

Introduction

Man is a distinct living being in nature and all kinds of geographical studies are made keeping 'Man' at the centre. In other words, he is both a means and an objective in all the activities. Looking at the lifestyle and way of living of people of any country or region, we can know how much amount of resources they may be using. Human population and its standard of living influences the environment of that country or region. However, the aspects related to population such as, total population, distribution and its structure are continuously variable. Hence the study of population distribution and its structure are considered important in Geography.

Population Distribution and Density

Population density of any region is the average number of persons residing per square km. of area. Today, a major part of the world's population resides in a small area of land. According to one opinion, 90 % of the world's population resides in just 10 % of the land area. We find that the distribution of population is highly uneven. Four regions in the world -South Asia, East Asia, east-central North America and Western Europe have the highest world population.

Details of four major population regions			
South Asia	East Asia	East Central N.America	Western Europe
India, Bangladesh, Pakistan, Myanmar, Cambodia, Thailand, Sri Lanka	China, Japan, Korea and Philippines	Canada and some parts of N.E. North America	U.K., Germany, France, etc

Distribution of population is related to a particular place. Therefore in any such study, the way population is distributed is taken into consideration. The easiest way to measure it is by way of percentage distribution. In order to know about population distribution in a particular country, it is shown as how much population of the country resides in its different states. Regions of South Asia and East Asia have more than half of the world's population. Today, it is estimated that every fifth person of the world resides in China. Compared to these regions, densely populated areas of North America are smaller in area. The regions of western Europe and North America are similar in hi-tech development and high per capita income. In developing countries, there are problems such as population increase and low literacy.

World Population Density

We already know that Asia has the highest population density, while Australia is a continent with a very low density. A great variation is seen in population densities of various continents and areas. Now let us understand it.

(1) Regions of high population density

Regions of high population density : Population density above 100/ sq. km.	
World	India
<ul style="list-style-type: none">● Central and South Japan● Southern part of Manchuria● Valley region of Yangtze● East coast of Vietnam● Belgium, Netherlands, north-eastern France● lower valley region and delta of Nile	<ul style="list-style-type: none">● Satluj and Ganga plains● Deltas of Ganga and Brahmaputra● Deltas of Mahanadi, Krishna, Cauvery and Godavari● some parts of Kerala and West Bengal and Maharashtra

(2) Regions of medium population density

Regions of medium population density : Population density 50 to 100/sq. km.	
World	India
<ul style="list-style-type: none">● North Japan● North Korea● Irrawaddy delta in Myanmar● Mekong delta in Vietnam● Western coast of Malaysia● Plains of Sindhu in Pakistan	<ul style="list-style-type: none">● Plateau of South India● Malwa Plateau and Varad region

(3) Regions of low population density :

There are two sub -divisions of this :

(1) Regions with low population density of 10 to 49 per sq. km.

Regions with low population density of 10 to 49 per sq. km.	
World	India
<ul style="list-style-type: none">● Western parts of China and Manchuria● Central and Northern parts of Thailand and Myanmar● Western part of Iran● Plains of Sweden● Northern part of East Russia● Area from Nigeria to Senegal in West Africa● East Africa, Ethiopia● Plateau of South Africa	<ul style="list-style-type: none">● Parts of north-east● Great Indian Desert and parts of Kachchh District● High mountainous regions of the Himalaya



2.1 India : Population Density 2011

* (Before Andhra Pradesh and Telangana got separated)

** (Before Jammu and Kashmir and Ladakh got separated)

(2) Regions with a low population density of less than 9 per sq. km.

