the industrial activities got concentrated in the metropolitan cities. The developed states of Gujarat, Karnataka and Andhra Pradesh also reported high concentration of population in class I cities. Kerala also falls in this category as this state also reports a large number of class I cities. On the other hand, the less developed states of Rajasthan, Orissa, Madhya Pradesh and Uttar Pradesh exhibit a low percentage of urban population in these cities.

The share of class II and class III towns, however, has remained stable in most of the states, as is the case at the national level during the seventies and eighties. The only exceptions are the smaller states like Meghalaya, Nagaland, Himachal Pradesh, Goa, Andaman and Nicobar Islands, and Mizoram where the number of towns in different categories is small and movement of a few towns upwards or downwards across the size classes makes a significant difference in the percentage shares.

The share of population in smaller towns with population below 50,000 (classes IV, V and VI) have declined significantly during eighties in most of the states where the general trend is towards concentration of population in the larger cities, leading to top heavy urban structure. The exceptions are Goa, Sikkim and Tripura.

The census of 2001⁴ provides results which are in conformity with the 1991 census. The pattern of distribution of urban population has not

changed very significantly during 1991-2001 (*Table 12.4 b*), the concentration in larger cities has gone up in most of the states⁵. The states that reported a high share of population in class I cities in earlier years generally maintained the position in 2001 as well. Kerala, too has registered an increase in this percentage figure. Tamil Nadu is the only state in which the share of the cities has declined. This is due to the emergence of a large number of new towns belonging to lower order size categories. Moreover, the new states of Chattisgarh and Jharkhand report high figures for the share of class I cities, much higher than that of their parent states of Madhya Pradesh and Bihar respectively. The state of Uttaranchal, which is also a new state in the 2001 census, however, has lower concentration of population in these cities – much below the national average and even below the figure of the state of Uttar Pradesh.

The population share of the class II and class III towns has remained stable in most of the states during the nineties as well (*Table 12.4 b*). The exceptions are the smaller states, which a movement of one or two towns upwards or downwards has a significant impact on the size class distribution of urban population. In case of the smaller states, the percentage share of population in these size classes has gone down in almost all the states with the few exceptions of the small north eastern states. This pattern is similar for the country as well.

12.6 Analysis of Growth of Urban Centres

The present section attempts to analyse the growth rates of towns in different size classes to understand the development dynamics operating at the size class level. The growth rates of urban centres in different size classes have been computed by taking the base year classification for both initial and terminal years. This has been done to take care of the problems of graduation of towns into higher categories during a particular decade.

For analysing the dynamics of growth or their absence in urban centres, the average of the growth rates during the eighties and nineties (*Table 12.5*) have been computed. These have been worked out by classifying the urban centres based on their population in the base year. It may be mentioned here that these are different from the growth rates of population for different size classes, given in (*Table 12.6*), although the latter too have also been computed by classifying the cities and towns as per the base year population. The two figures for any category for a decade are different since the latter is computed by aggregating the population of all the cities/towns (belonging to the category in the base year) and then computing the growth rates while the latter is obtained by averaging their individual growth rates.

An analysis of the above tables shows that the average growth rates for class I cities is higher than that of other size categories in most of the states. This pattern is evident during the decades of the eighties and nineties. This reconfirms the thesis that the big cities have been experiencing higher demographic growth during eighties and nineties, as was the case in earlier decades⁶.

12.7 Growth Rates of Common Towns/UAs during 1971-91

The growth rates of towns in different size classes have been computed by taking the base year classification for both initial as well as terminal years. This has been done to take care of the problems of graduation of

towns into higher categories during a decade as discussed in the previous section (Kundu, 2005). An analysis of the data shows a distinct pattern of growth for different classes of towns. The growth rates for the class I cities worked out as higher than the smaller order towns in the developed states during the period 1971-91, as was noted for the country (Table 12.6a). In states like Andhra Pradesh, Gujarat, Haryana, Karnataka, Maharashtra, Tamil Nadu and Punjab⁷, the growth rates of these cities are significantly higher than that of all lower order towns except those in the lowest category (class VI⁸). It may be noted that West Bengal is the only exception among the developed states wherein the growth rate of class I cities is below that of the small towns. This, however, is similar to the pattern observed for the less developed states. In these states, the smaller towns have grown at similar or higher rate than the class I cities. Bihar, Kerala, Madhya Pradesh, Rajasthan and Uttar Pradesh fall in this category.

12.8 Growth Pattern during 1991-2001

The pattern of growth during the nineties has remained similar to the previous decades. (Table 12.6 b). The developed states exhibit a pattern identical to that of the preceding two decades. Punjab, Gujarat, Maharashtra and Tamil Nadu fall in this category. A departure is however noted in case of a few backward states, which also exhibit a similar pattern of growth. In states like Himachal Pradesh, Bihar, Rajasthan, Orissa and Assam, the class I cities are growing at a faster rate than the lower order towns. There are, however, a few exceptions. Uttar Pradesh, Madhya Pradesh, Kerala are among the backward states and Haryana, Karnataka and Andhra Pradesh among the developed states where the above pattern exists besides a few of the smaller states. West Bengal, on the other hand, follows the pattern of the previous decades.

12.9 Disparity in the Growth Across Size Class of Urban Centres

Stability of growth in different size categories can be ascertained by analysing the disparity in growth rates (Kundu 1983). Table 12.7 (a & b) gives the coefficient of variation for the growth rates of urban centres belonging to the different size categories, during the eighties and nineties. An analysis of the tables show that the class I cities show greater stability and consistency in growth. This is reflected in the lower coefficients of variation of their growth rates during the eighties which is noted to have gone down during the eighties compared to the seventies (Kundu and Bhalla 1984). The lower order size categories show different growth dynamism. The coefficients of variation in their growth rates have remained stable or gone up during the two decades.

