

2. Population : Part - 2

Population is also considered as a human resource. The physical and intellectual characteristics of the population affect the development of a region. The development of a region is dependent on how human resources are used like other natural resources. The human economic activities also develop with reference to human resources. In fact, if human resources are not developed efficiently, the use of other resources also gets adversely affected. Considering these issues, the population structure, sex ratio, literacy rate, etc. are studied in Population Geography.

Population Composition :

1) Age Structure :

The age structure of a population refers to the number of people in different age groups-

infants, children, teenagers, young, adults, old people. Each of the age group has a share in the population. Their share in the population varies from country to country. The population in each group changes. Their share in the population also varies. Try the following activity in fig. 2.1 to understand the age structures of different countries.

Geographical explanation

Demographers use population pyramids to describe age and genderwise distribution of populations. The Y-axis in the centre of this graph shows age groups while X-axis shows population or percentage of population. The lengths of bars show the numbers or percentage of population. The left side of the graph represents the males while the right side represents the



Try this.

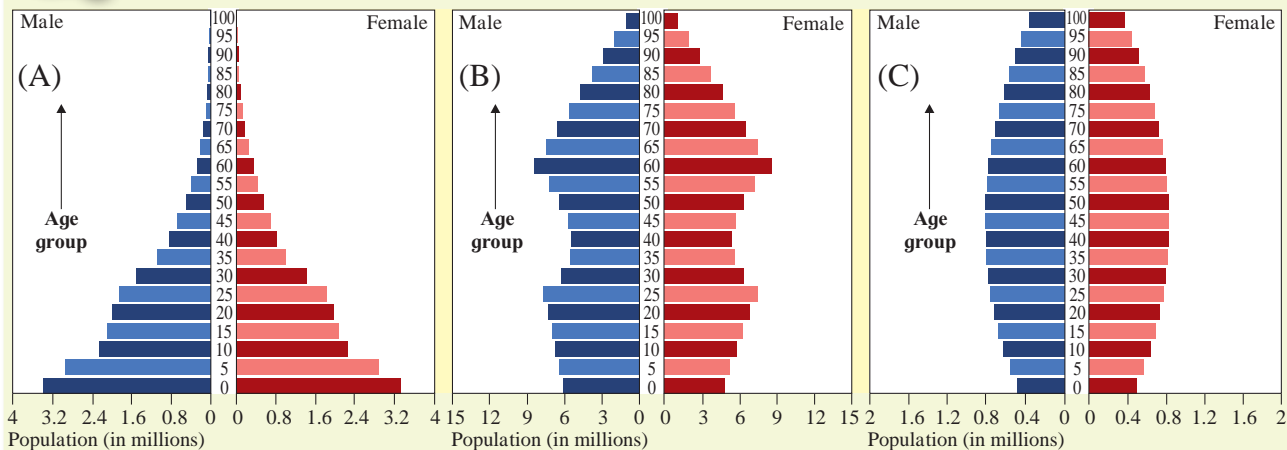


Fig. 2.1 Three types of population pyramids

In fig. 2.1, A, B, C are three population pyramids. Study their shapes and answer the following questions :

- 1) In which pyramid(s) the number of children will be the least?
- 2) In which pyramid(s) the number of old people will be the least?
- 3) Which pyramid(s) represent(s) a 'young country'?
- 4) Which pyramid(s) represent(s) a country with high medical expenditure?
- 5) Which pyramid(s) represent(s) a country with a large manpower?
- 6) Which pyramid(s) represent(s) developing and developed countries respectively?

females. The base of the graph represents the children population while apex represents the old people.

A larger size of the population in the age group of 15-59 years indicates the chances of having a larger independent working population. On the other hand, if the number of children in 0-15 is high, the dependency ratio will be high. Similarly, a growing population in the age group of 60 plus, indicates greater expenditure for medical and health facilities for the aged population.

