

Chemistry

NTSE Foundation

Population

Introduction

Population is the total number of people living in a country at a given point of time. The people, who constitute the population, act as the producers as well as the consumers of goods and services. The significance of studying population lies mainly in estimating the total manpower available for production and the total amount of goods and services required for their consumption.

India rank second in the world, next to china, in the size of population. India has 2.4 percent of total geographical area of the world and 17.7 percent of total world population. It is projected that India may overtake China in 2045 to become the most populous country of the world.

Population Growth

(i) Growth of population refers to the change in the number of inhabitants of a country/territory during a specific period of time. Such a change can be expressed in two ways first in terms of absolute numbers and second in terms of percentage change per year.

(ii) The absolute numbers added each year or decade is the magnitude of increase. It is obtained by simply subtracting the earlier population from the later population. It is referred to as the absolute increase. When a low annual rate is applied to a very large population, it yields a large absolute increase. India's current annual increase in population of 16.5 million is large enough to neutralize efforts to conserve the resource endowment and environment.

(iii) The rate or the pace of population increase is the other important aspect. It is studied in percent per annum, e.g. a rate of increase of 2 percent per annum means that in a given year, there was an increase of two persons for every 100 persons in the base population. This is referred to as the annual growth rate.

(iv) India's population has been steadily increasing from 361 million in 1951 to 1028 million in 2001. from 1951 to 1981, the annual rate of population growth was steadily increasing. Since 1981, however, the rate of growth started declining gradually. During this period, birth rates declined rapidly. The declining trend of growth rate is indeed a positive indicator of the efforts of birth control.

Population growth and natural imbalance:

Since human habitat and livelihood are closely interconnected with the surrounding ecosystem increases pressure from population can cause irreversible damage to fragile ecosystems. So the problem is not simply population growth but finding the right balance between population growth and sustainable development.

There is a growing imbalance between the demands of human population and the resources that support human life. Fresh water, land, finite resources like fossil energy are depleting very fast because of increased pressure to meet the growing demand of an expanding population

Consequences of Overpopulation

Uncontrolled growth of population decreases the growth of any country and also causes many socio-economic disturbances. Overpopulation leads to a number of not only national's but also individual's family problems. When the numbers increase, revenue decrease and the number of drop outs, unemployed and undernourished increases every day. Per capita income, availability of natural resources and basic necessities of life are adversely affected. Some of them are listed below.

1. **Space:** To accommodate increasing population, new cities and towns are developed at the cost of agriculture, forests etc. Deforestation in turn cause problem like soil erosion, floods etc.
2. **Food supply:** Due to rapid population growth but slower food increase, the people are not able to get balanced diet and suffer from malnutrition. So people become weak, anaemic, mentally retarded and less-fit members of society.
3. **Unemployment:** More people but less employment facilities leads to increasing unemployment which breeds frustration and agitations in unemployment youth. At the end of March 1990, around 13 million workers were unemployed.
4. **Education:** Overpopulation leads to rush in educational institutions which lowers educational standard, impair teacher-taught relationship and increased dropouts.
5. **Pollution:** Overpopulation leads to increased industrialization and increased use of automobiles which cause environment pollution.
6. **Price rise:** Overpopulation causes deficiency of basic needs of life so causing like in their prices.
7. **Energy crisis:** Population explosion accompanied with rapid industrialization and urbanization has led to greater demand for already deficient energy (fuel wood, fossil fuels and electricity).
8. **Eco-degradation:** Overpopulation leads to ecodegradation by: increasing air, water, soil and noise pollution, unhygienic conditions, deforestation leading to floods and soil erosion.

So rapid human population growth is creating increased pressure on the infrastructure, availability of primary health care and nutrition.

failure of additional labour power in agriculture, static agriculture production, increased industrialization etc.

Population and Economic Development

Rising population proves to be hinderance to economic development of underdeveloped countries like India due to following reasons.

1. An increasing population necessitates ever increasing investment in order to increase per capita income of the people and the existing lever of living standard of the rising population.

2. The countries like India having high birth rate and low average life expectancy having young population in which a large percentage of population is in 0-14 years age group which are economically unproductive or dependent on other (e.g. more than 42% of Indians belong to this age group). This age group formation.

3. Rapid growth of population decreases the per capita availability or capital which in turn decreases their productivity and earning capacity.

4. Due to lack of capital resources in the under developed as well as developing countries, increase in population is not accompanied, with increase in availability of gainful employment at the same rate. Owing to this, number of unemployed goes on mounting.

5. National income refer to the market value of the goods and service produced by an economy during the period of one year, while per capita income refers to income per individual of the population of that country. Population growth adversely affects the per capital income refers to income per individual of the population of that country. Population growth adversely affects the per capita income especially when the growth rate of population is more than the growth are of national income. So check on population is the immediate solution to the problem of low per capita in the countries like India. According to Ministry of Commerce, national income and per capita income of India were Rs. 16,70,982 and Rs. 16,487 in the year, 2000-2001 in comparison to Rs. 15,57,781 and Rs. 15,562 year 1990-2000.

6. Rising population helps to perpetuate vicious cycle of poverty. Main reasons of this trend are decline in saving and rate of capital formation

Constant Development

Constant development or sustainable development means that development should take place without damaging the environment, and development in the present should not compromise on the need of the future generation. Sustainable development is and issue that has emerged from rapid industrialization of the world in the past century. The need for sustainable development stems from the concern for environment. It is felt that rapid economic growth and industrialization have led to reckless exploitation of natural resources. The stock of natural resources like fossil fuels, which meet most of the energy needs of the words, are limited. The growth of all countries in future is, therefore, likely to be endangered if the limited resources are completely exhausted. Although fossil fuels development, their use damages the environment and ecology. They cause pollution and disturb the balance in nature.