Regions with a low population density of less than 9 per sq. km.	
World	India
<ul style="list-style-type: none"> ● East Iran ● Afghanistan ● Central Asia ● Kazakhstan ● Western Siberia ● Taiga forests of Northern Europe ● Prairies region and California in North America ● North-Central part of Andes in South America, Congo Basin in Africa ● Sudan, Angola, Zimbabwe and Republic of Zambia ● Eastern and South – eastern parts of Australia 	<ul style="list-style-type: none"> ● Lahul and Spiti (Himachal Pradesh) and Ladakh ● Parts of Bikaner, Barmer and Jaisalmer Districts in Rajasthan ● Some parts of Kachchh District ● Densely forested areas of Manipur, Tripura, Nagaland, Meghalaya and Mizoram ● North – Eastern Arunachal Pradesh

Population Size

Since ancient times, man has settled in India. The country has a long history of human settlement. As per 2011 census, India has a population of 121,01,93,422, which is 18,14,55,986 more compared to 2001. India ranks seventh in the world in terms of area and second in terms of population. Every sixth person in the world is an India. India's population is more than the combined populations of North America, South America and Australia. India's population is almost one and half times that of Africa and seven times that of UK. Population of U.P. state of India is more than that of Pakistan and Bangladesh each.



2.2 Symbol of Census of India

Regional disparities in population distribution in India

India shows great diversities and disparities in terms of population distribution. There are large states with more population in the country, still this condition does not apply uniformly everywhere. Some factors and conditions play a role in population concentration, out of them availability of natural resources seems to be the most effective. The characteristics of population distribution of our country are as follows. These four states U.P., Maharashtra, Bihar and West Bengal possess a major portion of the country's population.

- Combined population of U.P. and Maharashtra is almost equal to a quarter of India's population.
- Rajasthan and M.P. are large states in terms of area, but they have 5.6% and 6% of the country's population, respectively.

- Bihar has 2.8% of the country's area, but country's 8.5% people reside there.
- Eleven among Indian states and six Union Territories have greater population pressure with respect to their areas, compared to the national average.
- In Arunachal Pradesh and Uttarakhand, population is much less compared to their vast areas.
- Sikkim is the least populated state.
- Lakshadweep is the least populated Union Territory.
- In terms of population percentage among Union Territories of Andaman-Nicobar, Dadra and Nagar Haveli, Daman and Diu, and Lakshadweep, share of Andaman-Nicobar is 0.03%.
- Our country has a mean population density of 382. Arunachal Pradesh has the least density of only 17, while Delhi has a maximum density of 11297.

Factors influencing population density

For his existence and survival, man needs such conditions with which he can make adjustments. However, with the help of science and technology, man can live under adverse natural conditions also. Its extent is highly limited. Fertile plain regions attract man for settling down and such regions have high population density. Let us understand factors influencing population density.

1. Geographical Factors

Latitude :

In regions of high latitudes, temperatures remain low. Due to extreme cold, population is also less. Besides, there is a prolonged absence of sunlight in such regions. But for the purpose of mining of precious minerals and drilling of oil in such regions, people have settled there. But people there have to continuously struggle with nature. Alaska and Siberia are the best examples. Such regions have low population density. In land areas of mid latitudes, population density is high due to favourable climatic conditions.

Relief :

A look at the physical map of the world reveals varied types of relief. High altitude areas are not favourable for human settlement. Few people live in high mountains and regions of high altitudes. These regions have a shortage of plain areas and irrigation facilities for agriculture and also of transport services. High mountain ranges like Himalayas, Andes, Rockies, etc. and plateaus of Tibet and Bolivia have sparse population because of high altitudes. Population is dense in the plain regions compared to areas of high altitude. Because of agriculture, transport, fertile soils, water supply and such natural favourable conditions, such regions have been preferred for human settlement since ancient times. History bears evidence to the fact that all ancient world civilizations developed and reached their zenith in the river plains. Most of the old cities of the world developed along river banks.

Climate :

Extremes of cold or heat are not favourable for man. Under such conditions, human activities become difficult, so such regions have become areas of sparse population. Hot deserts, polar regions and equatorial forests have sparse population. In contrast, the temperate regions and regions of monsoonal climate have higher population density, due to favourable climate.

Soil :

Various crops can be easily cultivated in fertile soils. In such soils, crop yields and output are high. More people can be supported from even limited soils. River valleys have such favourable conditions and hence have a dense population.