Three main types of population pyramids :

As per fig.2.1, we will see three main types of population pyramids :

- i) Expansive (A) : Broad base with narrowing apex shows that more people die at each higher band. This also shows high birth rate and high death rate.
- ii) Constrictive (B) : Base gets narrower while apex is broader. This indicates lower percentages of younger people and more of elderly people. This shows low birth rate and lower death rates.
- iii) Stationary (C) : Almost all age groups have same percentages. Very low birth rate and very low death rate. Population hardly grows.

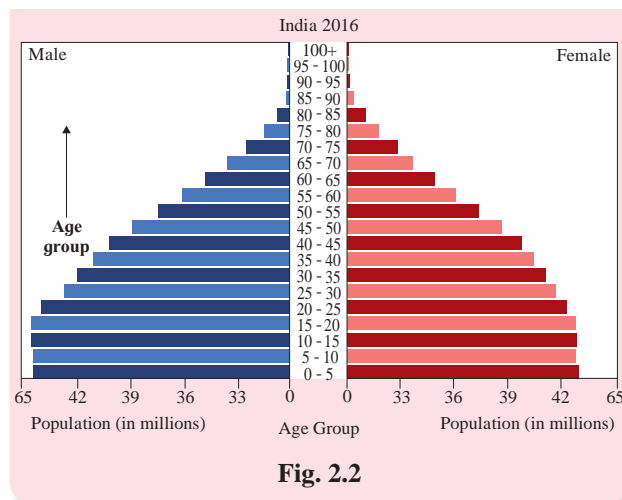
The type of age structure has a direct influence on the future of a nation. Both extremes, i.e., old age dependency as well as young age dependency, prove to be a severe burden on the economy of a country. On the other hand, higher proportion of working population means large number of manpower.



Can you tell ?

Population pyramid of India is given in fig. 2.2. Read the pyramid and answer the following questions :

- Which pyramid type does India belong to?
- Comment upon the age-structure of its population.



Give it a try.

On the basis of the survey done in practical 1, draw a population pyramid for the people in 15 households. Write your conclusions after studying the structure of the population.

2) Sex composition :

Population pyramids also tell us about the number of women and men in various age groups of the country. The gender distribution in a country is an important demographic characteristic. The ratio between the number of women and men in the population is called the sex ratio. In India, it is calculated by using the formula :

$$\text{Sex ratio} = \frac{\text{Total Female population}}{\text{Total Male population}} \times 1000$$

The sex ratio is an important information about the status of women in a country. On an average, the world population reflects a sex ratio of 990 females per 1000 males. The highest sex ratio in the world has been recorded in countries like Latvia, Estonia, Russia and Ukraine where there are 1162 females per 1000 males. In contrast, in Saudi Arabia sex ratio is least and that is 667 females per 1000 males. Countries like China, India, Bhutan, Pakistan, Afghanistan have a lower sex ratio. In general, Asia has a low sex ratio.



Find out !

Find out India's sex ratio as per Census 2011.

Demographic Dividend



Can you tell ?

Read the following table and answer the questions that follow :

Table 2.1 : India - Demographic Dividend

Decade	Ratio of working/ non-working population	Percentage of working population
2001-10	1.33 : 1	57.1
2011-20	1.53 : 1	60.5
2021-30 (projected)	1.81 : 1	64.4
2031-40 (projected)	1.72 : 1	63.2

Source : Economic Survey, 2016-17, Pg. 33

- 1) What does the table show?
- 2) What is the relationship between second and third column?
- 3) How will this relationship affect the economy of India?
- 4) What will happen if the ratio decreases over the years?

Geographical explanation

Demographic dividend refers to the growth in an economy, which is the result of a change in the age structure of a country's population. The change comes because of a decline in birth rates and death rates. As fewer births are registered, the number of young dependents grow smaller, relative to the working independent population.

In simple words, dividend is a type of reward that is distributed among the shareholders. It is the division of profit or surplus received. In a country, there is working population and dependent

population. The ratio between working and non-working dependent population determines how productive the country is economically. The higher the ratio, higher will be the contribution of working population in the economy.

