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DEPARTMENT OF BBA

FYBBA

SEM-I

SUBJECT – Business Demography

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Chapter2. Distribution of Population and Population Growth

UNIT-2

Distribution of Population and Population Growth

DENSITY AND POPULATION DISTRIBUTION

- Population distribution is the spread of people across the world i.e. where people resides.
- Population density is the number of people living in a particular area, usually 1 sq.km, and can be written as total population / land area.
- The population of the world is now over 7 billion people, the vast majority of whom live in the developing world. The world's population is spread unevenly across the globe with concentrations of large numbers of people living in the same area. The world as a whole has more 'empty' areas than 'crowded' areas.

FACTORS AFFECTING THE POPULATION DISTRIBUTION

1. Physical Factors

- Climate- Temperate areas which experience few extremes of weather and Climate tend to be more attracted than areas which experience extremes. Areas which are very dry, very cold or very wet tend to have sparse populations whereas areas which have a moderate climate with evenly distributed rainfall or with monsoon type climates have denser populations.
- Topography/Terrain- Temperate areas which experience few extremes of weather and climate tend to be more attracted than areas which experience extremes. Areas which are very dry, very cold or very wet tend to have sparse populations whereas areas which have a moderate climate with evenly distributed rainfall or with monsoon type climates have denser populations.
- Natural resources- Areas with a wealth of natural resources such as oil, coal or minerals may have higher population densities than areas which do not. It is important to remember though that natural resources may be found in otherwise harsh environments and that they may be traded and exported/used in areas other than where they are extracted.
- Soils- Areas which have rich, fertile soils allowing successful agriculture tend to have higher population densities than areas which have poor quality soils have sparse populations. Good quality soils may be found in low lying areas such as river flood plains and deltas where silt is deposited; in volcanic areas; in areas which have a high natural humus content. Poor quality soils may be found in areas with steep slopes; areas with very high rainfall throughout the year which tends to leach nutrients from the soil; cold areas of permafrost; areas experiencing soil degradation through human management e.g. over-grazing/deforestation.

2. Human Factors- Jobs, e.g. in manufacturing and service industries encourage people to move to find work. Tourism can also attract visitors to an area, providing local people with jobs.

-Areas with good transport links, such as roads and railways, will attract people and industry which creates employment opportunities.

-Remote areas which are isolated and have poor transport links do not attract people.

3. Population Patterns- Individuals of a population can be distributed in one of three basic patterns: they can be more or less equally spaced apart (uniform dispersion), dispersed randomly with no predictable pattern (random dispersion), or clustered in groups (clumped dispersion). It also includes the life expectancy of the country. Life expectancy depends upon the physical and medical facility provided by the country. Scale of facility provision varies within underdeveloped, developed and developing countries.

POPULATION STRUCTURE

The population pyramid of India shows high birth and death rates and low life expectancy.

The effects of this population structure are as follows:

- Too many young people, puts an added strain on services e.g. Health care.
- Extra money is required to build more schools to accommodate children.
- The Government has to spend more money on education and less money elsewhere e.g. industrial development.
- More children born means that more maternity hospitals and schools are needed.
- More teachers and midwives are required to be trained.
- In the future, too many people of working age to fill job vacancies. • Unemployment and poverty increase.
- Not enough homes, so shanty towns increase.

CONCEPT OF OVER AND UNDER POPULATION

- Over-population is when there are too many people, to be supported to a good standard of living, by the resources of a region or country.
- Under-population is when a region or country has insufficient workers to exploit their resources efficiently, to support retired populations and to provide growth. i.e. too few people to use all where agricultural production has fallen and depopulation has occurred. It could also happen when land in rural areas is abandoned as people migrate to urban areas, natural hazards, war and communicable diseases such as HIV.

OVER POPULATION

The main cause of overpopulation is high birth rates and falling death rates, leading to natural increase. The impacts of overpopulation include:

- Water – around the world more than 1 billion people do not have access to safe drinking water. Over-population puts significant demand on agricultural production, which in itself consumes more water than any other sector.
- Food – by 2050 the global demand for food could be greater than production. Almost a billion people didn't have enough food to lead a healthy life in 2015.
- Environment – climate change, due to human emissions of greenhouse gases, is a major consequence of overpopulation. The impact of climate change includes more extreme climate events, loss of natural ecosystems and sea-level rise.
- Services – pressure is put on services such as education, healthcare and social services due.
- Congestion – greater demand for public transport and more cars on the road lead to congestion and increased air pollution.

UNDER POPULATION

Most areas considered under-populated today are large in area and rich in resources. Examples include Canada, Australia and Mongolia.

The impacts of under-population include:

- A shortage of workers
- Fewer people to pay tax
- Closure of services
- wasted resources

METHODS OF ASSESSMENT OF POPULATION GROWTH

BASIC OF POPULATION GROWTH

All populations change in size with time

- If births exceed deaths, the population grows
- If deaths exceed births, the population shrinks
- Only when births equal deaths does the population stay the

Same

OTHER FACTORS OF POPULATION GROWTH

Populations can also change size if organisms move in

(Immigration) or leave (emigration)

ON BRINGING THEM TOGETHER

We can write a simple equation to show population growth as:

**Change in Population Size = (Births + Immigration) -
(Deaths + Emigration)**

EXAMPLE

Suppose we had a population of 100,000 individuals. Suppose in one year there were 1000 births, and 500 deaths. Thus, percentage of population will be:

Birth percentage = $1000/100,000 = 0.01$, or in percentage terms, this is 1% of the population.

Death percentage = $500/100,000 = 0.005$, or in percentage terms, this is 0.5% of the population.

If immigration and emigration are equal they get cancelled out from the equation. Now, on subtracting deaths from births net growth will be:

$1000-500/100,000 = 500/100,000 = 0.005$, or 0.5% net growth

Therefore this population would be growing by 0.5% this first year. That means that after one year, there will be 500 more individuals than the previous year. So, after one year, the population would be 100,500 individuals.

THE NET REPRODUCTIVE RATE

The net reproductive rate (r) is the percentage growth after accounting for births and deaths.

Net reproductive rate (r) is calculated as:

$r = (\text{births-deaths})/\text{population size}$ or to get in percentage terms, just multiply by 100

In the example above, the population reproductive rate is 0.5%/yr.

Now, as we came back many years later, the net reproductive rate was still the same, but now the population had grown to 1,000,000. So, the new individuals that have been added each year will be simply multiply the population by the reproductive rate:

$1,000,000 \times 0.05$ (which is 0.5%) = 50,000

This means that now 50,000 new individuals are added in one year!! The net reproductive rate is the same as before, but because the population is so much bigger, many more individuals are added.