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1. Learning Outcomes

After studying this module, you shall be able to

- Know the importance of population and economic development
- Learn why demographic transition is essential for an economy
- Identify the key factors affecting economic development
- Evaluate the progress of an economy
- Analyse the effects of population on economic development

2. Introduction

POPULATION AND DEVELOPMENT

There are two schools of thought, one is that population growth can threaten developmental efforts and the other population growth will be kept under control through development and urbanization.

Malthus (1798) is the most prominent thinker of the first school.

Theory of Demographic Transition summarizes the ideas of the second school of thought.

The theory is based on studies by Notestien (1945) and Davis (1945).

Recent thinking on the relationship between population and development is expressed in terms of the idea of demographic dividend which looks at population as positive rather than a negative for prosperity.

3. Malthusian Theory of Population

MALTHUSIAN THEORY OF POPULATION

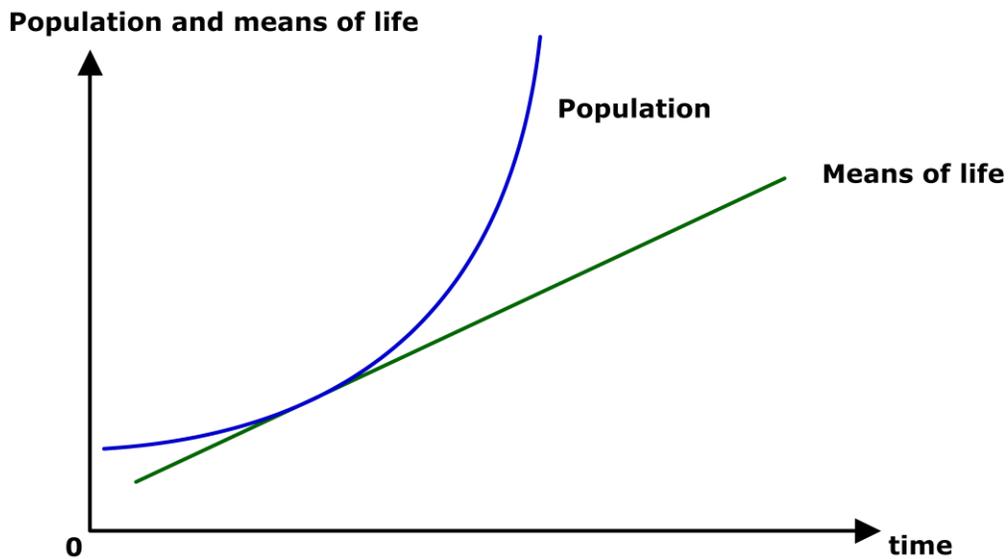
Malthus articulated that population grows at a very fast rate in comparison to the means of livelihood. He hypothesised that population grows exponentially like 1,2,4,8,16 and so on whereas resources to support the growing population can add arithmetically like 1,2,3,4,5 and so on. In such a situation there is bound to be a mismatch between the supply and demand of resources. If one goes by Malthusian doctrine then in the long run population of the country will grow exponentially i.e. will explode creating a severe crisis of resources to survive. According to Malthus, population becomes double after 25 years. While the food supply increases in a slow arithmetical progression due to the operation of the law of diminishing returns. Malthus hypothesised that ultimately, misery and other natural calamities etc will occur and people will die in large numbers and thereby population will be controlled on its own. Human beings can do a little to control the population. He has referred moral restraints and suggested measures like:

- Avoidance of sex.
- Delayed marriage.

His theory can be explained with the help of a table and figure as following:

TIME	POPULATION	MEANS OF LIFE (IN TONS)
1	1000	1000
2	2000	2000
3	4000	3000
4	8000	4000
5	16000	5000

In the above table population is growing in geometric progression whereas means of life are growing in arithmetic progression.



In the above figure, the upper curve represents the population. It is exponential in shape. It shows that the population grows geometrically. The lower curve represents means of life. It is liner in shape. It shows that means of life increases in arithmetical progression.

4. Criticism of Malthusian Theory

The theory is criticized for its pessimism. There is need to discuss why Malthusian theory is criticized based on empirical evidences.

Modern development creates urbanization .Urbanisation creates a pressure on population growth to come down. This is given the name of demographic transition.