Reflection and Action 12.2

Make a careful study of the Tables 12.1 to 12.7 given at the end of this unit. Note down the Figures or details given in these tables which pertain to the state to which you belong.

Write a report on the analysis of this data regarding your state in about two pages and discuss it with your Academic Counsellor and other learners at your Study Centre.

During the last decade, a significant departure from the earlier trends is noted in the growth scenario. The class I cities recorded a significant

increase in the coefficient of variation of their growth rates. This implies that class I cities, although they have maintained an edge in terms of growth rates, are now subject to greater instability. The disparity is particularly high in the two developed states of Tamil Nadu and West Bengal. In Tamil Nadu, the cities like Tiruppur have grown by about 80 per cent while the population in towns of Thoothikudi (Tuticorin) and Valparai has gone down by 10 per cent. A similar growth pattern is seen in West Bengal in which the cities like Siliguri have grown by 120 per cent whereas Nabadwip has lost population at 20 per cent during 1991-2001. One can attribute this growing instability in the growth of class I cities to the policies of globalisation and linking of only a few of these to the national and international market that have registered high demographic growth.

It may nonetheless be argued that despite the coefficient of variation being high in class I cities, this is less than that of all lower order towns. The smaller towns in the country have had high instability in their growth even in the earlier decades and hence this cannot be linked to the policies of structural adjustment and their impact on the process of urbanisation.

12.10 Conclusion

India after experiencing a very fast rate of urbanisation during the seventies has reported a significant deceleration during the eighties as also nineties. The decline is witnessed in all size categories and in most of the states. However, the class I cities in the developed states have maintained a higher growth in comparison to the small towns. These cities have also reported a reduction in variation in their growth rates. The small and medium towns in the less developed states, on the other hand, have experienced rapid growth but high fluctuation in their growth rates. The faster pace of growth of class I cities in the developed states may be attributed to their strong economic and industrial base and growth therein. The phenomenon of the growth of new towns on the peripheries of metros may be attributed to the process of limited industrial dispersal around the larger cities. As opposed to this, the rapid growth of the small and medium towns and emergence of new towns in the backward states is due to the slow pace of sectoral diversification and outmigration from villages due to rural poverty.

One would also observe that the economic base of ULBs in the developed states is such that they are in a position to fetch more revenues than their counterparts in the backward states. Moreover, the high percentage share of workers in the industrial sector in Class I cities allows them to have a broader tax base. On the other hand, the high percentage of workers in the household industry and Other Services in small and medium towns limits their tax raising capacity. All these lead to a significant disparity in the municipal capacity to invest in basic amenities across the states as also size classes.

A distinctly different spatial pattern exists between the level of urbanization and pace of urban growth. The pattern and trend of urbanization in the backward states has historically been different from that of the relatively developed states. Since independence, the developed states of Maharashtra, Gujarat, Tamil Nadu and Haryana have had a high level of urbanization although they experienced medium or low growth. This pattern of growth continued until 1991. The relatively backward states that had low urban population in contrast registered high urban growth rate. These states are Bihar, Uttar Pradesh, Rajasthan, Orissa and Madhya Pradesh. The 1990s, however, make a significant departure. Many of the

developed states have registered urban growth above the national average whereas the backward states have experienced growth either below that of the national average or equal to that. As a result, one notices the disparity in terms of growth to have gone up across the states during the 1990s.

A changing pattern of urbanization in the size class distribution of towns across the states is observed during the 1990s. During the previous decades, class I cities in developed states had reported higher growth rates when compared to smaller towns whereas in the backward states the smaller towns had grown at similar or higher rate than the class I cities. This pattern witnessed a change in the nineties. Many of the backward states have reported high urban growth in their class I cities. These states are Himachal Pradesh, Bihar, Rajasthan, Orissa and Assam. However, the pattern in the developed states has remained similar to the earlier decades. Moreover, among class I cities, million plus cities and capital cities are recording a higher growth rate. This has resulted in increasing disparity in the growth rates within the class I cities during 1991-2001. The process of globalization which is resulting in linking a few cities of the developing countries to the global economy is indeed resulting in widening of the disparity in their growth rates.

The share of the medium towns or those belonging to the class II and III categories is more or less stable in most of the states as also at the national level. Small towns (class IV to VI) report a decline in their share in urban population as few new towns have come up in the last decade. Moreover, many of these have moved up to the next higher category or have been declassified. The small towns, however, have reported similar or higher growth rates than class I cities in backward states. The small towns in the states of Bihar, Kerala, Madhya Pradesh, Rajasthan and Uttar Pradesh show such growth dynamics. The reasons for the growth in small towns could be distress outmigration from the villages to the small towns due to high levels of poverty in such regions and decline in new job opportunities in the big cities.

12.11 Further Reading

- Bhalla, G. S. and A. Kundu (1984), 'Small and Medium Towns in a Regional Perspective—The Case of Batala and Moga in Punjab State (India)', in O.P. Mathur(ed.), *The Role of Small Cities in Regional Development*, UNCRD, Nagoya.
- Kundu, A. (1983), 'Theories of City Size Distribution and the Indian Urban Structure; A Reappraisal', *Economic and Political Weekly*, July.
- (1992), *Urban Development and Urban Research in India*, New Delhi: Khama. Publications, New Delhi.

