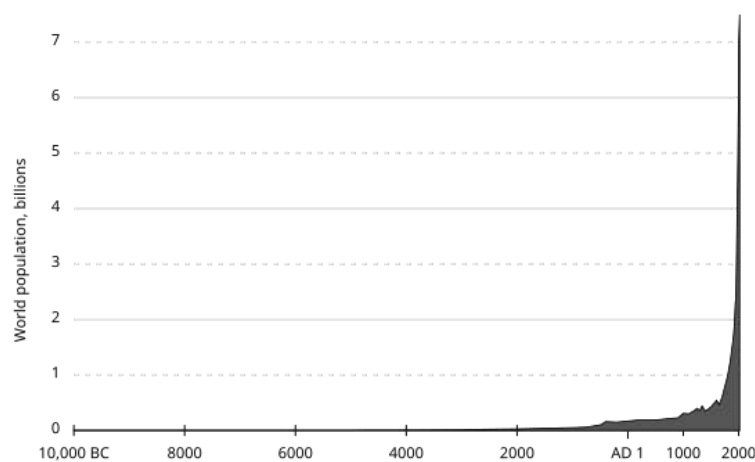


Syllabus of unit 3

- Human population growth: Impacts of human population growth on environment, human health and welfare
- Concept of resettlement and rehabilitation
- Environmental movements: Bishnoi, Chipko, Silent Valley, Big Dam Movement
- Environmental ethics: Types, Ecofeminism, role of cultures in environmental conservation

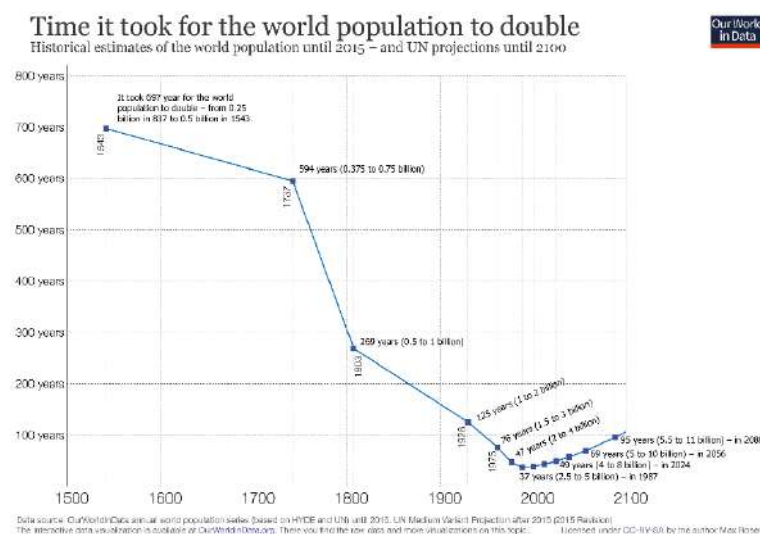
Population: Individuals of same species capable of interbreeding among themselves living in a particular location constitutes population.



The growth of world population occurred recently. It is estimated that the world population was only around 1 billion people around 1800. This implies that on average, the population grew very slowly over a long time - 10,000 BC to 1700. After 1800, this changed; the world population was around 1 billion in 1800 and is now around 8 billion.

However, the global population growth rate peaked in 1962 and 1963 with an annual growth rate of 2.2%; however, since then, world population growth has halved. It has been declining since then and as a result global population growth is not exponential.

Doubling time: It is the time during which a given population doubles in number



Population size in a particular location at a time t is dependent on:

r - the intrinsic rate of growth,

N - the number of individuals, &

K - historically referred to as the upper limit of growth.

The rate of population growth with time may be written as

$$\frac{dN}{dt} = rN\left(1 - \frac{N}{K}\right)$$

Carrying capacity is defined as the average maximum number of individuals of a given species that can occupy a particular habitat without permanently impairing the productive capacity of that habitat.

Impacts of human population growth on environment, human health and welfare

Environmental impacts

- Environmental degradation (deforestation, thinning of ozone layer , anthropogenic climate changes) through clearance of large tracts for food production, residence and industry
- Scarcity of food due to overpopulation
- Scarcity of potable water through overuse of groundwater resources, anthropogenic climate change
- Depletion of fossil fuels
- Spread of invasive species
- Extinction of species due to anthropogenic causes

Human health impacts

- Malnutrition diseases
- Pollution diseases (+occupational diseases like Silicosis and Asbestosis)
- Spread of infectious disease
- Inability to provide healthcare to entire population

Infectious Diseases

Vector borne – Malaria, Dengue, plague

Water borne – Typhoid, Diarrhea, Hepatitis

Air-borne – Tuberculosis, Influenza