UNIT 2 : POPULATION & HUMAN RESOURCES

UNIT STRUCTURE

2.1 Learning Objectives

2.2 Introduction

2.3 Theory of Demographic Transition: Brief Concept

2.4 Size and Growth of Population in India

2.5 Characteristics of the Indian Population

2.6 Indicators of Human Development

2.7 Let us Sum Up

2.8 Further Reading

2.9 Answers to Check Your Progress

2.10 Model Questions

2.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- describe the concept of human resource,
- derive an idea about the different stages of demographic transition,
- discuss the growth and various characteristics of the Indian population, and
- explain the concept of human development and its various indicators.

2.2 INTRODUCTION

We all know that man is the most intelligent creature on the earth. By using his intelligence, man can innovate new skills and produce many things. Thus, on account of his contribution to the production process, human may be considered a valuable resource just like any other factor of production.

Human resource may be considered as capital asset which yields a stream of economic benefits over their working life. An improvement in mental and physical capability enhances the quality of human capital. As the human being contributes to growth and development by providing labour as well as innovative and entrepreneurial skill, it is called human resource.

Population can be considered a human resource as it contributes to the production process. But population size should be ***optimum***, it shouldn't be either too big or too small. A very small size of population may not be able to supply labour force & fails to generate effective demand. Similarly, a huge size of population is a burden on the economy. Therefore, it is important to maintain the optimum size of population for the balanced relationship between population size and economic development. But this relationship is a two way relationship. One important theory to explain how development affects population is the Theory of Demographic Transition which states that population growth can be studied in three stages. This unit begins with a brief outline of the Theory of Demographic Transition. Then it discusses the size, growth and characteristics of the Indian population. Then, finally we shall discuss the concept of human development and the indicators of human devlopment viz., the Human Development Index (HDI).



Optimum size of population means that population size, which the ecology of the country can sustain. But it is not the maximum number of population.

2.3 THE THEORY OF DEMOGRAPHIC TRANSITION

The theory of demographic transition postulates that birth rate and death rate differ in different stages of development. Population growth can be studied in three stages. Hence the sequence of birth and death rate are typically associated with economic development.

First stage: In the first stage of population growth both birth rate and death rate are very high. This keeps the actual growth rate of population low. According to this theory, death rate is high in the first stage because of several interrelated reasons. Developing countries are normally agrarian in nature with low productivity. People suffer from malnutrition, improper sanitation measures and absence of effective medical aid. In this stage, birth rate is also high because of some deep-rooted social belief, religious belief, early marriage, ignorance & absence of knowledge about family planning measures. Thus, the first stage is characterised by a high death and high birth rate. But such high birth rate shows the growth potentials only. The actual growth rate is very low since high birth rate is balanced by high death rate and vice versa. As a consequence, the growth rate of population is slow.

Second stage: In the second stage of demographic transition, the death rate starts falling rapidly, but the birth rate remains almost stable. This leads to the widening of difference between the two, resulting in a very fast rise in the growth of population. Rise in income level enables the people to improve their diet. Economic development also brings about all-round improvement including the progress of health and other facilities. All these direct and indirect effects of development tend to reduce the death rate. Thus, in this stage the actual rate of population growth is high because of falling death rate even if birth rate remains stable or there is slight fall in it. In fact, in the second stage, the birth rate may actually increase because the number of persons in their reproductive age increases with a rise in life expectancy. Therefore, we can say that in the second stage, the growth rate of population becomes very rapid. India is in this phase of population explosion. But such rapid population growth has very serious consequences for the country's economic growth.

Third stage: The continuing development process further changes the basic characteristics of a developing country. Development brings about industrialization and urbanisation. As a result, people gradually develop a tendency to move from rural to urban areas. To cope up with the trend of urbanisation & rising cost of living, women have to go out for work. Under such circumstance, it becomes difficult to maintain large families and children become a problem instead of being a matter of pride.

Further, because of the expansion of education, people change their attitudes; they give up traditional beliefs & old values. Gradually, a stage comes to life when people realise the advantage of small family. As a result, birth rate falls gradually. On the other hand death rate is already very low which however can't be zero; because man can not escape death. In this way, the gap between birth rate and death rate narrows down and the growth of population becomes very slow. Thus, in the third stage, the birth rate and death rate become stable at low level, resulting in a very slow rise in population. The three stages explained above reveal the transformation of a primitive high birth & high death rate economy into a low birth & low death rate economy.