Tables 12.12

Table 12.1: Profile of Urban Growth in India during 1901-2001

	Number of Towns						Percentage of Urban Population						Annual Exponential Growth Rate					
Census Year	Class I	Class II	Class III	Class IV	Class V	Class VI	Class I	Class II	Class III	Class IV	Class V	Class VI	Class I	Class II	Class III	Class IV	Class V	Class VI
1901	24	43	130	391	744	479	26	11.29	15.64	20.83	20.14	6.1	—					
1911	23	40	135	364	707	485	27.48	10.51	16.4	19.73	19.31	6.57	0.54	-0.73	0.46	-0.55	-0.43	0.72
1921	29	45	145	370	734	571	29.7	10.39	15.92	18.29	18.67	7.03	1.57	0.68	0.50	0.03	0.46	1.47
1931	35	56	183	434	800	509	31.2	11.65	16.8	18	17.14	5.21	2.24	2.89	2.28	1.59	0.89	-1.25
1941	49	74	242	498	920	407	38.23	11.42	16.35	15.78	15.08	3.14	4.81	2.59	2.51	1.47	1.50	-2.26
1951	76	91	327	608	1124	569	44.63	9.96	15.72	13.63	12.97	3.09	5.02	2.10	3.07	2.01	1.97	3.31
1961	102	129	437	719	711	172	51.42	11.23	16.94	12.77	6.87	0.77	3.72	3.50	3.05	1.65	-4.05	-11.62
1971	148	173	558	827	623	147	57.24	10.92	16.01	10.94	4.45	0.44	4.29	2.93	2.65	1.67	-1.14	-2.32
1981	218	270	743	1059	758	253	60.37	11.63	14.33	9.54	3.58	0.5	4.34	4.43	2.69	2.43	1.64	5.05
1991	300	345	947	1167	740	197	65.2	10.95	13.19	7.77	2.6	0.29	3.84	2.38	2.26	1.02	-0.13	-2.45
2001	393	401	1151	1344	888	191	68.67	9.67	12.23	6.84	2.36	0.23	3.42	1.76	2.15	1.64	1.93	0.80

Note : Size class wise figures exclude Assam in 1981 and Jammu & Kashmir in 1991.

Source : Paper-2, Rural-Urban Distribution, 1981, 1991.

Table 12.2:
Level of Urbanisation Across States

Sl. No.	States	1971	1981	1991	2001
1	Andhra Pradesh	19.31	23.25	26.84	27.08
2	Arunachal Pradesh	3.7	6.32	12.21	20.41
3	Assam	—	—	11.08	12.72
4	Bihar	10	12.46	13.17	10.47
5	Chattisgarh	—	—	—	20.08
6	Delhi	89.7	92.84	89.93	93.01
7	Goa	26.44*	32.46*	41.02	49.77
8	Gujarat	28.08	31.08	34.4	37.35
9	Haryana	17.66	21.96	24.79	29
10	Himachal Pradesh	6.99	7.72	8.7	9.79
11	Jammu & Kashmir	—	—	23.83	24.88
12	Jharkhand	—	—	—	22.25
13	Karnataka	24.31	28.91	30.91	33.98
14	Kerala	16.24	18.78	26.44	25.97
15	Madhya Pradesh	16.29	20.31	23.21	26.67
16	Maharashtra	31.17	35.03	38.73	42.4
17	Manipur	13.19	26.44	27.69	23.88
18	Meghalaya	14.55	18.03	18.69	19.63
19	Mizoram	11.36	25.17	46.2	49.5
20	Nagaland	9.95	15.54	17.28	17.74
21	Orissa	8.41	11.82	13.43	14.97
22	Punjab	23.73	27.72	29.72	33.95
23	Rajasthan	17.63	20.93	22.88	23.38
24	Sikkim	9.37	16.23	9.12	11.1
25	Tamil Nadu	30.26	32.98	34.2	43.86
26	Tripura	10.43	10.98	15.26	17.02
27	Uttar Pradesh	14.02	18.01	19.89	20.78
28	Uttaranchal	—	—	—	25.59
29	West Bengal	24.75	26.49	27.39	28.03
	<i>Union Territories</i>				
1	Andaman & Nicobar	22.77	26.36	26.8	32.67
2	Chandigarh	90.55	93.6	89.69	89.78
3	Dadra & Nagar Haveli	0	6.67	8.47	22.89
4	Daman & Diu	—	—	46.86	36.26
5	Lakshadweep	0	46.31	56.29	44.47
6	Pondicherry	42.04	52.32	64.05	66.57
	All India	20.22	23.73	25.72	27.78

Note: The figures for Goa in 1971 and 1981 (*) corresponds to Goa, Daman and Diu.

Source: Population Census, Paper 2, 1981, 1991 and Provisional Population Totals 2001.