2. Economic Factors :

Mineral wealth :

If valuable minerals are found in areas of extreme or unfavourable climate, then people settle there using several means. After crude oil was located in the hot desert regions of West Asia and discovery of Kalgoorlie and Coolgardie gold mines in hot and dry areas of Australia, man has established settlements for economic gains from such mines.

Vegetation :

The economic value of equatorial forests is less, but coniferous forests being economically more valuable, people live in such forests for their exploitation.

Water Supply and its Availability :

'Water is life'. According to the slogan, water is necessary for drinking, cooking, cleaning, irrigation, industries, animal rearing, etc. Hence a reliable water supply offers great attraction for human settlement. Since ancient times, settlements have developed along banks of rivers and lakes.

Irrigation :

Even fertile lands become unproductive in absence of irrigation. They cannot be used in any way. Areas of irregular rainfall or less precipitation also have less population. In areas with irrigation facilities, more than one crop can be taken in a year. Here economic opportunities are more and so population is also more.

Transportation :

Transport facilities influence population density. In areas where transport is cheap, developed and easily available, population is dense. With better transport facilities, there is good development of industry, trade and commercial activities. More people dependent on such activities get settled, so more population density is expected. Industrialization based on transport increases employment opportunities. So such places attract people in search of employment.

Industrial development :

Due to the industrial revolution, other industries developed along with the textile industry. Such industrial centres developed into industrial towns with time. Industries that produce consumer goods require a large number of labourers. Due to immigration for employment purpose, industrial cities have become densely populated.

3. Social and Religious Factors

Social factors also influence population density. Among social traditions, joint family, polygamy influence population density. For religious reasons also, some communities are forced to leave certain place. During World War II, Jews were forced to leave Europe. They migrated to the desert area of west Asia, which led to establishment of a new nation named Israel. In the second decade of the 21st century, due to fanatic talibani rule in Afghanistan, the affected religious minorities were forced to migrate and seek refuge in other countries. Thus, religion influences population density.

4. Political Factors

Government policies also influence population density. Sometimes government establishes industries and offers incentives in sparsely populated areas, so that people settle there. Partition of a country also leads to a major migration. In 1947, partition of India led to lakhs of non -muslims leaving Pakistan for India. The population density has changed to some extent in areas where such refugees settled. In times of war also, thousands of people migrate to safer places. During Iran-Iraq conflict and the Gulf War, thousands of people migrated to European countries. Besides war, conditions of unrest and civil war also cause migration. Change of rule in Kenya and Uganda forced thousands of Asian refugees to leave for U.K. and other countries.

Population Growth

An increase in the number of persons in a region in a specified time is called population growth. Let us understand it with an example. Subtracting India's population of 102.87 crore (2001) from 121.02 crore(2011) , we get a figure of 18.15 crore, which is the population growth for the period 2001 to 2011.

Factors influencing population growth

A high birth rate is responsible for population growth. In India, craze for a male child, lack of awareness and such other reasons are responsible for high birth rate. Besides after independence, development has raised the average life span of Indian people. Latest research in the field of medicine and access to health services have considerably lowered death rate relative to birth rate. This has resulted into a situation of population explosion in India.

Every day, people in thousands migrate to city areas in search of employment. This results in squatter settlements. Such migrations also aggravate the problem of population increase.

Composition of population

Based on census data, and keeping in view the physical, economic, social and cultural aspects of population, we will study its significant details. By doing this we can know the quality of population of a concerned region.

You would also like to know

- 90% of the world's population resides in northern hemisphere, and only 10% resides in southern hemisphere
- 80% of the world's population lives within an altitude of 500 metres from the sea.
- 50% of the world's population lives between 20 and 40 degree North latitudes.
- Only 1% of world's population lives along 60 degree N latitude (mainly in Europe)

Sex Ratio

The number of females per 1000 males is known as sex ratio. In the world, there is minor difference between male-female numbers, with males exceeding females. There are 986 females per 1000 males. The following table shows variations in sex ratio among world countries.