The idea of demographic dividend says that population growth is good because as population grows more young people are added to the society which good from the supply as well as from demand side.

5. The Theory of Demographic Transition

According to this, population growth rate is a function of per capita income. The theory says that population growth rate passes through three phases as a country continues to grow. During these phases growth rate of population is different. According to this theory development is a cause of change in population growth rate. Three phases of demographic changes are as follows -

1. Phase 1- High birth rate but unstable death rate. In some periods death rate is high and in some it is low. Because of change in the first phase the growth rate of population is unstable.
2. Phase 2- Low and decreasing death but birth rate higher than death rate. The gap between the death rate and birth rate is high. In the second phase the growth rate of population is very high. Phrases like ‘population bomb’, ‘population explosion’ have been coined to capture the growth rate of population in this phase.
3. Phase 3-. Low death rate and low birth rate. The gap between the two is low or does not exist. Both these rates reach their natural level and cannot fall more than this. Because of this the growth rate of population is very low and stable.

In this theory death rate and birth rates of population are taken as function of per capita income.

Growth rate of population = Birth rate – death rate +- migration rate. In a country like India migration rate has no significance.

Hence –

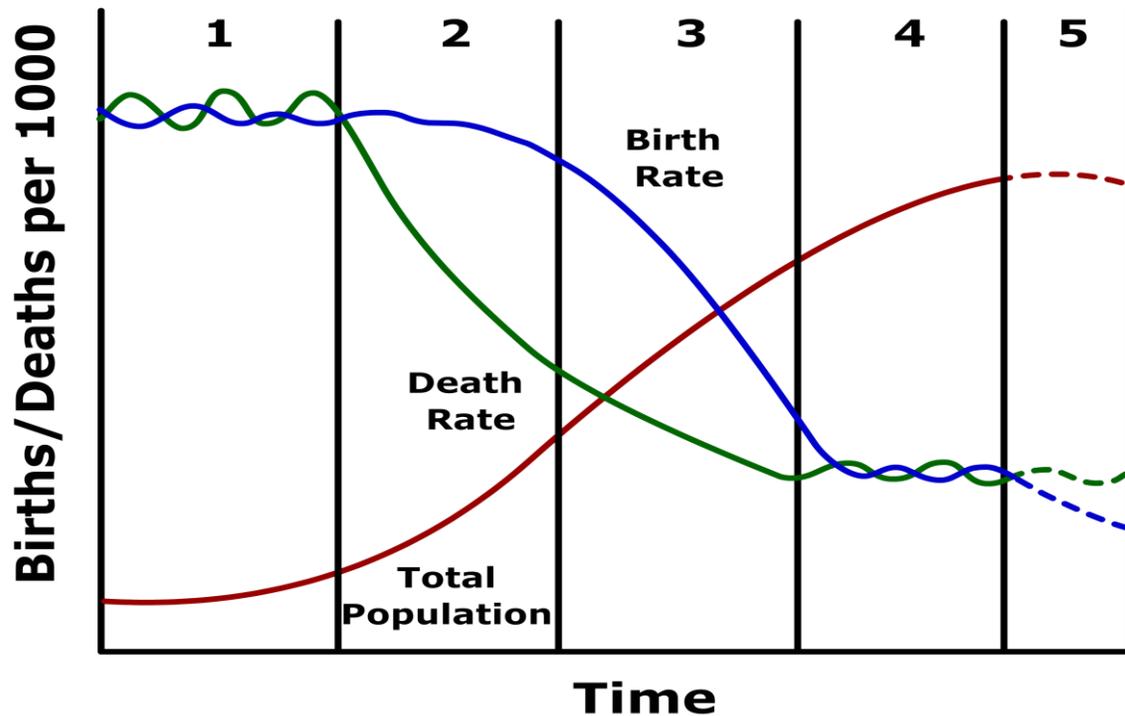
Growth rate of population = Birth rate – Death rate.

Here, Birth rate = No. of live births per 1000 of people in a year.

Death rate = Number of deaths per 1000 of people in a year.

Death rate starts falling earlier birth rate starts falling later.

