CHAPTER 14 WORLD POPULATION

Objectives

After studying this chapter, students should be able to:

- define population;
- describe the size and growth of world population;
- describe the patterns of world population distribution;
- define migration and state the factors influencing migration.

Population refers to the total number of people living in a given area at a particular time, including foreigners. Population constitutes the labour force, as well as the market for the products of primary, secondary and tertiary economic activities. It is difficult to know the actual number of people that live in the world today because the head count has never been a regular affair worldwide. The character of population itself reflects the levels of social and economic development of a country. The important aspect of population includes population size, structure, growth rate, birth and death rates, health, education status and standard of living.

14.1 Population Size and Growth

The world's population is growing very rapidly. In 1820, the world's population reached 1 billion. In 1990, it reached 5.2billion people. As at 2012, the world's population is about 7billion people. The major factors influencing population changes whether in each country of the world or the world as a whole is the changes in birth and death rate.

The birth rates is the number of live-births per thousand in a year. Death rates are number of people dying per thousand in a year. When birth rates are higher than death rates the population of an area will increase. Most developing countries of the world have more births than deaths, unless there is a loss through migration. In any country, the size of the population is considered first. This is done by conducting a census (head count) of every person residing in the country irrespective of age, sex, religion or racial background. Census exercise has to be done from time to time since the population size is not static (usually every ten years). Census problems include poor transportation network which slows down the work of enumerators, illiteracy, inadequate public enlightenment and suspicion among the people about the role of census.

The changes in the total population of a country are expressed by growth rate. Thus, growth rate expresses the amount of change in the population size per unit area. The growth rate is determined by the rates of birth, death and population movement in the world. However, the world's population is not affected by migration because the migrants are still within the world.

Table 14.1: Estimates of world population (1650-2050)

Year	Total World Population (Mid year figures)
1650	508,000,000
1750	711,000,000
1800	912,000,000
1850	1,131,000,000
1900	1,590,000,000
1920	1,811,000,000

1930	2,015,000,000
1940	2,249,000,000
1950	2,556,000,053
1960	3,039,451,023
1970	3,706,618,163
1980	4,453,831,714
1990	5,278,639,789
2000	6,082,966,429
2010	6,848,932,929
2020	7,584,821,144
2030	8,246,619,341
2040	8,850,045,889
2050	9,346,399,468

Sources: UN Demographic Year Book and US Bureau of the Census, International Database

The industrial revolution which started about 1750 brought improvements in sanitation, health care, sewage system and nutrition. These factors promoted rapid population growth and consequently led to increase in the world population from 1billion in 1850 to 2billion in 1950. The population increased in 1990 to 5billion. It is projected that the world population will be more than 7billion by the year 2013.

Latin America leads the world in population growth rates with 2.9%, Africa 2.8% and Asia 2.3% per annum. High population growth rates result in mass poverty in countries with poor resource base. On the other hand, high population growth rates may be an advantage in countries with large land area and abundant potential resources to be developed.

Table 14.2: Estimated population of continents (in million)

Continent	1990	2000	2010	2025
Africa	654	815	1085	1540
Asia	3207	3612	4207	4998
Latin America	453	606	609	728
North America	283	294	328	363
Europe & USSR	795	854	851	878
Oceania	28	33	35	39

Estimates from Population Reference Bureau Inc. 1875 Connecticut Avenue, Washington D. C. 2009, USA.

The population estimate for Africa in 1990 was 654 million. It was expected to be 1billion by the year 2010. A similar growth trend is noticeable in Asia and Latin America. However, the developed areas have low population growth rate.

Factors Influencing High Birth Rate in Developing Countries

The reasons for the persistent high birth rate in developing countries include:

1. Social significance of children: In most developing countries children are regarded as a source of pride and prestige to families and societies at large.

2. Preference for male child: Tradition and social norms emphasize the significance of male children in Africa.

3. Occupation: Children are regarded as cheap labour for agricultural and domestic purposes in the developing countries.

4. Religion: In developing countries, some religions encourage polygamy whereas there is no such in advanced societies.

5. Education: Many of the people in developing countries are illiterate and the idea of a small family is unappreciated. On the other hand, educated persons have smaller families, thereby encouraging family planning.

6. Old age security: Many people believe that in their old age, their children will take adequate care of them.

High birth rate can be reduced in the following ways:

(i) by improving women education
(ii) encouraging monogamy
(iii) establishing many family planning clinics
(iv) encouraging child spacing, etc.

14.2 Patterns of World Population Distribution

Population is not evenly distributed throughout the world. There are areas with dense, moderate and sparse population.