Number of Females per 1000 males			
World's countries	less	almost equal	more
	China, India, Gulf countries, Sudan, Libya, Egypt	Peru, Australia, Sweden, Ethiopia	Canada, U.S., Mexico, South Africa, Brazil, Chile, Argentina

In our country, female population has always remained less compared to male population. Such imbalance is mainly due to the factors such as high death rate of girl child, craze for boy child, female foeticide, etc. Variations in sex ratio is also seen among the Indian states. As per 2011 census, sex ratio in urban areas was 926, in rural areas 947, while the national average is 940. Kerala and Tamil Nadu have 1084 and 996 females for every 1000 males, respectively and rank first and second. Among Union Territories, Puducherry tops with a sex ratio of 1037, while Diu-Daman has the lowest of 618. The four states, Chhattisgarh, Tamil Nadu, Andhra Pradesh and Manipur top the list of states with a balanced sex ratio. Gujarat has a sex ratio of 919.

Let us know more by a comparative study of facts in the following table.

States with least sex ratio in India

No.	State	Sex ratio (Females/1000 Males)
1	Haryana	879
2	Sikkim	890
3	Punjab	895
4	Uttar Pradesh	912

In urban areas, number of females (901) is less, compared to that in rural areas (946). The reason for this is migration for employment.

Rural Population :

Our country is primarily made of villages. About 68.84% of the country's population resides in villages and 31.16% resides in cities. Himachal Pradesh has the highest rural population of 90.21%. Also, Bihar and Assam have rural population of more than 85%. The states of Goa, Gujarat, Haryana, Karnataka, Maharashtra, etc. have rural population less than the national average.

Urban Population :

Urbanization is progressing rapidly. However, its rate is not uniform in all parts of the country. In the last century, the rate has increased by about 11 times. With increase in total population, the urban population has also increased. In terms of urban population, Goa stands first with 62.17%, and Mizoram second with 51.51%. In states such as Maharashtra, Gujarat, Tamil Nadu, Karnataka, Punjab, Haryana, etc., urban population is more than the national average, while in other states such as Himachal Pradesh, Assam, Bihar, Uttarakhand, Tripura, Rajasthan, etc., urban population is less than the national average of 31.16%.

Literacy :

Literacy rate is an indicator of progress. It is an indicator of human development and quality of life. Low literacy rate is a barrier to social and scientific progress. In democracy, literacy is a decisive factor. India's literacy rate is 73%. The figure has increased by fourteen times since 1901. Presently, male literacy rate is 80.90%, while female literacy rate is 64.60%. In the last 60 years, a steep rise in female literacy compared to male literacy is a promising aspect. Literacy rate is different in rural and urban areas of the country and also varies among various social and religious groups. Kerala has the highest literacy of 94% and Bihar has the lowest literacy of 61.8%. The literacy rate is higher than the average of nation in 16 States and 7 Union territories of the country at the time of 2011 census.

Comparison of literacy rate			
	Female	Male	Total
World	80.2%	88.6%	84.3%
India	64.6%	80.9%	73.0%

(Source : UNESCO Institute for Statistics, September, 2014)

Age groups :

Study of age groups gives an idea of available work force and average life span in a country. Population is divided into three groups based on age groups.

- (1) **Children** : less than 15 years of age
- (2) **Youth** : 15 to 59 years of age
- (3) **Old** : more than 60 years of age

As per 2011 census, 29.7% are children, 64.8% are in young age group, while 5.5% fall in the old age group. Analysis of 2011 data shows that percentage of children has declined compared to the past, while percentage of population in rest of the age groups has registered an increase. This indicates a fall in birth rate and increase in average life span. Compared to urban areas, rural areas have more population in children and old age group. Countries having higher standard of living also have more number of aged people.