CHECK YOUR PROGRESS

Q 1: Why is the human being considered a capital asset? (Answer in about 30 words)

.....

.....

.....

.....

Q 2: Outline the basic features of the three stages of demographic transition. (Answer in about 40 words)

.....

.....

.....

.....

2.4 SIZE AND GROWTH OF POPULATION IN INDIA

After the above discussion of the Theory of Demographic Transition, we can definitely say that India is out of the first stage but it has not entered the third stage either. Therefore, it can be said that India is passing through the second stage. But there are some differences with the theoretical formulation of this stage and the ground realities in India. In the beginning of 20th century the size of population in India was 236 million and this has grown to the size of 1,027 million according to the census of 2001. A study of the growth rate of India's population falls into four phases:

1891-1921 : stagnant population

1921-1951 : Steady growth

1951-1981 : Rapid high growth

1981-2001 : high growth with definite sign of slowing down

Compound Annual Growth Rate (CAGR) *:* If we study the trend of India's population growth, these four phases will be seen clearly. From Table 2.1 it has been found that during 1981-1921, compound annual growth

rate (CAGR) of population was very low. But from 1951, population grew at almost 2.1 percent & the high growth rate continued up to 1981. Population was still growing, but there was a slight fall in the compound growth rate. Since the last census in 2001, population has grown at the rate of merely 1.7 percent per annum.

Table 2.1: Compound annual growth rate of population in India

Time period	CAGR of population
1891-1921	0.19
1921-1951	1.22
1951-1981	2.15
1981-1991	2.11
1991-2001	1.93
2001-2011	1.64

Source: *Census of India, 2011*

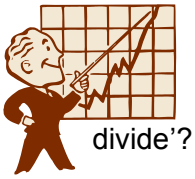
Prior to 1921, India was at the first stage of demographic transition. The year '1921' is also called the year of great divide. This is so because before 1921, the rise of population was very slow and irregular, but after 1921 there was rapid and uninterrupted increase in it. Thus, from 1921 onwards, India has entered into the second stage of demographic transition in which the high growth potential of population was realised as a high actual growth of population. In view of the trend, it has been realised that very soon India will enter the third stage of demographic transition. Please note that no Census was done in 2021, basically due to Covid-19 pandemic.

Causes of high birth rate in India: After knowing that India has been experiencing population explosion, naturally a question arises in our mind regarding the causes of such high birth rate. High birth rate is a special feature of the under developed and developing countries. Several factors are responsible for this high birth rate. Some of the important causes are mentioned below–

- **Poverty :** Poverty, associated with illiteracy and ignorance makes people believe that a large number of children can generate more

income. Besides, there is an intensification of reproductive capacity in chronically starved people which develops through a complex process, involving psychological factors.

- **Religious belief and social attitude :** Especially among the Hindus, it is a common belief that without a male child, it is not possible to get deliverance from the cycle of birth and rebirth. Marriage is considered as an universal custom that has to be followed at an early age. In general, unmarried people don't enjoy respect in the society. All these factors contribute to increasing the reproductive rate.
- **Illiteracy & ignorance about family control measure :** India is yet to obtain a high level of literacy. Particularly women folks are not advanced in comparison to the male counterpart. Many of them don't know the merits of family control and the measures associated with it. Govt. of India has adopted several policy measures in this respect but the results are not so satisfactory.



CHECK YOUR PROGRESS

Q 3: Why is the year 1921 called 'the year of great divide'? (Answer in about 30 words)

.....

.....

.....

.....

Q 4: There are three stages in the theory of demographic transition. In which stage is India at present?

.....

.....

.....

.....

2.5 CHARACTERISTICS OF THE INDIAN POPULATION

Having acquired some knowledge about the size and trend of population growth, it would be useful to know some of the characteristics of Indian

population. These have been discussed below:

- **Sex ratio:** Sex ratio shows the number of females per thousand males. It can be calculated by dividing the total number of females by total number of males and multiplying the resultant by 1000.

