Population Density, Distribution and Growth in India: Objectives, Population of India, Density and Distribution of Population, Factors Influencing Distribution

By people we mean not only their numbers as consumers but also as developers or managers of the natural resources. For this purpose, we look at their educational and health status, their vocational, technical, and social skills and above all their aspirations, value system including work habits or work ethics. In this chapter, we will examine the size of India's population in the context of the world. We will study the distribution and density of population and various factors influencing them. We will also analyse trends in population growth, their determinants, and consequences.

Objectives

The major objectives of this chapter are:

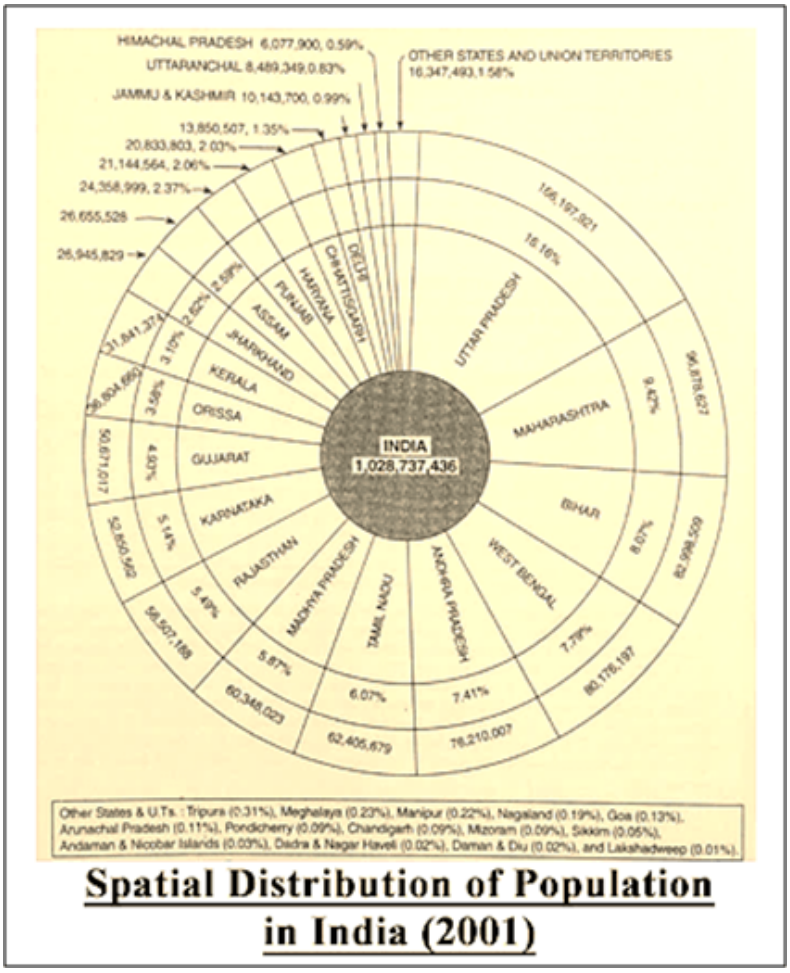
- To explain the size of Indian population in the world perspective
- To analyse factors responsible for uneven distribution of population
- To show the areas of dense, moderate, and sparse population
- To interpret the data about distribution, density, and growth of population
- To explain the trends in population growth during the last hundred years i.e.. , 1901 - 2001
- To identify factors responsible for rapid growth of population
- To define various demographic terms such as birth rate, death rate etc.
- To appreciate the need for lowering the growth rate of population
- To analyse causes and consequences of in and out migration in the country

Population of India

- India is the second most populous country in the world next only to China. On March 1,2001 the total population of India was at 1027 million. This accounted for 16.7% of the world's total population. While India possesses only 2.42% of the world's total land area, she is required to sustain almost 17% of the world's population.
- In terms of area, India stands seventh preceded by Russia, Canada, China, the United States of America, Brazil and Australia. Barring China, the total population of these large five countries is far less than that of India. The total area of these five countries is over sixteen times whereas their total population is much less than that of India. In fact, the total population of North America, South America, and Australia added together is less than the population of India. On the top of it, we are adding over 17 million people each year. It is more than the total population of Australia. Actually, the net addition to Chinese population each year is less than ours.

Density and Distribution of Population

- The size of population of different areas can be compared in many ways. One of the ways can be to compare the absolute size of the population. But it does not provide any idea about the relationship of population with the area or resource base of the country. This type of comparison is therefore not adequate. For example, population of Singapore is 4.2 million and that of People's Republic of China is 1,300 million. Indeed, one is too small and the other is too big. Now take into consideration that the area of Singapore is just 630 sq. km, whereas China has an area of 9.5 million sq. km. This helps us to know how crowded Singapore is as compared to China. Therefore, the population of various countries are generally compared in terms of density of population. This is a method of comparing the man-land ratio of different regions. For this purpose, the population of a region is assumed to be distributed evenly in all its parts and the number of people per square kilometre is thus calculated. This is called arithmetic density of population. The density of population can be expressed as:
- $$\text{Density} = \frac{\text{Total number of people of} a\text{country}}{\text{Total area of the country}}$$
- Therefore, the density of population is expressed as the number of persons per square kilometre. According to 2001 Census, the density of population in India is 324 persons per square kilometre. Over the last 100 years density has increased more than four times. It has increased from 77 in 1901 to 324 in 2001.