It is also a fact that the biggest users of fossil fuels in the words today are the developed countries. Such countries, therefore have a greater responsibility in controlling damage caused to the environment by the use of such pollution causing materials. Some of the important measure being considered for this purpose are increased use of renewable an clean sources of energy. Less use of fossil fuels, organic forming, measures to reduce global warming and global limits on carbon emission, etc. Many international agreements have been signed among many countries; some of them are the agreement on environment and agreement on climate change and global warming. While these agreements seek to protect the interest of the present as well as future generation. Under the circumstances it is obligatory on the part of India to enact laws and rules to protect environment and limit the use of energy.

Life Quality

Quality of life is the degree of well being felt by an individual or group of people. Unlike standard of living. Quality of life is not a tangible thing and so cannot be measured directly. It consists of two components, physical and psychological. The physical aspect includes things such as health, diet and protection against pain disease. The psychological aspect includes stress, worry,

pleasure and other positive or negative emotional states.

It is measured by many social and economic factors. A large part is standard of living, the amount of money and access to goods and services that a person has, these numbers are easily measured. Others like happiness, art environment, health, and innovation are far harder to measure.

Understanding quality of life is today particularly important in health care, where monetary measures do not readily apply.

Important Points

- Birth rate or mortality rate: The number of per 1000 individuals of a population per year is called as birth rate.
- Death rate of mortality rate: The number of deaths per 1000 individuals of a population per year is called death rate.
- Dispersal: The movement of majority of individuals from the population or into the population at one or other time during their life cycle is called as dispersal this can be of two types:
- Immigration: entry of certain individuals of same species into an area from outside is called immigration.
- Emigration: Departure of individuals of same species from an area to outside is called emigration
- Population growth $= (\text{Births} + \text{immigration}) - (\text{Deaths} + \text{Emigration})$
- At 00.00 hours of 1st March, 2001 the population India stood at 1,028,737,436 comprising of 532,223,090 males and 469,514,346 females. Thus, India becomes the second country in the world after China to cross the one billion mark.
- India's share of the world population is 16.7 percent.
- The percentage decadal growth of the country as a whole has declined from 23.86 during 1981-1991 to 21.34 during 1991-2001.
- Among the major states Bihar has recorded the highest decrease in the percentage decadal growth from 28.47 during 1981-91 to 28.43 during 1991-2001. During 1991-2001 the lowest growth rates was recorded in Kerala 9.42 percent followed by Tamil Nadu (11.19) and Andhra Pradesh (13.86)

- Uttar Pradesh continues to be the most populous state in the country with 16.17 percent of India's population followed by Maharashtra (9.42 percent) and Bihar (8.07 percent).
- Sex ratio (the number of females per 1000 males) in India is 933 females per 1000 males, which is an improvement of 6 point over 927 recorded in 1991 Census.
- The highest sex ratio (1058) has been reported in Kerala. Haryana has reported the lowest sex ratio of 861 among the major states.
- The corresponding figures of literacy rates for males and females are 75.3 and 53.7 percent respectively.

EXERCISE

1. The rate of individuals taking birth per 1000 people per year is called as-
(A) mortality rate (B) vital rate
(C) natality rate (D) growth rate
2. Growth of the population of an area depends upon-
(A) natality rate
(B) immigration
(C) environmental resistance
(D) all of the above
3. Among Indian states, maximum literacy rate is in-
(A) Haryana (B) Kerala
(C) Bihar (D) Tamilnadu
4. The best way to control population of a country is-
(A) to educate the people
(B) to have better living conditions
(C) mass killing
(D) to practice family planning techniques
5. The main factor for the growth of human population in India is-
(A) high birth rate (B) less death rate
(C) lack of education (D) all of the above
6. World population day is on-
(A) 5th June (B) 11th July
(C) 4th October (D) 21st March
7. Sex ratio is-
(A) number of births per 1000 people.
(B) number of females per 1000 people.
(C) number of males per 1000 people.
(D) number of females per 1000 males.
8. Which of the following states has highest sex ratio?
(A) Rajasthan (B) Kerala
(C) Bihar (D) Haryana

9. During 1991-2000, the percentage decadal growth of the country is-
 (A) 23.86 (B) 21.34
 (C) 9.42 (D) 16.17
10. Which of the following is/are the adverse affect/s of over population?
 (A) Unemployment (B) Pollution
 (C) Energy crisis (D) All of these
11. Study of trends in human population is-
 (A) Demography (B) Biography
 (C) Kalography (D) Psychology
12. Departure of individuals of same species from an area is called as-
 (A) emigration (B) immigration
 (C) external immigration (D) addition
13. Which of the following state is the most populated state of India?
 (A) Bihar (B) Rajasthan
 (C) Uttar Pradesh (D) Kerala
14. The literacy rate of females in India is-
 (A) 75.85% (B) 70.18%
 (C) 53.7% (D) 53.61%
15. During 1991-2001 the lowest growth rate of population was recorded in-
 (A) Tamil Nadu (B) Kerala
 (C) Andra Pradesh (D) Uttar Pradesh

ANSWER – KEY

POPULATION

Q.	1	2	3	4	5	6	7	8	9	10
A.	C	D	B	D	D	B	D	B	B	D
Q.	11	12	13	14	15					
A.	A	A	C	C	B					