  As per 2011 census, there are 940 females for per thousand males. This is marginally higher compared to the figure of 2001 census which was 933. Table 2.2 shows the overall trend of sex ratio in the country since 1901.

Table 2.2: Sex ratio in India

Year	Females per thousand males	Year	Females per thousand males
1901	972	1961	941
1911	964	1971	930
1921	955	1981	934
1931	950	1991	927
1941	945	2001	933
1951	946	2011	940

***Source**: Indian Economy, Datt and Sundharam, 2016*.

The above table shows that the sex ratio has been declining continuously barring the marginal improvement at a few points. Also note that among different states, Kerala alone shows a higher proportion of females, 1084 per thousand males in 2011. The states which had lower sex ratio than the national average are Assam, West Bengal, Bihar, Rajasthan, U.P, Punjab & Harayana. There is no universally acceptable explanation of declining sex ratio in India. This is because female foetuses are biologically stronger than the male foetuses and there is every possibility that women has longer life expectancy than male. However, there are few a reasons which have been put forward to explain this contradiction. *First*, a girl child is often ignored in the society. Some societies practise infanticide and foeticide. *Secondly,* because of ignorance, Indian women give birth to babies at a very short interval. This leads to death of many women. *Thirdly,* it is doubtful whether women were counted correctly. Because whenever any

outsider comes, they remain under the veil to maintain social tradition. So, some women may refuse to appear before an enumerator with the resultant non recording of such women.

- **Age Composition :** Age composition of population gives an idea about the proportionate number of persons in successive age categories in a given population. A population with persistently high fertility, for instance, has a large proportion of children and a small proportion of aged persons. But against this, a population with low fertility for a long time, has a smaller proportion of children and a larger proportion of aged persons.

  Information on the age composition is important for several reasons. The study of age composition is helpful in determining the proportion of labour force in the total population, unproductive consumer and dependent population. The census figure of 2001 shows that the proportion of child population in the age group 0-14 was 35.6 percent. The figure shows a high proportion of unproductive consumers in the population size. But the proportion of unproductive consumers was even higher in the previous four decades. The percentage of workforce which considers the age group 15-60 is 58.2. But the percentage of population in the age group of 60 and above is as low as 6 percent. This small percentage in this age group is owing to the low life expectancy of the Indian population.

- **The Density of Population :** The concept of density of population gives an idea about the average number of people living in a given km. area. It indicates the ratio of population to land. The density of population has been rising since 1921. The increase has been rapid from 1951 onward. The density of population was 77 persons living per square km. in 1901. This very small figure jumped to 267 per square km. of area in 1991 & further shot up to 324 per square km. in 2001 and then to 382 in 2011.

  But there is variation in density of population among different states & within states. There are differences in density in different regions also. As per Census 2011 figures, the density of population is

the highest in the union territory of Delhi (11297). Among the states, the density of population is the highest in West Bengal (1102) and the lowest in Himachal Pradesh (123). There are many reasons for this; but the main reasons behind such variation in density of population are due to variation in climate, rainfall, irrigation facilities etc. Another reason may be disparity in industrial development.

- **Rural Urban Ratio :** Before discussing rural urban ratio in India, it would be better if we have a glimpse of the concept of 'urbanisation'. In a very simple way urbanisation can be described as the process of conversion of rural areas into urban areas. But the parameters used for describing urbanisation vary among different countries. At present an urban area has thus been defined in India as follows:
  - All places with a municipality, corporation, cantonment board or notified town area committee
  - All other places which satisfy the following criteria:
    - A minimum population of 5,000,
    - At least 75 percent of the male working population engaged in non agricultural activities, and
    - Density of population is at least 400 persons per sq. km.

    The main features of urbanisation in India are as follows:
  - The urban population has grown rapidly since 1961, with the decadal growth rate for 1961-71. at over 38 percent. During the period 1991-2001, the urban population has increased at the rate of 31 percent. As percentage of total population, the urban population was about 11 percent in 1901, about 18 percent in 1961, about 26 percent in 1991, 28 percent in 2001 and 31.2 in 2011.
  - There has been a larger rise in the population of big towns. In comparison to class I and Class II towns, the percentage of urban population in smaller towns (class II) has in fact declined.
  - There is variation in the level of urbanisation among different states.

