

POPULATION GROWTH

Population explosion refers to growth of a population at exponential rates to a size that exceeds the environmental carrying capacity of a region. It is usually followed by a population crash.

-A population can be defined as a group of individuals of the same species inhabiting an area

-Population density is the population size in relation to some unit of space and time. It varies with food availability and climatic conditions

-Current population growth has led to famine in areas where food production cannot keep pace with population growth

-The kinds of demands a population places on its resources is also important

-Each species has an inherent reproductive capacity

-Population growth tends to follow a particular pattern. This consists of a lag phase, an exponential growth phase and a stable equilibrium phase.

-When a majority of the population is in the reproducing stage, the population begins to increase at an exponential rate and this stage is called exponential growth phase. **This leads to population explosion.**

-The graph plotted between population on Y-axis and time on X-axis yields an S shaped growth or a J shaped growth curve showing the growth rate pattern

-Human beings have accumulated knowledge that allows for predictions about the future and can make conscious decisions based on likely course of events and adjust their lives accordingly.

FACTORS CONTROLLING POPULATION GROWTH:

Man has modified the environment with new technologies for a better and secured future on one hand and created the problem of population explosion on the other hand. Some of the factors controlling population growth are listed below:

-Famine and other natural calamities like flood, drought, earthquake, volcanic eruptions, hurricanes, landslides, etc

-Epidemic outbreaks (Ebola virus, etc)

-Wars

-Unnatural accidents caused during transportation, fires, etc

FACTORS ASSISTING IN POPULATION GROWTH:

-High production of food and better technologies for storage, processing and distribution

-Better medical facilities provided during childbirth and immunization for babies against deadly diseases

GROWTH OF HUMAN POPULATION:

The population of a given area also depends on the movement of people either temporarily or permanently.

Emigration refers to movement of people from one community to another in a new locality thus causing a decrease in the original population

Immigration refers to addition of new individuals to a population from other localities

*Increase in population causes competition due to **identical requirements**.*

One of the most important consequences of increase in population is scarcity of food leading to starvation and death in extreme cases.

Interaction between populations in a given area can lead to conflicts due to competition for resources or dependence of one on the other (Symbiosis - birds eat ticks on the skin of cows & buffaloes)

CONSEQUENCES OF POPULATION EXPLOSION:

The following are the consequences of population explosion:

- Depletion of resources
- Competition for food and space
- Psychological stress
- Pollution of the environment
- Large scale unemployment

ROLE OF INFORMATION TECHNOLOGY IN ENVIRONMENT AND HUMAN HEALTH

- The understanding of environmental concerns and issues related to human health has exploded during the last few years due to the sudden growth of information technology.
- The computer age has turned the world around due to the incredible rapidity with which IT spreads knowledge.
- IT can do several tasks extremely rapidly, accurately and spread the information through the world's networks of millions of computer systems.
- Information technology has also increased the pace of discovery.
- The capacity of establishing and maintaining worldwide databases has linked environmental researches around the globe.
- The advancement in computer, communication, satellite and other technological developments have enabled engineers or environmentalists to gather relevant information simultaneously from many sources.
- The information is utilized for developing an early warning system and to forecast any eventuality much earlier.
- A large amount of information is easily available through Remote Sensing technology, Geographical Information System (GIS) and Global Positioning System (GPS) that is being used for various environmental studies.
- Ministry of Environment, Government of India has established an Environmental Information System (ENVIS) in 1982. This has been established as a decentralized information system network whose purpose is collection, storage, retrieval and dissemination of environmental information to decision makers, policy makers, planners, scientists, engineers, environmentalists, researchers and general public all over the country.
- The ENVIS network has its focal point in the Environmental ministry along with thirteen subject oriented centers, known as ENVIS Centers, set up in the various institutions, organizations of the country in the priority areas of environment like pollution control, toxic chemicals, energy and environment, environmentally sound and mangroves, corals and lagoons, media and environment etc.
- New communication links are particularly vital to make use of such information sources as Geographic Information Systems (GIS), a computer based system for gathering, manipulating, and analyzing environmental data.
- GIS databases are commonly established with information obtained from remote surveys via satellite and a variety of atmospheric and ground level surveys.
- GIS software packages and databases, which have almost unlimited applications, have a crucial relevance for national and local environmental management and learning.
- GIS allows for the simulation of hypothetical models of environmental management
- GIS is a tool to map Land use patterns and document change by studying digitized top sheets and/or satellite imagery. Once this is done, an expert can ask a variety of questions which the software can answer by producing maps which helps in land use planning.

Unit-5

- Online healthcare information about Medicare and various related web sites guide consumers to a wide variety of health information available including the full text of clinical practice guidelines, and consumer brochures developed.
- A number of centers for disease control & prevention are functioning and the public health service maintains their websites.
- The Internet with its thousands of websites has made it very simple to get the appropriate environmental information for any study or environmental management planning. This not only assists scientists and students but is a powerful tool to help increase public awareness about environmental issues.
- Specialized software can analyze data for epidemiological studies, population dynamics and a variety of key environmental concerns.
- The relationship between the environment and health has been established due to the growing utilization of computer technology.