Annual Exponential Growth Rate of Urbanisation Across States

Sl. No.	States	1971-81	1981-91	1991-01
1	Andhra Pradesh	3.94	3.55	1.37
2	Arunachal Pradesh	8.32	9.28	7.00
3	Assam	0.00	3.27	3.09
4	Bihar	4.34	2.65	2.57
5	Chattisgarh	—	—	3.09
6	Delhi	4.56	3.79	4.14
7	Goa	4.37	3.96	3.32
8	Gujarat	3.42	2.90	2.8
9	Haryana	4.65	3.58	4.11
10	Himachal Pradesh	3.02	3.11	2.81
11	Jammu & Kashmir	0.00	3.78	6.87
12	Jharkhand	—	—	2.55
13	Karnataka	4.08	2.55	2.53
14	Kerala	3.19	4.76	0.74
15	Madhya Pradesh	4.45	3.71	2.71
16	Maharashtra	3.35	3.27	2.95
17	Manipur	9.70	2.98	1.21
18	Meghalaya	4.87	3.10	3.16
19	Mizoram	11.79	9.57	3.27
20	Nagaland	8.49	5.58	5.27
21	Orissa	5.21	3.08	2.61
22	Punjab	3.62	2.55	3.19
23	Rajasthan	4.52	3.31	2.71
24	Sikkim	9.55	-3.23	4.83
25	Tamil Nadu	2.45	1.76	3.56
26	Tripura	3.26	6.19	2.53
27	Uttar Pradesh	4.78	3.29	2.84
28	Uttaranchal	—	—	2.84
29	West Bengal	2.75	2.54	1.84
	<i>Union Territories</i>			
1	Andaman & Nicobar	6.38	4.10	4.40
2	Chandigarh	5.92	3.07	3.40
3	Dadra & Nagar Haveli	—	5.28	14.59
4	Daman & Diu	—	4.93	1.87
5	Lakshadweep	—	4.46	-0.77
6	Pondicherry	4.66	4.92	2.26
	All India	3.79	3.09	2.73

Note: Based on Kundu et al 2005

Table 12.4a: Percentage of Population in Different Size Categories to Total Urban Population

	States	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991
	I	I	I	II	II	III	III	IV-VII	IV-VII	Total	Total
1	Andhra Pradesh	53.69	66.88	16.17	12.6	20.95	16.53	9.19	3.99	100	100
2	Arunachal Pradesh	-	-	-	-	-	-	100	100	100	100
3	Assam	N.A	37.56	N.A	11.65	N.A	25.61	N.A	25.18	NA	100
4	Bihar	54.12	52.62	14.38	17.58	19.26	20.8	12.24	9	100	100
5	Delhi	99.32	99.38	-	-	-	-	0.68	0.62	100	100
6	Goa	-	-	65.61	51.84	8.05	6.59	26.34	41.57	100	100
7	Gujarat	57.92	66.43	14.53	12.73	13.37	10.52	14.18	10.32	100	100
8	Haryana	56.64	58.54	10.82	15.11	14.8	11.95	17.74	14.4	100	100
9	Himachal Pradesh	-	24.7	21.54	-	12.49	19.6	65.97	55.7	100	100
10	Jammu & Kashmir	65.8	NA	-	NA	11.74	NA	22.46	NA	100	NA
11	Karnataka	58.6	64.6	5.46	7.35	17.75	17.68	17.19	10.37	100	100
12	Kerala	53.13	66.34	9.52	7.22	31.86	19.08	5.49	7.36	100	100
13	Madhya Pradesh	46.84	50.38	18	13.94	12.24	12.82	22.92	22.86	100	100
14	Maharashtra	75.24	77.85	5.95	6.49	10.88	10.39	7.93	5.27	100	100
15	Manipur	41.72	39.66	-	-	11.18	17.96	47.1	42.38	100	100
16	Meghalaya	72.39	67.54	-	-	14.61	20.18	13	12.28	100	100
17	Mizoram	-	48.68	61.15	-	-	17.79	38.85	33.53	100	100
18	Nagaland	-	-	-	52.38	55.9	21.71	44.1	25.91	100	100
19	Orissa	41.63	44.43	12.76	14.65	21.83	19.73	23.78	21.19	100	100
20	Punjab	46.4	54.36	13.28	19.79	21.31	12.89	19.01	12.96	100	100
21	Rajasthan	46.52	50.09	10.05	13.67	22.02	21.31	21.41	14.93	100	100
22	Sikkim	-	-	-	-	71.93	67.52	28.07	32.48	100	100
23	Tamil Nadu	62.19	65.96	15.99	15.21	12.52	11.19	9.3	7.64	100	100
24	Tripura	58.6	37.62	-	-	9.22	27.59	32.18	34.79	100	100
25	Uttar Pradesh	51.49	55.99	12.71	11.45	12.34	13.94	23.46	18.62	100	100
26	West Bengal	76.84	81.71	10.78	6.58	7.71	7.66	4.67	4.05	100	100
	<i>Union Territories</i>										
1	Andaman & Nicobar	-	-	-	100	100	-	-	-	100	100
2	Chandigarh	100	100	-	-	-	-	-	-	100	100
3	Dadra & Nagar Haveli	-	-	-	-	-	-	100	100	100	100
4	Daman & Diu	-	-	-	-	72.37	100	27.63	-	100	100
5	Lakshadweep	-	-	-	-	-	-	100	100	100	100
6	Pondicherry	79.55	77.64	-	11.97	13.74	3.93	6.71	6.46	100	100
	All India	60.37	65.2	11.63	10.95	14.33	13.19	13.62	10.66	100	100

Note : NA- Not Available; All-India average excludes Assam and Jammu & Kashmir.