When the population of a country goes through demographic transition, fertility rates, birth rates and death rates also change. There is a change in the age structure of the country. As fewer births are registered, the number of dependents become smaller than the working population. With fewer people to support and more people working, economy's resources are invested in other areas to accelerate a country's economic development. As a result of this, per capita income increases over with time. This economic benefit is in the form of dividend which benefits everyone in the economy.

The benefits are not achieved automatically. Demographic dividend depends on whether the government implements the right policies in areas such as education, health, research, etc. It depends on the level of schooling, employment, frequency of childbearing, economic policies on tax incentives, health programs, pension and retirement policies.

Demographic dividend in a country is visible in the following ways :

- 1) Personal savings can grow and can be used to stimulate the economy.
- 2) As number of children are less, parents can invest more in their education. Thus, human capital is built.
- 3) As more women join the labour force and become economically strong, they contribute in the country's economic growth.
- 4) Per capita GDP increases because dependency ratio is decreased.



Try this.

Answer the questions after studying table 2.2 carefully :

Table 2.2

Country	Retirement Age reforms being implemented or under consideration (in years)
Germany	Retirement age to increase gradually to 66 by 2023 and to 67 by 2029
United States of America	Retirement age to rise gradually to reach 67 for those born in 1960 or later
United Kingdom	Retirement age to increase for both men and women to 66 by October 2020 and further to 67 between 2026-28
Australia	Retirement age scheduled to increase gradually to 67 by 2023
China	By 2045, to increase retirement age for both men and women to 65
Japan	Under consideration to raise the retirement age to 70
India	On an average, 60 years. May vary from 55 years to 65 years according to services

Source: Economic Survey 2018-19 Vol 1, Pg 145

- 1) What does the table show?
- 2) Classify these countries into developed and developing.
- 3) What could be the reasons behind increasing the retirement age in these countries?
- 4) What will be the impact of increase in the retirement age on the economy of the respective countries?
- 5) Why is China considering increasing the age later in 2045?
- 6) Considering these examples from developed countries, will it be good for India to increase its retirement age? Express your views about this.

- 7) Write a concluding statement about the relationship between age structure, life expectancy and economy of a country.

Geographical explanation

The table 2.2 shows that many countries have considered or are considering an increase in the retirement age. This is happening because increase in ageing populations puts increasing pressure on pension funding, retirement provisions and medical facilities. Therefore, many countries have begun raising the pensionable retirement age. Increase in ageing population occurs because life expectancy of the population is generally increasing. Thus, people can now work up to higher ages. For example, the life expectancy in Japan is around 84 years. Therefore, they are now considering increasing the retirement age to 70 which is at present 60 years.

Another aspect which needs to be seen in these countries is their age structures. The proportion of children and young adults in these countries is less or decreasing and hence these countries have increased the retirement age. In China, the retirement age will be changed only in 2045 because it is only then that the proportion of children and young adults is going to reduce in the age structure. Given that life expectancy is likely to continue rising in India, the growing proportion of young and children population should also be considered.

3) Literacy and education :

Proportion of literate population of a country is an indicator of its socio-economic development. It reveals the standard of living, social status of females, availability of educational facilities and policies of the government. The level of economic development is both, a cause and consequence of literacy rate.

Every country has its own definition of literacy. In India – literacy rate denotes the

percentage of population above 7 years of age, which is able to read, write and has the ability to do arithmetic calculations with understanding.



Find out !

Find out the minimum age taken into consideration for calculating literacy.

- 1) Brazil 2) USA 3) Germany



Can you tell ?

Read the following graph in fig. 2.3 and answer the following questions :

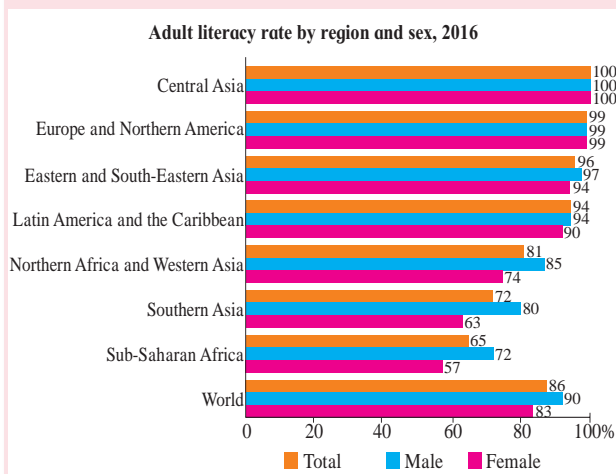


Fig. 2.3

- 1) Which region has the highest literacy rate?
- 2) Which region has the lowest literacy rate?
- 3) In which region does women fare better than men in literacy rate?
- 4) Write a concluding paragraph about the graph.