But in spite of high rate of urbanisation, a majority of population lives in rural areas. The percentage of total population living in rural area is 72.2 in 2001, thus, leaving the urban figure to be 27.8. In the following table 2.3, the

percentage of rural and urban population in India over a period of hundred years has been shown.

Table 2.3: Relative growth rate of rural and urban population

Year	Percentage of rural population	Percentage urban population	Year	Percentage rural population	Percentage urban population
1901	89.0	11.0	1961	82.0	18.0
1911	89.6	10.4	1971	80.1	19.9
1921	88.7	11.3	1981	76.7	23.3
1931	87.8	12.2	1991	74.3	25.7
1941	85.9	14.1	2001	72.2	27.8
1951	82.7	17.3	2011	68.8	31.2

Source: *Indian Economy, Datt and Sundharam, 2016.*

Over the time, the percentage of urbanisation has been increasing gradually. But the overall picture remains the same; thus, the Indian economy may be described as a rural economy as against western economies which are often designated as industrial or urban economies.

This trend depicts the structure of the Indian economy. With inadequate industrial infrastructure, there is little increase in the industrial development. The result is two fold: *first,* urbanisation as indicated by the urban population is no doubt, more than what it was before, but it is still very small in magnitude. *Secondly,* since agriculture continues to be the main occupation of the people, the absolute rural population is much bigger in size.

- **Occupational Distribution of population:** Occupational distribution of the working population of the country refers to the aggregate distribution of occupations in society, classified according to skill level, economic function, or social status. The occupational distribution of an economy depends on the importance given to different industries, level of technology, nature of labour market and on different social issues. The occupational structure is described and analysed by means of various classificatory schemes, which group similar occupations together according to specific criteria such as skill, employment status, or function. Such classifications are also used

as a basis for the empirical analysis of economic and social class. The working population of India according to 2001 Census report is 39.26 percent among the total population of the nation. In rural and urban areas the workforce participation are 41.97 and 32.23 percent, respectively.

Table 2.4 shows the different estimates of the occupational distribution of the work force of India over the years viz., 1961, 1993-94 and 1999- 2000:

- Over the period of time, there has been a trend of decline in the share of the agriculture and allied activities. On the other hand, the share per thousand populations has been increasing in manufacturing and repairing activities.

Table 2.4: Occupational Distribution of the Indian Work Force over the Years

Industry, Division / Group	1961		1993-94		1999-2000	
	No. of workers (in 1000)	Share (in 1000)	No. of workers (in 1000)	Share (in 1000)	No. of workers (in 1000)	Share (in 1000)
Agriculture, Forestry and Fishing	143,282	759	238,682	638	237,786	599
Mining & Quarrying	919	5	2,676	7	2,263	6
Manufacturing & Repairing Services	17,906	95	43,218	116	48,296	122
Electricity, Gas & Water	257	1	1,394	4	1,048	3
Construction	2,768	15	12,127	32	17,618	44
Trade, Hotels & Restaurants	8,171	43	28,459	76	37,728	94
Transport, Storage & Communication	3,262	17	10,757	29	14,757	37
Finance, Insurance, Real Estate & Business Services	542	3	3,653	10	4,924	12
Community, Social & Personal Services	11,571	62	32,866	88	33,200	83
TOTAL WORK FORCE	188,676	1000	373,832	1000	397,018	1000

- The construction sector has also shown an increasing trend in the work force participation. Similar trend has been recorded in work force participation in transportation, storage and communication, finance, insurance and real estate.
- Even when the share of the agricultural sector is declining over the period of time, but the sector still engages the largest number of workers. Thus, the Indian economy is still characterised as a primitive economy, primarily led by farmers, fishermen and agricultural labours.



CHECK YOUR PROGRESS

Q 5: What is the meaning of sex ratio? Trace the causes behind the imbalance in sex ratio in India. (Answer in about 50 words)

.....

.....

.....

.....

Q 6: Briefly enumerate the age composition of the population of India. (Answer in about 40 words)

.....

.....

.....