Source : Based on Kundu et al 2005 , (Computed from the data of Paper-2 Rural-Urban Distribution, 1981, 1991)

**Table 12.4b: Percentage of Population in Different Size categories to
Total Urban Population in 2001**

Sl. No.	States/U.Ts	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI	Total
1	Andhra Pradesh	75.31	13.95	8.35	1.69	0.68	0.04	100
2	Arun Pradesh	—	—	37.66	43.23	15.40	3.72	100
3	Assam	44.34	14.37	18.56	13.74	8.44	0.54	100
4	Bihar	59.31	13.66	23.57	3.23	0.23	—	100
5	Chattisgarh	63.02	8.94	13.17	11.12	3.74	—	100
6	Delhi	99.78	—	—	0.12	0.10	—	100
7	Goa	15.65	28.90	9.20	29.55	14.60	2.09	100
8	Gujarat	76.50	9.67	9.47	3.55	0.67	0.14	100
9	Haryana	72.57	5.78	11.89	7.65	2.03	0.07	100
10	Hima Prad.	24.30	—	25.87	19.06	19.10	11.66	100
11	Jammu & Kash.	63.03	14.70	3.89	10.02	5.85	2.51	100
12	Jharkhand	71.34	7.09	12.34	5.16	3.51	0.55	100
13	Karnataka	67.20	9.63	17.28	4.68	1.07	0.13	100
14	Kerala	68.82	11.32	14.05	4.98	0.82	—	100
15	Madhya Pradesh	55.77	12.00	15.95	12.13	4.01	0.15	100
16	Maharashtra	79.70	6.66	9.42	3.31	0.84	0.07	100
17	Manipur	43.12	—	19.41	17.12	17.66	2.69	100
18	Meghalaya	59.19	12.90	10.39	15.61	1.91	—	100
19	Mizoram	52.08	—	16.73	15.19	10.48	5.51	100
20	Nagaland	30.44	22.27	34.40	12.89	—	—	100
21	Orissa	48.41	17.12	18.20	12.65	3.17	0.45	100
22	Punjab	58.39	16.45	12.50	9.82	2.52	0.33	100
23	Rajasthan	57.23	13.94	20.80	6.92	1.00	0.11	100
24	Sikkim	—	—	48.60	24.45	9.05	17.90	100
25	Tamil Nadu	56.35	11.64	12.21	14.37	5.26	0.17	100
26	Tripura	34.86	—	33.37	21.12	10.65	—	100
27	Uttar Pradesh	62.16	9.95	14.40	10.39	2.97	0.13	100
28	Uttaranchal	47.10	12.04	20.47	9.46	8.91	2.02	100
29	West Bengal	83.54	4.34	5.96	3.14	2.59	0.43	100
Union Territories								
1	Andaman & N	86.07	—	—	—	13.93	—	100
2	Chandigarh	100.00	—	—	—	—	—	100
3	Dadra & N	—	—	100.00	—	—	—	100
4	Daman and Div	—	—	100.00	—	—	—	100
5	Lakshadweep	—	—	—	37.53	62.47	—	100
6	Pondicherry	78.01	11.47	10.52	—	—	—	100
	All India	68.67	9.67	12.23	6.84	2.36	0.23	100

Source: Based on Kundu et al 2005 (Computed from the unpublished data of Paper-2, Rural-Urban Distribution, 2001).

**Table 12.5a. The average of Growth Rates during 1981-91 of Towns as per
Their Size Class Distribution in 1981**

Sl. No.	States/U.Ts	CLASS I 1981-91	CLASS II 1981-91	CLASS III 1981-91	CLASS IV 1981-91	CLASS V 1981-91	CLASS VI 1981-91
1	Andhra Pradesh	3.35	3.27	2.78	3.08	2.42	0.80
2	Arunachal Pradesh	—	—	—	—	7.07	3.82
3	Assam	10.70	5.12	3.79	4.83	5.77	6.49
4	Bihar	2.07	2.50	2.76	2.59	3.08	—
5	Chattisgarh	2.86	3.06	2.97	2.45	3.57	3.84
6	Delhi	3.85	—	—	—	—	—
7	Goa	—	1.60	1.97	1.13	3.52	11.18
8	Gujarat	3.10	2.17	2.17	1.85	2.59	4.15
9	Haryana	2.92	2.83	2.69	3.96	3.08	3.02
10	Himachal Pradesh	—	4.13	0.35	2.74	3.04	2.98
11	Jammu & Kashmir	3.34	—	2.26	3.57	3.43	4.41
12	Jharkhand	2.68	1.45	2.13	2.15	1.57	-0.08
13	Karnataka	2.71	2.75	1.95	1.96	1.77	2.01
14	Kerala	3.35	4.79	2.58	1.21	1.34	—
15	Madhya Pradesh	2.60	3.32	2.66	2.77	3.08	1.79
16	Maharashtra	4.03	2.43	2.59	2.56	2.14	13.98
17	Manipur	2.59	—	—	2.52	3.69	2.08
18	Meghalaya	2.46	—	2.67	4.66	2.43	9.69
19	Mizoram	—	7.35	—	7.27	7.21	—
20	Nagaland	—	—	4.81	4.37	4.73	—
21	Orissa	3.11	2.59	2.38	2.07	2.23	5.22
22	Punjab	2.31	2.62	2.63	1.88	2.17	1.08
23	Rajasthan	3.32	2.65	3.21	2.72	2.26	—
24	Sikkim	—	—	-3.84	—	—	-1.23
25	Tamil Nadu	1.43	1.30	1.44	1.45	1.81	2.54
26	Tripura	—	—	2.19	1.48	2.11	2.60
27	Uttar Pradesh	2.99	2.80	3.22	2.92	2.72	2.90
28	Uttaranchal	2.39	2.49	3.69	3.64	3.43	3.47
29	West Bengal	2.55	3.23	3.77	2.88	2.91	8.28
	<i>Union Territories</i>						
1	Andaman & Nicobar	—	—	4.12	—	—	—
2	Chandigarh	3.09	—	—	—	—	—
3	Dadra & Nagar Haveli	—	—	—	5.28	—	—
4	Daman and Diu	—	—	2.48	—	9.45	—
5	Lakshadweep	—	—	—	—	—	—
6	Pondicherry	4.68	—	2.28	5.57	—	—
	All India	2.97	2.72	2.62	2.57	2.89	4.13

Note: The size class distribution is made on the basis of population on the base year and average of individual growth rates of the towns/cities is computed.

