

MODULE -V

Human Population and the environment

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Human Population & the environment

5.1 Population growth

Human population refers to a group of people living in a particular area at a given time.

The individuals of the population belong to one species.

5.1.1 Population density

It is expressed as the number of individuals of the population per unit area (or) per unit volume. The density of population is measured by census.

5.1.2 Parameters affecting population

- 1) Birth rate (or) Natality : It is the number of live birth per 1000 people in a population in a given year.
- 2) Death rate (or) Mortality : It is the number of deaths per 1000 people in a population in a given year.
- 3) Immigration: It denotes the arrival of individuals from neighboring population.
- 4) Emigration : It denotes the dispersal of individuals from original population to new areas.

5.1.3 Causes of rapid population growth:

- 1) The rapid population growth is due to decrease in death rate and increase in birth rate.
- 2) The availability of antibiotics, immunization, increased food production, clean H₂O & air decreases the famine related deaths and infant mortality.

Problems of rapid Population growth

- 1) Increasing demands for food & natural resources.
- 2) Inadequate housing & health services
- 3) Loss of agriculture lands
- 4) Unemployment & socio-political unrest.
- 5) Environmental pollution

5.1.4 Variation of Population among nations

At present the world's population has crossed 6 billion. The existing population is not evenly distributed. Less developed countries have 80% population and the developed countries have 20%.

Less developed countries like Africa, Asia, South America have 80% of the total world population. Here the rate of population increases is greater than 1% per year.

But in most developed countries like U.S.A. Canada, Australia, the rate of population increases is less than 1%.

China & India's population was above 1000 million in 2000 years. It's share is about 1/3 of the world's population.

Variation of population based on Age structure

Age structure of population can be classified into 3 types.

- i) Pre-productive population (0-14 years)
- ii) Reproductive population (15-44 years)
- iii) Post reproductive population (above 45 years)

(1) Pyramid shaped variation of population (increase)

(Ex) India, Bangladesh, Ethiopia, Nigeria.

The fig. Indicates that the

- Pre-productive age group population (0-14 years) is more, indicated at the base of pyramid.
- Post-reproductive age group population (above 45 years) is less, indicated at the top of pyramid.
- The large number of young age people will enter into reproductive age group population (15-44 years) which increases the population growth.

(2) Bell shaped variation of population (Stable)

(Ex) France USA, UK, Canada

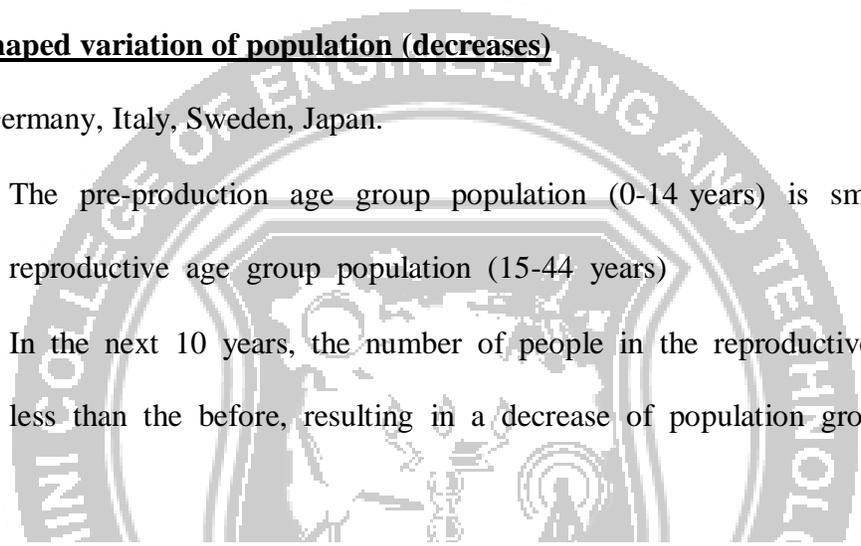
The fig shows that

- The pre-productive age group population (0-14 years) and reproductive age group population (15-44 years) are more (or) less equal.
 - so people enter into the reproductive age group will not change the population.
- So population growth is stable.

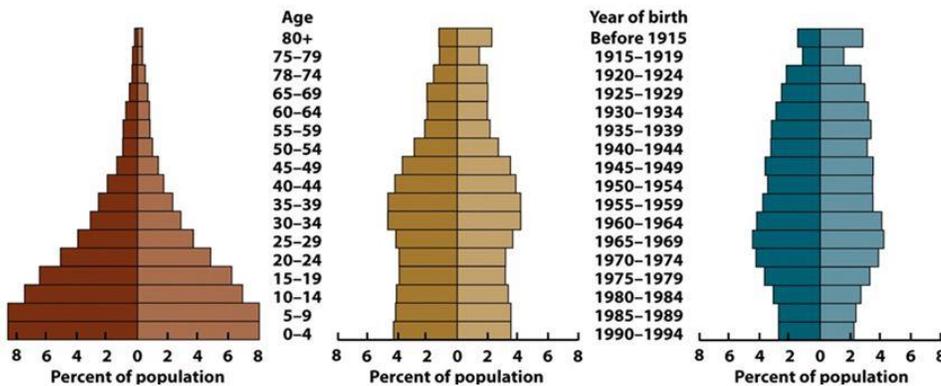
3) **Urn shaped variation of population (decreases)**

(Ex) Germany, Italy, Sweden, Japan.

- The pre-production age group population (0-14 years) is smaller than the reproductive age group population (15-44 years)
- In the next 10 years, the number of people in the reproductive age group is less than the before, resulting in a decrease of population growth.



Age Structure



Pyramid shaped (India)

Pre reproductive age group is more. A large group of young age people will enter in to the reproductive age group which will increase the pop growth. Less no of old age people – less death

Bell shaped (France)

Pre reproductive age group population and reproductive age group population is more or less equal. So the people enter into reproductive age group will not change. Thus population growth is stable.

Urn shaped (Germany)

Pre reproductive age group population is smaller then reproductive age group population. In the next 10 years the people enter into reproductive age group will be less than before resulting in decrease of population

5.2 Population explosion

The enormous increase in population, due to low death rate and high birth rate, is termed as population explosion.

The human population is not increasing at a uniform rate in all parts of the world.

During population explosion the doubling time is less. 'Doubling time' is the number of years needed for the population to become the double of its size.

The doubling time is high in developed countries low in developing countries.

5.2.1 Causes of population explosion

- 1) High birth rate
- 2) Less death rate
- 3) Ill literacy
- 4) Increase of life expectancy (living age)
- 5) Increase in fertility.

5.2.2 Conscience of population explosion

- 1) Poverty
- 2) Environmental degradation
- 3) Over exploitation of natural resources
- 4) Increasing diseases, economic inequality & communal war
- 5) Unemployment problem.
- 6) Reduction in the area of vegetation, forest & cultivation.

- 7) Low living standards
- 8) Low percapita income
- 9) Water scarcity
- 10) Lack of sanitation, education & health
- 11) Migration to urban areas in search of job
- 12) Development of slums in cities.