Geographical explanation

The graph in fig. 2.3 clearly tells us that we find differences in the literacy rate in the same continent. Compared to the global average, the literacy rates in Europe, North America and Eastern and South-East Asian countries are

higher, whereas they are lower in Northern Africa, Western Asia, South Asia and Sub-Saharan Africa. In any continent or sub-continent, the literacy rate of females is not more than men, except where there is full literacy as in Central Asia. It is same in Europe and North America. According to the graph, the lowest literacy rate is in Sub-Saharan Africa.

4) Occupational Structure :

The working population (i.e. women and men of the age group – 15 to 59) take part in various primary, secondary, tertiary and quaternary occupations. The proportion of working population engaged in these sectors is a good indicator of the levels of economic development of a nation. This is because only a developed economy with industries and infrastructure can accommodate more workers in the secondary, tertiary and quaternary sector. If the economy is still agrarian then the proportion of people engaged in primary activities is high.



Give it a try.

Study the table 2.3 carefully and answer the following questions :

- 1) What does the table show?
- 2) Which sector has the highest occupation? In which year?
- 3) Which sector has the lowest occupation? In which year?
- 4) In which sector is the working population increasing?
- 5) In which sector is the working population occupation decreasing?
- 6) Draw a suitable diagram for statistical information showing A, B and C columns from 1901-2011.
- 7) Compare the data. Write a concluding paragraph on the graph.

Table 2.3 : Occupational Structure of India (1901-2011)

Year	1901	1951	1961	1971	1981	1991	2001	2011
A. Primary Sector (1+2+3+4)	71.9	72.7	72.3	72.6	69.4	67.4	57.4	48.96
1. Cultivator	50.6	50.0	52.8	43.4	41.6	38.5	29.6	26.4
2. Agricultural Labourers	16.9	19.7	16.7	26.3	24.9	26.4	25.4	20.3
3. Livestock, forestry, fishing etc.	4.3	2.4	2.3	2.4	2.3	1.9	1.7	1.5
4. Mining and quarrying	0.1	0.6	0.5	0.5	0.6	0.6	0.7	0.8
B. Secondary Sector (5+6)	12.5	10.0	11.7	10.7	12.9	12.1	16.8	23.52
5. Manufacturing	11.7	9.0	10.6	9.5	11.3	10.2	12.4	16.92
6. Construction	0.8	1.0	1.1	1.2	1.6	1.9	4.4	6.6
C. Tertiary Sector (7+8+9)	15.6	17.3	16.0	16.7	17.7	20.5	25.8	27.52
7. Trade and Commerce	6.0	5.3	4.0	5.6	6.2	7.5	11.1	12.1
8. Transport, Storage and Communications	1.1	1.5	1.6	2.4	2.7	2.8	4.1	4.8
9. Other Services	8.5	10.5	10.4	8.7	8.8	10.2	10.6	10.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

5) Rural-Urban Composition :

The division of population into rural and urban is based on the residence. This division is necessary because rural and urban life styles differ from each other in terms of their livelihood and social conditions. The age-sex-occupational structure, density of population and level of development vary between rural and urban areas. The criteria for differentiating rural and urban population varies from country to country.

In general terms, rural areas are those where people are mainly engaged in primary activities and urban areas are those where majority of the working population is engaged in non-primary activities.



Can you tell ?

On the basis of which other characteristics can you explain the composition of population? Make a list.

Migration -

Read the following events and answer the questions that follow :

- 1) Ramprasad has grown up in a village in Northern India. His uncle who lives in Mumbai has called him to Mumbai and offered him a job.