Spatial Distribution of Population in India (2001)

- In reality, the distribution of population in India is highly uneven. The uneven density of population in India is clear from the fact that in Arunachal Pradesh the average number of

populations is only 13 persons per square kilometre, whereas it is 9,294 persons per square kilometre in Delhi as per 2001 Census.

Factors Influencing Distribution and Density of Population

The spatial spread of population in India is not uniform. There are very wide regional variations. All such factors affecting the population distribution and density may broadly be grouped into two major categories. They are:

- **Physical Factors**: Physical factors play a vital role in the density and distribution of population. Though there is a lot of improvement in technology but the patterns of population distribution all over the world continues to reflect the influence of varied physical factors. They are:
- **Landforms**: The most important attributes of landforms which determine population density and distribution are the altitude and slope. The most striking evidence of the influence of altitude and slope on population density and distribution have been observed between mountains and plains. For example, take the case of most densely populated Indo-Ganga plains on the one hand and a highly mountainous state of Arunachal Pradesh on the other. Factors like drainage, and water table have also been affecting population distribution.
- **Climate**: It is one of the essential elements of the physical factors which influence the spatial distribution of population through temperature conditions and the amount of precipitation. Take the case of hot and dry deserts of Rajasthan and the cold and wet Eastern Himalayan region where very low temperature and heavy precipitations prevail. This is the reason for uneven distribution and low density of population here. Almost even distribution and high density of population are found in plains of Kerala and West Bengal where rainfall is high. It is low in the regions of Rajasthan, and lee-ward sides of Western Ghats.
- **Soil**: It is another factor which affects the density and distribution of population. Even today about 75% of population in India lives in villages. People in villages earn their livelihood from agriculture which depends upon the quality of soil. That is why alluvial region of northern plains and coastal and deltaic regions of India continue to support high densities of population. On the other hand, it may be worth mentioning that vast tracts of land in desert areas like Rajasthan, Rann of Kachchh in Gujarat, Terai region in Uttarakhand have been suffering from problems like soil erosion and soil effloresce which support only low density of population.

In any region, the density and distribution are influenced by more than one factor. For example, North-Eastern region of India. Here several factors are responsible for low density of population. These factors are high rainfall, rough terrain, dense forests and poor quality of soil.

- **Socio-Economic Factors**: Like physical factors, socio-economic factors also play an equally important role in density and distribution of population. However, there may not be a perfect agreement upon the relative importance of these two determinants. In certain places physical factors play a vital role whereas in some places socio-economic factors have a greater impact. It has generally been agreed that the role of socio-economic determinants increases. Various socio-economic factors which have impact upon the population are:
- **Socio-Cultural and Political Factors**: Mumbai-Pune industrial complex is a good example to show how social, cultural, historical, and political factors collectively have contributed to its rapid growth of population and its density. Less than 200 years ago, there were small insignificant islands of the Thana Creek on the western coast. The adventurous Portuguese seamen claimed

these islands for their monarch. They in turn gifted these islands to the Royal Family of England by way of dowry. These couple of sleepy fishing village located on these islands could never guess that they would shortly turn into India's largest population conglomeration. East India Company of England set up a trading centre on these islands and later made it the capital city of Bombay Presidency. Enterprising trading and business communities of Parsis, Kuchchhis and Gujarati played a leading role in setting textile mills, development of waterpower and laying roads and railways across the Western Ghats connecting it with its hinterland. Unexpectedly, the Suez international navigation canal made Mumbai the nearest Indian port to Europe. Availability of educated youth from Mumbai and Pune and inexpensive and disciplined labour from Konkan also contributed to the rapid population growth. The discovery of Bombay High oil and natural gas fields gave boost to its petrochemical industry. Today, Mumbai is known as commercial capital of India backed by international and domestic airports, major seaports, and national road and rail terminals. Similar is the case with other cities like Kolkata and Chennai which were established by the colonial rulers.

- **Availability of Natural Resources**: The Chhota Nagpur Plateau region has all along been a rocky and rugged terrains. This rainy and forested region has been a home of several tribes and was one of the sparsely populated parts of the country. However, a string of industrial towns and centres have sprung up over the past century soon after rich minerals such as iron-ore, manganese, limestone, coal etc. were found in unusual abundance and close to one another. The rich coal and iron fields have attracted heavy industries particularly iron and steel, heavy engineering, metallurgy, and transport equipment industries. The region has also important super-power thermal stations from where power is supplied to far off areas. After liberalisation, many multi-nationals as well as national companies have been establishing their industries in large numbers.