2.6 INDICATORS OF HUMAN DEVELOPMENT

The concept of human development emphasises on positive freedom as a key element in any definition of a good society. It judges a society by policies, procedures, and structures by which the needs are met—whether they promote moral responsibility, rational choice and other features of full human development. Such a society can enable its citizen to aspire to achieve greatness, to develop virtues and loyalty, to become skilled and artistic, and also to attain wisdom. Such opportunities can build capability.

Human-centered development has the ultimate objective of enabling all people to enjoy long, healthy and creative lives. It weaves the development

process around people, rather than weaving people around the developmental process. Economic growth is also important but it is a way, not an end. In the long run, it is human growth that matters most, not economic growth.

Since 1990s, the United Nations Development Programme has been issuing the ***Human Development Report (HDR)*** with the Human Development Index as a comprehensive measure of human development. The basic tenet of the Human Development Report is that a long and healthy life along with the basic educational skills of reading and writing and being capable of maintaining a decent standard of living are the essential components of human development.



Mahbub-ul-Haq (1934-1998) was born in Jammu and Kashmir. He is credited to be the creator of the Human Development Report. He was an influential, world renowned Pakistani economist.

As a result, the HDI tried to measure human development through the following three indices:

- *A long and healthy life*, as measured by **life expectancy at birth**. Thus, it indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.
- *Knowledge*, as measured by the **adult literacy rate** (with two-third weight) and the **combined *gross enrolment ratio*** in primary, secondary and tertiary levels of education (with one-third weight), and
- *A decent standard of living*, as measured by Gross Domestic Product *(GDP)* **per capita in purchasing power parity (PPP) in terms of US dollars**.

Please note, in the recent HDRs, to calculate the education index, adult literary rate and combined gross enrolment ratios have been replaced by: 1) mean years of schooling, and 2) expects year of schooling respectively.



LET US KNOW

Gross enrolment ratio : The gross enrolment ratio (GER) or gross enrolment index (GEI) is a statistical measure used in the education sector by the UN in its Education Index. The GER gives a rough indication of the level of education from kindergarten to postgraduate education – known in the UK and some other countries (mostly in the Commonwealth of Nations) as primary, secondary, and/or tertiary – amongst the residents in a given jurisdiction.

In the UN, the GER is calculated by expressing the number of students enrolled in primary, secondary and tertiary levels of education, regardless of age, as a percentage of the population of official school age for the three levels.

Purchasing power parity (PPP): It is the rate of exchange that accounts for price difference across countries, allowing international comparisons of real output and incomes. In the calculation of PPP, the economy of the United States is used as a reference, so that country is set at 100.

Now, let us consider India's achievements in different indicators of the Human Development Index in the recent years. We have taken the HDI of 2007/08 and 2019.

Table 2.5: India's Position in the Indices (HDR, 2007/08)

1. Life expectancy at birth (in years)	63.7
2. Adult literacy rate (in percent)	61.0
3. Combined gross enrolment ratio (percent)	63.8
4. GDP per capita (PPP US$)	3,452

Please note that some changes have been made in the methodology of calculationg HDI from time to time. The latest HDR of 2019 reflects that India was placed in 129th position. However, as per 2021-22 reports, India

occupied 132th position in the UNDP HDI. India's position in the indices in the latest years of 2019 and 2021-22 has been shown in Table 2.6.

Table 2.6: India's Position in the Indices (HDR, 2019)

	2019	2021-22
1. Life expectancy at birth (in years)	69.4	67.2
2. Expected years of schooling	12.3	11.9
3. Means years of schooling	6.5	6.7
4. GNI per capita (PPP US$)	6,829	6590



ACTIVITY

Try to find out the ranks of India and its neighbouring countries in the Human Devlopment Reports (as many as possible) published by the UNDP in the recent years.

.....

.....

.....

.....

.....



CHECK YOUR PROGRESS

Q 7: What does the life expectancy at birth indicate? (Answer in about 40 words).

.....

.....

.....

.....

Q 8: What is purchasing power parity? (Answer in about 30 words)

.....

.....

.....

.....