- 2) Ritika has completed her post-graduation from a famous college in Pune. She landed a job in a big company in the USA. It's been 5 years and now she has settled there.
- 3) Sahmat's country is undergoing a war situation. For security reasons, the people had to leave their country and go somewhere else compulsorily. Sahmat and her family have taken refuge in the neighbouring country.
- 4) Babanrao is a small farmer from the Marathwada region. He faced losses in agriculture due to drought. Some other family problems also forced him to sell his land and he shifted to the nearby city. Now he is working and earning livelihood for himself and his family.
- 5) Ritesh from Pimpalwadi completed his school education in his village. He has gone to Nashik for further education.
- 6) Latika, daughter of Surekha and Sandeep from Satara, went to Solapur after marriage.

Questions :

- 1) What similarities do you find in these events?
- 2) Is there a change in the location in these events? Why?

- 3) Arrange these 6 events according to the difference in the relative distance between the new and the old locations?
- 4) Make a list of reasons for leaving the original location.
- 5) Classify the reasons into willing and reluctant.
- 6) Make a list of reasons behind migration besides the ones given here.

Geographical explanation

When an individual or group of individuals moves from one place to another, from one political boundary to another, for lesser or longer duration or permanently; this movement is called migration. This may happen in a pre-planned manner or may happen suddenly. Also it can be either voluntary or involuntary.

In general, migration brings changes in the population. If people migrate to a region, the population of the region will increase. If people leave a region and migrate to another region, its population will decrease. Population density, patterns and structure of the population of both the original region (donor region) and the region where migration has taken place (recipient region) will be affected.

Migration can be classified into various types on the basis of their region, duration, intention or purpose, distance, etc.

1) On the basis of region :

In this classification, migration can be divided into two types :

- A) **Internal migration** : People migrate within the boundaries of their country. They do not leave the country. This is done from one state to another or from one city to another. e.g. moving to Mumbai from other states of India.
- B) **External Migration** : In this type of migration, people leave their country and move to another country. e.g. moving abroad for higher education from India.

2) Classification by duration :

- 1) **Short-term** : This type of migration can be, for limited time or seasonal. Some tribes travel seasonally in search of fodder, this is called seasonal migration. In some places in Maharashtra, more labor is needed during sugarcane harvesting. Then, these labours work in sugar cane fields. When there is no work on the farm, they go to the city and work as labourers. This is an example of seasonal migration.
- 2) **Long-term** : People leave their place of residence and move to a new place. It is not decided whether they will return soon or not. They may come on holidays for a few days and go back. For example, 1) People from India have migrated to the United States of America, Great Britain etc. 2) Some villagers have come to the city in search of employment and have settled here.

In both the examples, if the migrated person returns to the original place after a very long time, it is called a long term migration. But if the person never returns to his original place, it is called permanent migration.

In addition, migration can be voluntary or involuntary.

Reasons for migration :

There are different reasons for human migration from one region to another. It can be economic reasons in some places and social causes in some places.

- 1) **Physical** : Natural events like earthquakes, volcanic eruptions, droughts and flooding may be responsible for population to migrate.
- 2) **Economic** : Migration in which people migrate in search of jobs, businesses, improve their standard of living, etc.
- 3) **Social** : Often people have to migrate forcefully. People decide to leave the place rather than face social problems. It may involve forcing people of a certain group to migrate. Discrimination, education,

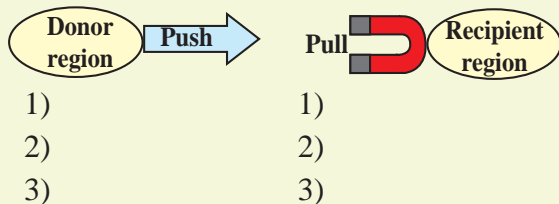
health, medical facilities, marriage, etc. can be reasons behind migration.

- 4) **Political** : Sometimes war or political problems may arise in a country. In that case, people from that country migrate and seek refuge in another country.



Try this.