China is the most populous country (about 1.3billion) followed by India (about 1.0 billion), United States (about 276.26million) and Indonesia (about 291,267million). Less than 20% of the world's surface is habitable and within this area, some areas are very densely populated e.g. Singapore island with an average density of 3.590 people per sq km. About half the world's land surface is uninhabited, a quarter is sparsely populated and the remainder is more densely populated.

Densely Populated Areas

The most densely populated areas are:

(a) Agricultural Monsoon Asia: It includes China, Japan, India, Indonesia (particularly Java, Bangladesh, etc).

Factors Responsible for India's High Population Density

These are:

1.	Presence of minerals like coal, tin, ore, etc
2.	India's high fertility rate and early marriages.
3.	The rich fertile alluvial soil of Ganges plain and coastal regions.
4.	The monsoon climate with heavy rainfall and high temperature which favours the cultivation of rice, wheat, etc.
5.	There is availability of agricultural raw materials.
6.	Good network of roads, railways and waterways.

**(b)	Industrial North-Eastern USA:** This is the great industrial belt of the USA and Canada. Among the heavily populated areas in this region are the Piltsburg District in Pennysylvania, USA, the Great Lakes District in USA and Canada and New York – Philadelphia – Boston District of USA. New York has about 7 million while Chicago has about 5million.

Factors responsible for America's High Population Density

These include:

1.	The zone is the most highly industrialized region in the whole world.
2.	The early immigrants from Europe settled in North America.
3.	The zone has the densest network of roads, railways and air routes in the world.
4.	People's standard of living is high.
5.	Ports in the region are the western termini of the very busy North Atlantic sea route.

6.   The region is conducive to human settlement because of its relatively mild temperature climate.

(c)   Industrial North-West Europe: This includes populous countries like United Kingdom, France, Belgium, Netherlands, Denmark and Germany.

Factors Responsible for Europe's concentration of Population

1.   It is the cradle of the 18th century industrial revolution. The zone is one of the most industrialized regions in the world e.g. the Rhur region of Germany.

2.   A mild temperate climate favour human settlement.

3.   Good agricultural lands with abundant supply of rainfall all the year round.

4.   The region has one of the densest networks of roads and railways in the world.

5.   Employment opportunities in the eastern termini ports.

6.   It is the home of the 19th and early 20th century empires like that of Germany, French, British, etc.

(d)   The Nile Valley and Delta: It is in Egypt within Sahara desert. The practice of irrigation converts Sahara desert into an agricultural area with high population.

Moderately Populated Areas of the World

The moderately populated areas of the world include:

1.   Mediterranean Europe
2.   Agricultural USA
3.   Africa

4. Cool temperate forest of Asia, Europe and Canada

5. Most parts of South-East Asia

6. The temperate and tropical grasslands of Southern Continents. In the temperate and tropical grasslands, a moderate population is found because of the predominance of pastoralism and large scale mechanized farming.

The Sparsely/Thinly Populated Areas of the World

These include:

1. The hot deserts of the world like Sahara and Kalahari in Africa; Atacama in South America; Gobi and Thar in Asia etc with few people living in them.

2. Thickly forested and impenetrable tropical rainforests of Amazon and Congo basins. They are uninhabitable.

3. The high mountains of Rockies, Himalayas, etc due to cold weather and rugged relief.

4. Arctic and Antarctica cold polar lands which are uninhabitable.

5. The Canadian and Eurasian tundra and Greenland due to cold weather.

Factors Responsible for the Low Population Density of the Amazon Basin

The low population density in the Amazon basin is due to the following points:

1. Harsh climate: The equatorial climate of excessive rainfall, high temperature and high humidity makes the environment unsuitable for human habitation.

2. There is the presence of dense tropical rainforest difficult to clear and cultivate. Also, the soil is heavily leached by heavy rainfall.

3. Amazon basin is inhabited by primitive nomadic tribes with no permanent settlement e.g. the Boros.
4. Absence of basic amenities like roads, pipe-borne water, electricity etc drives people away from the area.
5. There is no adequate production of raw materials and food crops.
6. The Amazon river floods extensively and renders the hinterland unproductive.
7. The Amazon basins remain underdeveloped because of inaccessibility to some rich minerals like iron ore, copper and bauxite which are unexploited.