Source: Based on Kundu et al 2005 (Paper-2 Rural-Urban Distribution, 1991)

Table 12.5b. The Average of Growth Rates during 1991-2001 of Towns as per Their Size Class Distribution in 1991

Sl. No.	States/U.Ts	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI
1	Andhra Pradesh	1.78	2.19	1.74	1.74	-0.02	-
2	Arunachal Pradesh	-	-	-	4.37	3.03	-
3	Assam	2.80	2.73	2.08	2.08	2.04	5.15
4	Bihar	2.69	2.79	2.53	2.39	2.87	1.47
5	Chattisgarh	4.67	2.17	2.15	1.41	1.42	-
6	Delhi	4.18	-	-	-	-	-
7	Goa	-	1.87	2.37	1.65	0.75	2.16
8	Gujarat	3.12	1.88	2.09	1.96	1.86	1.99
9	Haryana	3.75	4.81	3.35	2.86	3.84	5.47
10	Jammu & Kashmir	7.71	-	8.34	4.98	6.16	6.75
11	Jharkhand	2.64	2.41	2.99	1.75	1.11	-1.71
12	Himachal Pradesh	2.70	-	2.41	2.40	1.99	2.68
13	Karnataka	2.21	2.96	2.15	2.64	0.87	0.55
14	Kerala	1.10	1.55	1.16	1.54	2.24	-
15	Madhya Pradesh	2.44	2.95	2.72	2.30	2.08	-0.25
16	Maharashtra	2.77	2.78	2.03	2.51	2.43	3.17
17	Manipur	1.93	-	1.92	1.80	1.96	1.21
18	Meghalaya	1.82	-	2.16	4.24	3.23	-
19	Mizoram	3.92	-	2.63	3.29	2.43	1.80
20	Nagaland	-	5.32	2.89	7.10	5.35	-
21	Orissa	3.04	1.84	2.14	1.55	1.90	-0.63
22	Punjab	2.71	2.32	2.20	2.36	2.37	6.30
23	Rajasthan	2.82	2.78	2.42	2.42	1.63	-
24	Sikkim	-	-	1.53	-	-	2.95
25	Tamil Nadu	1.41	0.98	1.27	1.21	1.20	-1.01
26	Tripura	-	-	1.24	2.47	2.66	1.85
27	Uttar Pradesh	2.84	2.42	2.82	2.36	2.41	2.87
28	Uttaranchal	3.21	2.52	2.12	1.89	2.37	3.68
29	West Bengal	2.23	2.45	2.28	1.61	1.67	0.52
	Union Territories						
1	Andaman & Nicobar	-	2.90	-	-	-	-
2	Chandigarh	3.40	-	-	-	-	-
3	Dadra & Nagar Haveli	-	-	-	6.24	-	-
4	Daman and Diu	-	-	1.71	-	-	-
5	Lakshadweep	-	-	-	-	-	-
6	Pondicherry	2.31	1.85	2.80	-	-	-
	All India	2.55	2.38	2.27	2.20	2.21	3.54

Note: The size class distribution is made on the basis of population on the base year and average of individual growth rates of the towns/cities is computed.

Source: Based on Kundu et al 2005 (Computed from the unpublished data of Paper-2, Rural-Urban Distribution, 2001).

Table 12.6a. Annual Exponential Growth Rate of Urban Population of Common Towns/UA s

Sl. No	States	1981	1991	1981	1991	1981	1991	1981	1991
		I	I	II	II	III	III	IV-VI	IV-VI
1	Andhra Pradesh	3.80	4.00	3.69	3.35	3.76	2.81	3.55	2.58
2	Arunachal Pradesh	-	-	-	-	-	-	4.57	5.91
3	Assam	N.A	NA	N.A	NA	N.A	NA	N.A	N.A
4	Bihar	4.48	2.14	2.40	1.97	4.34	2.51	3.59	2.84
5	Delhi	4.52	3.80	-	-	-	-	-	2.62
6	Goa	-	-	2.65	1.60	3.54	1.95	3.80	3.64
7	Gujarat	4.11	3.13	2.68	2.66	2.79	2.14	2.87	2.31
8	Haryana	5.16	3.42	4.10	2.77	3.39	2.84	2.99	3.51
9	Himachal Pradesh	-	-	2.42	4.09	-0.25	0.33	1.98	2.69
10	Jammu & Kashmir	NA	NA	NA	NA	NA	NA	NA	NA
11	Karnataka	4.44	2.95	3.59	2.99	3.19	1.85	2.88	1.90
12	Kerala	2.71	3.32	3.46	4.86	1.65	2.56	3.16	2.36
13	Madhya Pradesh	3.95	2.85	3.48	3.34	3.95	2.75	3.15	2.77
14	Maharashtra	3.48	3.28	3.08	2.41	2.66	2.47	2.34	2.62
15	Manipur	4.45	2.48	-	-	-	3.26	8.37	3.17
16	Meghalaya	3.53	2.41	-	-	-	2.59	6.80	6.67
17	Mizoram	-	-	-	7.28	8.53	-	10.51	7.20
18	Nagaland	-	-	-	-	4.66	4.93	5.34	4.47
19	Orissa	4.80	3.17	3.29	2.65	3.91	2.40	3.86	2.11
20	Punjab	3.32	3.04	3.58	2.61	2.86	2.65	3.11	2.00
21	Rajasthan	4.29	3.28	3.38	2.68	3.84	3.21	3.31	2.63
22	Sikkim	-	-	-	-	-	-3.80	9.54	-1.70
23	Tamil Nadu	2.77	1.88	2.20	1.32	2.06	1.35	1.71	1.52
24	Tripura	2.76	1.76	-	-	-	2.19	1.59	1.69
25	Uttar Pradesh	2.68	3.14	3.24	2.80	3.63	3.29	3.31	2.87
26	West Bengal	2.32	2.05	2.88	3.37	4.12	3.50	3.59	3.59
	<i>Union Territories</i>								
1	Andaman & Nicobar	-	-	-	-	6.38	4.10	-	-
2	Chandigarh	5.96	3.06	-	-	-	-	-	-
3	Dadra & Nagar H.	-	-	-	-	-	-	-	5.27
4	Daman & Diu	-	-	-	-	-	-	2.09	4.93
5	Lakshadweep	-	-	-	-	-	-	-	2.29
6	Pondicherry	4.84	4.68	-	-	5.09	3.54	1.86	3.70
	All India	3.46	2.96	3.09	2.75	3.33	2.59	3.07	2.57