2.7 LET US SUM UP

- To outline the scenario of population growth of India it is important to know some of the characteristics of the population.
- The first is sex ratio which shows the number of females per thousand males. As per 2011 census, there are 940 females per thousand males. No Census was conducted in 2021 due to outbreak of the Covid-19 pandemic.
- The second is age composition. The age composition in India shows the percentage of workforce is the age group 15-60 is 58.2 but at the same time a major portion is unproductive consumers.
- The third is density of population which shows the ratio of population to land. The fourth is rural urban ratio. The urban population has grown rapidly since 1961. But there is variation in the level of urbanisation among different states. In spite of high rate of urbanisation, a majority of population lives in rural area.
- The percentage of total population living in rural area is 72.2 in 2001. Occupational distribution shows the aggregate distribution of occupation in a society. The occupational structure is described and analysed by means of various classificatory schemes, which group similar occupations together according to specific criteria such as skill, employment status, or function.
- As the human being contributes to growth and development by providing labour as well as innovative and entrepreneurial skill, it is called human resource.
- India is experiencing very high rate of population growth. But it has been expected that the population size will soon become stable.
- Growth and development may contribute to the control of population size.
- The human development index (HDI) is a summary measure of human resource development. It measures the average achievements in a

country in three basic dimensions of human development viz. healthy life, knowledge and standard of living. These three qualitative measures are supported by quantitative parameters such as life expectancy at birth, literacy/education and per capita GDP respectively.



2.8 FURTHER READING

- Datt, R. and K.P.M. Sundharam (2009), *Indian Economy*, S. Chand & Co.
- Kapila, U: *Indian Economy since Independence*, Academic Foundation.
- Misra & Puri : *Indian Economy* (2009), Himalya Publishing House.
- Agrawal, A. N. (2005), *Indian Economy*, Wishwa Prakashan
- *Human Development Report* (2007/2008): UNDP.



2.9 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q 1: We all know that human is the most intelligent creature on the earth. By using its intelligence, it can innovate new skills and produce many things. Thus, on account of its contribution to the production process, human may be considered as resource just like any other factor of production.

Ans to Q 2: The basic features of the three stages of demographic transition are:

In the first stage: both the birth rate and death rate are very high. This keeps the actual growth rate of population low.

In the second stage: the death rate starts falling rapidly, but the birth rate remains almost stable. This leads to the widening of difference between the two, resulting in a very fast rise in growth of population.

In the third stage: the birth rate and death rate become stable at low level, resulting in a very slow rise in population.

Ans to Q 3: Prior to 1921, India was at the first stage of demographic transition. The year '1921' is also called the year of great divide. This is so because before 1921, the rise of population was very slow and irregular, but after 1921 there was rapid and uninterrupted increase in it.

Ans to Q 4: At present India is in the second stage and it is predicted that India will enter the third stage very soon.

Ans to Q 5: Sex ratio shows the number of females per thousand males. As per 2001 census, there are 933 females per thousand males. There is marginal increase over the figure of 1991 census which was 927.

There are several interrelated socio-economic and political causes behind the imbalance in sex ratio in India. But the frequently quoted cause are–

- First, a girl child is often ignored in the society. Some societies practise infanticide and foeticide,
- Secondly, the interval between two babies is very short. This leads to death of many women, and
- Thirdly, there may be problems in the methods of estimation of sex ratio.

Ans to Q 6: The age composition of India shows that-

- The working population in the age group 15-60 is 58.2. but against this a high percentage of population(35.6 percent) is unproductive.
- But the percentage of population in the age group 60 and above is as low as 6 percent because of low life expectancy.

Ans to Q 7: Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.

Ans to Q 8: Purchasing power parity is the rate of exchange that accounts for price difference across countries, allowing international comparisons of real output and incomes. In the calculation of PPP, the economy of the United States is used as a reference, that country is set at 100.



2.10 MODEL QUESTIONS

Short Questions (Answer each question in about 150 words)

Q.1. Discuss the three stages of demographic transition.

Q.2. Write a short note on the construction of the Human Development Index.

Q.3. What do you mean by occupational distribution of population? Briefly discuss how the occupational distribution of population in India has changed over the period of time.

Essay type Questions (Answer each question in about 500 words)

Q.1. What is human resource? Is there any relation between development and population size?

Q.2. Critically discuss the trends of population of India in the context of the theory of demographic transition.

Q.3. What are the different characteristics of population? Discuss in the context of Indian population.

Q.4. What is the meaning of human development? What are the different components of human development considered in the construction of the human development index?

*** *** *** *** ***