14.3 Population Density

Population density refers to the number of people per unit area. It is calculated by dividing the population by the land area. Population density varies greatly from area to area e.g. the densely populated countries like China and India have more than 390 persons per square kilometre while deserts and most of Antarctica are empty. The two types of population densities are crude and ecological densities. Crude density is calculated using the total area of the country while ecological density is calculated on the basis of only the proportion of the area of a country.
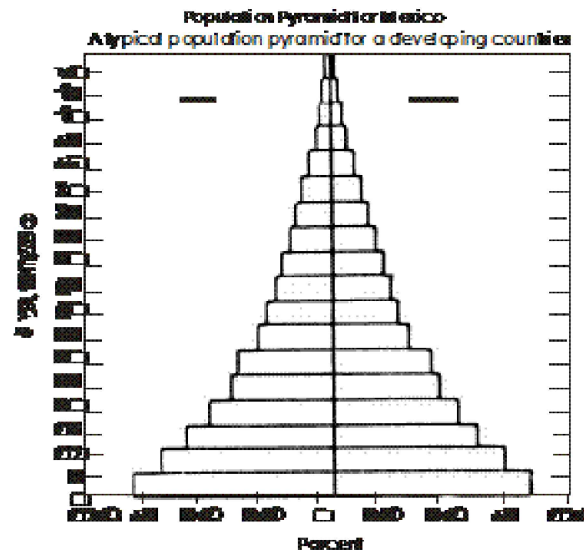
14.4 World Population Structure

The population structure can be defined by its age and sex composition.
The population structure for an area shows the number of males and females within different age groups in the population. The two parameters (age and sex composition) are usually shown graphically in form of pyramids. Thus, the population pyramid is a form of bar graph in which the bars are arranged horizontally rather than vertically. The age and sex compositions are important to know the varying age of births and deaths,

how labour force is influenced by age and sex composition; the diseases and illnesses common with certain age groups and with either the male or female sex; and the material needs of age and sex composition of the population.

Furthermore, the age composition determines the dependency ratio in a country. The population of a country is divided into the working population (15-65 years of age) and the dependents (below 15years of age).

Population Pyramid for Mexico
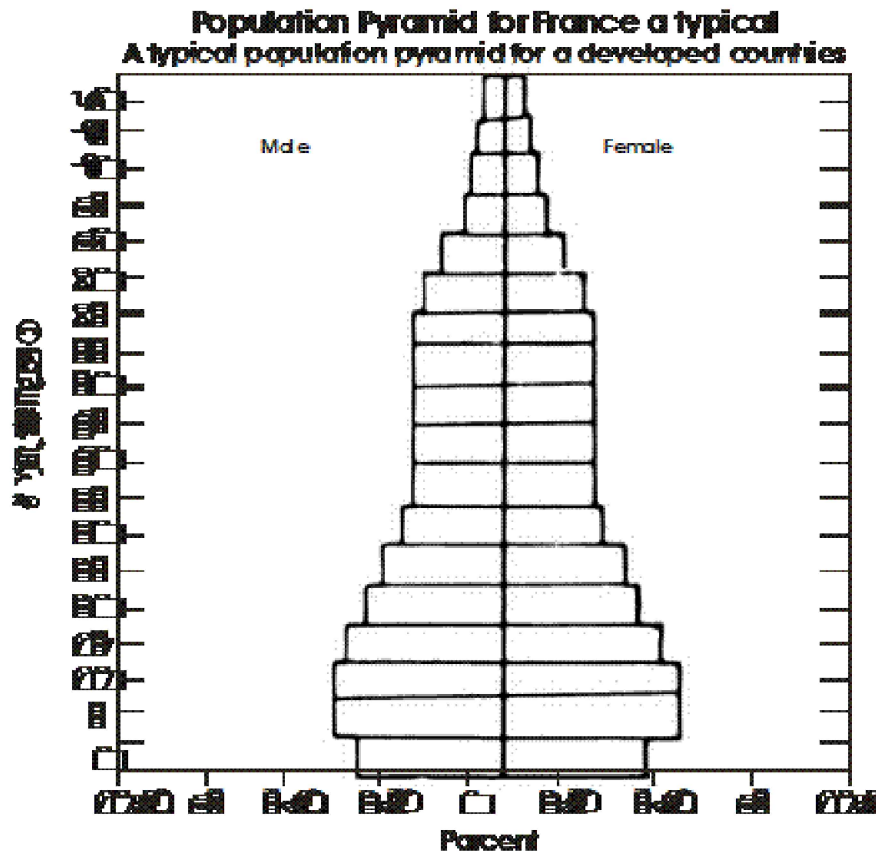A typical population pyramid for a developing countries

Fig. 14: Population pyramids

The quality of life in a country is determined by the health status of the people, the level of education, level of technological development and the general standard of living.

14.5 Migration

Migration can be defined as the movement of people from one geographical area to another for permanent or temporary residence. The two types of migration are emigration and immigration. Emigration is the outward movement of people to another country while immigration is the inward movement of people from another country.

The forms of migration are rural-urban migration, urban-rural migration, urban-urban migration, rural-rural migration and international migration.

Factors Influencing Migration

The factors responsible for migration include:

1.　　Natural disasters: The occurrence of natural disasters such as famine, floods, earthquakes, etc can lead to migration of people.