Note: NA - Not Available as Census was not held in Assam & J&K in '81 and '91 respectively.

Source: Based on Kundu et al 2005 (Paper-2, Rural-Urban Distribution, 1991).

**Table 12.6 b Annual Exponential Growth Rate of Urban Population of
Common Towns/UA s in 1991-2001**

Sl.No.	States/U.Ts	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI
1	Andhra Pradesh	2.02	2.14	1.71	1.74	-0.03	—
2	Arunachal Pradesh	—	—	—	4.46	3.11	—
3	Assam	3.05	2.70	2.16	2.10	2.07	4.70
4	Bihar	3.23	2.74	2.60	2.33	2.95	1.47
5	Chattisgarh	3.94	2.02	2.00	1.38	1.40	—
6	Delhi	4.18	—	—	—	—	—
7	Goa	—	1.82	2.37	1.61	0.75	2.18
8	Gujarat	3.60	1.98	2.10	1.99	1.87	-1.38
9	Haryana	4.12	4.80	3.30	2.84	3.84	5.58
10	Hima Pradesh	2.70	—	2.41	2.30	1.86	2.69
11	Jammu & Kashmir	6.44	—	8.30	5.07	6.16	6.75
12	Jharkhand	2.79	2.48	3.05	1.78	0.98	-1.71
13	Karnataka	2.69	3.03	2.18	2.52	0.98	0.56
14	Kerala	1.10	1.38	1.12	1.68	2.12	—
15	Madh Pradesh	2.67	2.84	2.72	2.27	2.04	-0.25
16	Maharashtra	2.91	2.72	2.05	2.55	2.41	3.23
17	Manipur	1.93	—	1.96	1.79	1.97	1.01
18	Meghalaya	1.82	—	2.24	4.24	3.15	—
19	Mizoram	3.92	—	2.69	3.29	2.41	1.80
20	Nagaland	—	5.38	2.84	7.38	5.37	—
21	Orissa	3.08	1.87	2.13	1.58	1.88	-0.64
22	Punjab	2.99	2.34	2.23	2.26	2.59	6.45
23	Rajasthan	3.24	2.82	2.39	2.42	1.65	—
24	Sikkim	—	—	1.53	—	—	3.00
25	Tamil Nadu	1.71	0.97	1.31	1.16	1.31	-0.83
26	Tripura	—	—	1.35	2.39	2.63	1.85
27	Uttar Pradesh	2.87	2.46	2.83	2.36	2.42	2.83
28	Uttaranchal	3.19	2.46	2.13	1.87	2.31	2.73
29	West Bengal	1.99	2.43	2.23	1.60	1.68	0.52
	<i>Union Territories</i>						
1	Andaman & Nicobar	—	2.90	—	—	—	—
2	Chandigarh	3.40	—	—	—	—	—
3	Dadra & Nagar Haveli	—	—	—	6.24	—	—
4	Daman and Diu	—	—	1.87	—	—	—
5	Lakshadweep	—	—	—	—	—	—
6	Pondicherry	2.31	1.85	2.38	—	—	—
	All India	2.76	2.37	2.27	2.19	2.22	3.26

Source: Based on Kundu et al 2005. (Computed from the data of Paper-2, Rural-Urban Distribution, 2001)

Table 12.7a: The Coefficient of Variations of Growth Rates of Towns as per Their Size Class Distribution in 1981