Occupational Structure :

An observation of India's occupational structure reveals its economic backwardness. People employed in the agricultural sector is 54.6%. Women's participation in the country's workforce is only 23.3%, of which 65% are engaged in agriculture. Women have a greater role in primary

sector activities. As per 2011 data, a rise in employment in non-agricultural sector, is an indication of progress. In India's occupational structure, people are engaged in (1) agriculture (2) agricultural labourers (3) domestic industry and (4) other occupations. A decrease in employment in agriculture indicates farm mechanization and development in other sectors.

Racial composition of population :

India is a country of sub-continental size. Several human races have settled here with time. Arrival and settlement of different races began since the Stone Age, a fact accepted by most of the scholars. According to these scholars, they arrived here from Africa, Mediterranean region, Central Asia, etc. Some anthropologists claim indigenous origin of some races. Fossils of apeman discovered from the Siwaliks zone of the Himalayas, bear testimony to this view.

According to Indian anthropologist **B. S. Guha**, there are six main sub-races : (1) Indo-Aryan (2) Indo-Dravidian (3) Aryo-Dravidian (4) Mongoli-Dravidian (5) Mongolian (6) Dravidian

Linguistic Composition :

Language is closely and emotionally tied to a nation and nationality. As per 1961 census, 1652 languages have been recorded as mother tongue, out of which 23 are widely spoken. Besides English, 22 languages are granted status of state recognized language. Hindi is the most widely spoken language in India. **About 4.48% people speak Gujarati and it ranks 7th among Indian languages.** (2001). Different languages spoken in India give us a message of unity.

Among the most widely spoken languages in the world, Chinese Mandarin is first with 12.44%, followed by Spanish 4.85%. English 4.83%, and Arabian 3.29% are at third and fourth place respectively. Indian languages Hindi 2.68% and Bengali 2.6%, are at fifth and sixth place respectively.

Religious composition :

Religion is an important characteristic of population. Religious belief has an important influence on entire human life. The land of India has witnessed origin of Hindu, Buddhism, Jain and Sikh religions. People who follow Zoroastrian and Zionism are very few. Let us study the religions practised and followers of each on the basis of the following table.

Religions practised in India

No.	Religion	Indian	Gujarat
1	Hindu	79.80 %	88.57 %
2	Islam	14.23 %	9.67 %
3	Christianity	2.30 %	0.52 %
4	Sikh	1.72 %	0.10 %
5	Buddhism	0.70 %	0.05 %
6	Jain	0.37 %	0.96 %
7	other	0.66 %	0.03 %

(based on 2011 census)

Human Development :

You must have often heard the word 'human development'. Which aspects are included in it ? What does the concept actual mean? Let us have more details about it. The main objective of human development is to improve the quality of life. In order to do so, it is necessary that basic necessities of life such as food, clothing and shelter are fulfilled. This is followed by services such as health, education, entertainment, etc. If we consider the living standards of people of different countries of the world, we can see many disparities. In a particular country also, disparities exist in living standards of people with different classes.

Formerly, economic development was accepted as human development. In such a concept of development, only modernization, amenities and luxury were taken into consideration. Such type of development has resulted in problems of social disparities or regional inequalities. In other words, in a way development has led to progress of people, but also side lined many other people. A mere rise in income cannot be termed as human development, but a proper skill of using such income must also develop. For measuring level of development, a qualitative improvement in life is taken into consideration. For human development, four aspects such as equality, stability, productivity and empowerment are basic. An individual should have opportunities for development as per his intellect, skill and capacity, long and healthy life, easy accessibility to education, availability of social and political rights, etc. Thus human development means a process of extending expectations for human development and necessary life sustaining amenities.

Measurement of Human Development

The contribution of economist Amartya Sen, a nobel prize winner of Indian origin, is important in developing the concept of Human Development and its measurement methodology. Based on their guidance, the first report on human development was published in 1990, under the United Nations Development Programme. The Report is published every year. The indices for development are prepared taking into consideration specific parameters for different countries. Average longevity, education gained and living standard are such parameters used in assessment.