2.　　Social factors: Some people migrate on religious pilgrimage, some migrate to join their husband while others migrate to attend higher institutions.

3.　　Physical conditions like harsh climate, rugged topography, infertile soil, etc may cause movement of people to a more favourable environment.

4.　　Differences in the availability of social amenities.

5.　　Insecurity e.g. war or communal clashes.

6.　　Differences in economic opportunities between the source region and destination areas.

14.6　World Population Problems

The world's population problems include:

1.　　Inadequate food supply: Food production is increasing in arithmetical progression while population is increasing in geometrical progression. A larger proportion of the population is suffering from malnutrition.

2.　　Inadequate housing: The housing problem is acute especially in the urban centres where a good number of people are completely homeless and have to sleep in open spaces. There are slums in

developing countries where people are crammed together in unhygienic conditions.

3.   Lack of access to good education: There are still millions who cannot read and write. Parents find it difficult to pay school fees or buy textbooks for their children. Governments have also failed in their responsibility to train enough teachers and construct enough classrooms.

4.   Inadequate medical facilities: Governments are simply unable to provide adequate medical facilities to the rapidly growing population. Several deaths occur which would have been avoided.

5.   Provision of social amenities: Social amenities and recreational facilities are inadequate for the growing population.

Possible Solutions to the Problems

The major ways of solving the world's population problems are:

1.   Reduction of population growth rate: It can be achieved through family planning or birth control through public enlightenment which should be done in local languages.

2.   Increasing food production: Food can be increased by opening up new land for agriculture and raising crop yield per hectare. Other methods are application of fertilizers, pesticides, weedicides and farm mechanization.

3.   Redistribution of population: There is need for redistribution of population to avoid overcrowding in some areas. There are thinly populated countries of the world which are capable of absorbing more people through migration.

Summary

- Population can be defined as the total number of people living in a given area at a particular time.
- The world's population is growing very rapidly now at about 7billion people because of high birth rates and low death rates.
- The population structure of an area shows the number of males and females within different age group in the population.
- Population is not evenly distributed throughout the world. Hence, there are areas with dense, moderate and sparse population.
- Migration can be defined as the movement of people from one area to another for permanent or temporary residence.
- Factors influencing migration includes natural disaster, insecurity, differences in economic opportunities, etc.

Objective Questions

1. The only factor that least explains the pattern of population distribution in the world is the

   A. Arab slave raiding

   B. stability of government of the old kingdom

   C. physical factor of rainfall

   D. movement of people from one place to another

   E. occurrence of earthquakes in certain areas

2. The world's highest population growth rates are recorded by countries that

   A. are technological developed B. produce surplus food C. have cool climate D. produce inadequate food E. are highly industrialised

3. Which of the following may not solve the problem of over-population?

A. increase in food production   B. birth control   C. increase in the area extent of towns   D. reduction of agricultural land   E. migration

4.   The high rate of increase in Java's population is largely due to

A. migration from developed countries

B. intensive agriculture and fertile soil

C. increase in job opportunities

D. increase in mineral production

E. expansion of manufacturing industries

5.   Which of the following best explains the drift of population from rural areas to the cities in the world?

A. the cost of living in the cities is very high

B. there are more job opportunities in the cities

C. there is food security in the rural areas

D. better recreational facilities are available in the cities

E. opportunities for higher education are only available in the cities

6.   Which of the following has the highest population concentration?

A. Tropical Asia

B. Peninsular Europe

C. Temperate interior of North America

D. Temperate coastland of South America

E. Tropical interior of Africa

7.   Which of the following factors least affects population concentration in the North-East of USA?

A. Mineral resources

B. Climate

C. Employment opportunities

D. Accessibility

E. Food

8. Which of the following population variable is not calculated in unit per thousand?

A. Birth rate

B. Death rate

C. Fertility rate

D. Growth rate

E. migration rate

9. A rapid population growth in a region can be caused by

A. more deaths than births

B. high emigration

C. the use of family planning methods

D. improved medical care

E. Natural hazards

10. A net population growth is the

A. surplus of emigrants over immigrants plus total death

B. Actual population inhabiting a place

C. surplus of birth over death plus net migration

D. surplus of immigrants plus total birth

Essay Questions

1. Explain how each of the following has affected world population.

(i) Improved medical care

(ii) Advanced technology and industry

2a. Explain two physical and two human factors which may favour a rapid growth of population.

b. Outline five problems that may arise from the rapid growth of population.

3a. Account for the rapid growth of world population in the last two decades.

b. Explain any three problems arising from this rapid growth.

c. Suggest solutions to these problems.

4a. Explain any four factors that determine population distribution.

b. Describe any two types of population movement.

5a. Describe population distribution in India under the following headings:

(i) Factors responsible (ii) Advantages (iii) Problems