Sl. No.	States/U. Ts	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI
1	Andhra Pradesh	54.32	77.55	51.45	62.23	62.55	—
2	Arunachal Pradesh	—	—	—	—	44.70	—
3	Assam	—	47.31	71.46	101.06	106.95	154.27
4	Bihar	22.29	56.39	47.67	67.23	75.58	—
5	Chattisgarh	27.54	59.50	30.73	33.30	44.29	—
6	Delhi	—	—	—	—	—	—
7	Goa	—	61.82	—	119.64	142.12	114.27
8	Gujarat	46.27	93.79	58.28	81.03	106.19	109.67
9	Haryana	57.25	44.55	46.59	214.86	65.79	55.11
10	Himachal Pradesh	—	—	215.03	60.66	109.03	90.28
11	Jammu & Kashmir	12.78	—	15.18	67.52	69.66	191.15
12	Jharkhand	45.24	129.78	47.03	75.69	129.91	—
13	Karnataka	43.52	86.19	61.00	69.56	92.38	111.59
14	Kerala	45.31	87.63	166.06	46.55	7.77	—
15	Madhya Pradesh	35.53	56.76	47.11	49.67	64.78	145.61
16	Maharashtra	57.94	45.67	62.36	65.93	82.69	212.12
17	Manipur	—	—	—	39.66	110.61	87.10
18	Meghalaya	—	—	—	—	—	70.49
19	Mizoram	—	—	—	—	47.48	—
20	Nagaland	—	—	27.67	45.08	22.53	—
21	Orissa	70.55	40.25	39.97	52.61	74.87	159.99
22	Punjab	84.06	27.07	93.98	90.91	71.35	78.40
23	Rajasthan	33.21	28.11	33.97	40.81	63.28	—
24	Sikkim	—	—	—	—	—	—260.08
25	Tamil Nadu	65.32	50.99	74.10	87.46	119.59	108.49
26	Tripura	—	—	—	41.78	23.84	62.27
27	Uttar Pradesh	45.28	31.25	39.41	63.27	43.05	47.58
28	Uttaranchal	7.31	39.99	50.45	51.83	79.29	91.45
29	West Bengal	48.10	87.66	138.95	57.43	71.17	80.25
	<i>Union Territories</i>						
1	Andaman & Nicobar	—	—	—	—	—	—
2	Chandigarh	—	—	—	—	—	—
3	Dadra & Nagar Haveli	—	—	—	—	—	—
4	Daman and Diu	—	—	—	—	—	—
5	Lakshadweep	—	—	—	—	—	—
6	Pondicherry	—	—	92.10	—	—	—
	All India	63.42	75.93	80.18	90.81	87.08	241.44

Table 12.7b: The Coefficient of Variations of Growth Rates of Towns as per Their Size Class Distribution in 1991

Sl. No	States/U.Ts	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI
1	Andhra Pradesh	64.6	92.4	62.2	97.3		—
2	Arunachal Pradesh	—	—	—	82.7	32.2	—
3	Assam	67.8	78.2	70.6	86.7	64.8	94.6
4	Bihar	35.6	51.1	42.0	54.6	24.8	—
5	Chattisgarh	91.1	103.9	54.7	114.0	74.3	—
6	Delhi	—	—	—	—	—	—
7	Goa	—	41.1	—	56.5	138.4	51.0
8	Gujarat	47.1	75.1	83.3	97.3	104.2	428.6
9	Haryana	46.4	57.7	29.0	52.1	123.0	88.5
10	Himachal Pradesh	—	—	—	—	—	—
11	Jammu & Kashmir	68.0	—	37.53	38.22	67.16	77.70
12	Jharkhand	23.6	38.0	95.2	53.4	190.9	-9.4
13	Karnataka	41.3	71.2	51.5	150.2	230.3	269.7
14	Kerala	54.0	151.7	174.0	194.09	57.9	—
15	Madhya Pradesh	46.5	115.5	55.7	163.0	92.3	—
16	Maharashtra	50.1	118.2	63.9	127.9	211.0	78.9
17	Manipur	—	—	23.5	49.6	65.9	82.0
18	Meghalaya	—	—	15.5	1.9	31.4	—
19	Mizoram	—	—	14.2	14.8	25.4	96.8
20	Nagaland	—	35.2	32.3	54.7	33.9	—
21	Orissa	45.0	48.5	58.4	65.0	151.9	-40.2
22	Punjab	30.8	44.8	64.7	57.1	110.6	96.5
23	Rajasthan	34.8	38.9	39.1	54.4	104.3	—
24	Sikkim	—	—	—	—	—	67.8
25	Tamil Nadu	112.8	68.7	120.0	122.2	146.4	-104.0
26	Tripura	—	—	219.1	123.8	32.1	5.0
27	Uttar Pradesh	60.0	33.4	85.8	52.6	52.1	65.9
28	Uttaranchal	47.9	49.2	59.7	41.6	58.0	178.7
29	West Bengal	109.6	47.3	89.3	86.7	85.2	191.9
	Union Territories						
1	Andaman & Nico.	—	—	—	—	—	—
2	Chandigarh	—	—	—	—	—	—
3	Dadra & Nagar H.	—	—	—	—	—	—
4	Daman and Diu	—	—	109.0	—	—	—
5	Lakshadweep	—	—	—	—	—	—
6	Pondicherry	—	—	97.2	—	—	—
	All India	72.12	86.16	81.30	108.13	110.52	136.19

Source: Based on Kundu et al 2005 (Computed from Paper-2, Rural-Urban Distribution, 2001).

- 1) The 1981 Census reported a total of 4029 towns.
- 2) Provisional Population Totals: Rural-Urban Distribution, Census of India, Paper 2 of 1991, Page No. 419.
- 3) The reasons for this growth pattern have been already discussed.
- 4) An analysis of the growth pattern of towns for the 2001 Census has been carried out by Kundu et al in 2006. The study clubbed the smaller towns with population below 20,000 into one category for analysing the growth profile as also structure of urban population.
- 5) Andaman Nicobar Islands merit a special mention as its share has gone up from zero to 85 per cent due to the city of Port Blair graduating to a class I city.
- 6) Kundu (1983).
- 7) In case of Punjab, this holds good for 1981-91 only.
- 8) It may be noted that class VI towns are of special type as many of them have come to exist with the establishment of a large public or private sector unit. Their socio-economic characteristics including demographic growth do not follow the pattern observed in case of other size class of urban centres.