You have already made a list of the reasons why migration occurs. Add more reasons to it. Discuss it in the classroom. Classify these reasons into pull and push factors and complete the figure. Use the given space or complete it in your notebook.



Geographical explanation

As long as the financial, physical, and psychological needs of a human being are fulfilled in a region, he remains in that region. But when these needs become difficult to be fulfilled, he leaves the place. The factors that cause people to move away from their original places are called push factors. For example, reduced employment opportunities, wars, drought, water or air pollution etc.

On the contrary, when people are attracted to a region due to some factors, they are called pull factors. For example, education and availability of employment opportunities are the pull factors.



Use your brain power !

If you travel to a place for a few days with your family, will it be considered migration?

Impact of migration on population :

We have studied various aspects of population. Migration affects these two factors: distribution and density of population. Migration takes place between two regions. One of them is the donor region while the other is the recipient region.

Population of a region requires housing, water supply, transportation, health facilities, education, recreation, etc. to settle down. In a donor region, migration causes less or no utilisation of these facilities. As a result, expenditure incurred on them becomes unnecessary because population has there reduced.

In such regions, sex ratio and age-structure also change tremendously. For example, majority of men in the working age group of the state of Kerala, go to foreign countries for employment. As a result, Kerala has a higher sex ratio than other states. (1084, Census 2011). When we consider the age structure of the state, we find that the number of children and older people exceeds young age group.

On the contrary, the recipient region may face a pressure on provision of facilities. Housing, water supply, transportation may prove insufficient as compared to the population. One of the most badly affected sectors could be agriculture in the peripheral regions. A large chunk of agricultural land is used for non-agricultural purposes like housing. Also, prices of land increase tremendously. Lack of housing leads to increase in slums. Public facilities get affected very badly. Economic inequality also rises in such cities. Crime rates may also increase.

The recipient regions may also have an unfavourable sex ratio. For example, Mumbai (832), Pune (948) Also working population may be higher than other age groups. There is a great deal of exchange of new ideas and concepts in such regions. These become centres of creation and new researches. Development and use of new technologies is seen. Consequently, development, especially economic development, also takes place on a large scale.



Try this.

Complete the table 2.4, which shows the impact of migration on the population. One is solved as example.

Table 2.4

Sr. No.	Type of migration	Positive effects	Negative effects
1	International migration	Employment is available to migrants. Improves their financial status.	Resources are affected. Sometimes, they might be sent back to their original country.
2	Internal migration		
a	Rural to urban migration		
b	Urban to rural migration		
c	Rural to rural migration		
d	Urban to urban migration		
3	Seasonal /temporary migration		



Exercise

Q. 1) Identify the correct co-relation :

A : Assertion; R : Reasoning

- 1) A : Increase in dependency ratio will affect the economy.

R : Medical costs are high when there are more elderly in the population.

- 1) Only A is correct
- 2) Only R is correct
- 3) Both A and R are correct and R is the correct explanation of A.
- 4) Both A and R are correct but R is not the correct explanation of A.

- 2) A : In population pyramid, a broad base indicates high number of children in a country.

R : Broad apex is an indicator of high number of elderly in a country.

- 1) Only A is correct
- 2) Only R is correct
- 3) Both A and R are correct and R is the correct explanation of A.
- 4) Both A and R are correct but R is not the correct explanation of A.

Q. 2) Write short notes on :

- 1) Population growth and migration.

- 2) Population pyramid and sex ratio.
- 3) Occupational structure of a population.
- 4) Literacy rate.

Q. 3) Give geographical reasons :

- 1) In developed countries, percentage of population engaged in agriculture is low.
- 2) Literacy rate of a country is an indicator of its socio-economic development.
- 3) Demographic dividend increases when proportion of working population increases.
- 4) Migration is not always permanent.

Q. 4) Differentiate between :

- 1) Donor region and Recipient region.
- 2) Expansive pyramid and Constrictive pyramid.

Q. 5) Answer in detail :

- 1) Outline the importance of population pyramids in the study of populations.
- 2) Explain the rural and urban population structure.
- 3) Examine the impact of migration on the population structure of a country.