1. Life expectancy Index :

Life expectancy of child at birth is considered for measuring health and longevity of life.

2. Education Index :

Here, the number of years spent in school by individual aged 25 years, and how many years a child of five years age is expected to spend in school, are considered. From this information it is possible to evaluate the qualitative aspect of education as a whole.

3. Income Index :

For measuring life sustenance, G.D.P. per capita is linked to income, and the index is fixed.

Based on above three parameters, the Index is calculated between 0 to 1. The Index

represents the difference from the maximum value of integer 1, which any nation needs to achieve. The figures reflect the differences of human development among nations. Today, when the nations of the world are trying for an overall development, they cannot neglect human development.

Human development Index and India

In the Human Development Report of 2015, 188 countries have been categorized according to their human development indices. Accordingly, Norway stands first, followed by Australia and Switzerland.

In this list of 188 countries, India ranks 130 th, placed in a category of countries with average human development. India's rank is improving. Among our neighbouring countries, Sri Lanka ranks 73rd, and Maldives 104th. Both these countries are ahead of India in terms of human development. In the list, Bhutan, Bangladesh, Nepal, Pakistan, Myanmar and Bangladesh are behind India.

India's Population Policy : 2000

In our country, a proposal for Population Policy was made in 1960. Afterwards, India's first population policy was announced in 1976. After encompassing some reforms, a reformed population policy was announced in 1978. The population policy 2000 formed after analyzing country's population figures, has the following important aspects :

- The number of lok Sabha seats be maintained at 543 till the year 2026.
- Infant mortality rate should be brought down to 30 per thousand live births.
- Facilities provided such that 80% deliveries are done in hospitals and with trained staff.
- Minimum age limit for marriage of girls should be raised from 18.
- Child marriage prohibition act and act that bans sex determination tests of fetus must be strongly implemented.
- Vaccination to be done widely.
- A national body be established under the headship of prime minister to implement population policy.

In brief, through implementation of population policy, there would be positive change in condition of community health and fulfilment of other objectives.

Exercise

1. Answer the following questions in detail :

- (1) Describe the regional variations in population distribution.
- (2) Describe the geographical factors influencing population density.
- (3) What is human development ? Explain how it is measured.

2. Give to the point answer for following questions :

- (1) Discuss the social, religious and political factors influencing population density.
- (2) State the aspects of India's population policy.

3. Answer the following questions in brief :

- (1) State the factors influencing population increase.
- (2) Write an account on India's linguistic composition.

4. Answer the following in one or two sentences :

- (1) Which four areas of the world have high population ?
- (2) Name the regions of India having medium population density.
- (3) Which areas of Rajasthan have very low population density ?
- (4) Which states have rural population less than the national average ?
- (5) Which states have urban population less than the national average ?

5. Select the correct answer from the options given :

- (1) State with the highest literacy rate in the country is _____
(a) Telangana (b) Maharashtra (c) Sikkim (d) Kerala
- (2) Which is the new nation founded by the Jews in desert area of western Asia ?
(a) Kenya (b) Uganda (c) Israel (d) Afghanistan
- (3) The state with the least sex ratio in India is _____
(a) Daman (b) Rajasthan (c) Odisha (d) Haryana
- (4) The economist of Indian origin who contributed to Human Development Report _____
(a) O.P. Sing (b) J.C. Bhatnagar (c) Amartya Sen (d) H. M. Patel

Activity

- Arrange a debate on '**Population Growth, A Problem**'
- With the help of your teacher obtain data of population growth from Local self governing office and prepare a graph.
- Prepare a power point presentation on important aspects of this chapter and present it in class
- Visit the following websites under the guidance of your teacher or guardian and know more about the topics covered in this chapter.
- www.censusindia.gov.in
- <http://opengovernanceindia.org>
- www.worldometers.info
- worldpopulationhistory.org
- <https://ourworldindata.org>
- www.populationconnection.org
- hdr.undp.org
- www.nationsonline.org