The idea of the Theory of Demographic Transition can be clearly understood with the help of the following chart –



6. Reasons for Demographic Transition

REASONS FOR DEMOGRAPHIC TRANSITION

1. **Urbanization:** During 1901, 11.4 % of India's population resided in urban areas. In 2001 this percentage was more than 30 percent. This means that approximately every third person lives in urban areas these days, whereas earlier it was only one in ten persons. Rising urban population is an important reason behind demographic transition.
2. **Manufacturing oriented growth:** Manufacturing industries are generally located on in urban areas and around urban areas centers. Availability of jobs in these industries attracts workers from rural areas in search of jobs.

3. Service sector oriented growth: At present services sector contributes more than fifty five percent of the national income to India. Services sector industries like financial services, IT-enabled services, telecommunications, travel, transport, and insurance etc. have created *employment* to a large number of people. Since these industries cater to the requirements of urban industries, mostly service sector, jobs which are also available in urban areas. This further attracts job seekers from rural areas to urban centre.
4. Contribution of agriculture in the national parameters: Before independence agriculture contributed more than 50 % to national income of Indian economy now it contributes around approx. 12-15% to the national income. Fall in the relative contribution of agriculture creates pressure for urbanization to take the steering wheel and the consequent demographic changes.
5. Social and Institutional changes: As a part of changing trends, there exists pressure of urbanization and spread of education, where we see growing trend towards nuclear families. Literacy is also higher in these areas as compared to rural areas. Because of these reasons people residing in urban areas have greater probability of coming out of cultural barriers and help in controlling population.
6. Privatization and reduction of subsidies: Almost all the advanced countries in the world are privatized and the role of government in manufacturing or other employment creations activities is limited. Governments have also reduced various subsidies. This has resulted in more expenses to be borne by the individuals. In this situation there is pressure on a person to limit the family size.
7. Literacy- Knowledge of equal rights and women liberty: Gender has been of central concern in development programmes and there has been greater awakening about women's entitlement through various governmental and non-governmental initiatives. Women are central to household chores as they are principal agent of production and carry out most of the activities including child caring and other associated activities. Educated women contribute to the child caring activities and work alongside. They generally prefer a smaller family size.

7 India's Demographic Transition and its Consequences for development

India's demographic transition is an immensely important subject. India's demographic transition began during 1920 and 1930. This transition was faster during late 1940s and 1950s. Demographic transition refers to:

1. **Fall in death rate:** 1920s onward there has been a trend towards fall in death rate in India. As time passed, fall in death rate occurred even at a faster rate. 1940s, 1950s decline in death rate were faster than the decline in the death rate during 1920s and 1930s. In the subsequent years the fall in death rate has been even faster.
2. **Rise in life expectancy:** Fall in death rate results in rise in life expectancy. Rise in life expectancy was faster in 1940s and 1950s. In subsequent years improvement in life expectancy has been even faster (present life expectancy being around 67 years for males). Female life expectancy has been higher than male life expectancy (around 67 years). **Fall in birth rate.** Fall in birth rate in India started much later to the fall in death rate. Fall in birth rate started during 1970s (whereas fall in death rate started during 1920s). Fertility has fallen from six births per women to three births per women today.
3. **Rise in the average annual growth rate of population:** The birth rate began to fall much later, after 1960s but the death rate continued to decline continuing population growth. The life expectancy in India has increased. India's population has increased with decadal increase rising to 20percent and the period of 1961-91 experienced growth that are exceeding two percent per annum.

8. Causes of Demographic Transition in INDIA

Reasons for this demographic transition: There are two reasons for demographic transitions.

1. Fall in death rate and life expectancy,
2. Fall in birth rate

These two are highly related to urbanization from both sides that is cause and consequence.

Reasons for fall in death rate and rise in life expectancy.

Death rate and life expectancy are related. If death rate declines life expectancy will automatically go up.

1. Fall in frequency and scale of famines.
2. Fall in frequency and scale of epidemic (like small pox, malaria, cholera)
3. Spread of immunization coverage.
4. Improvement in sanitation, water supplies.
5. Increased level of education of the masses. (Increasing ‘secularization ‘of attitude towards diseases. Secularization here means that people look at diseases as a medical problem rather than some religious problem.
6. Considerable increase in health facilities.
- 7 Urbanization: This urbanization reason is already explained in the context of the theory of demographic transition. .

Modern forms of water supply, sewage and access to education are somewhat better in urban areas. Life expectancy in urban areas is higher than that in rural areas and fertility rate in urban areas is also lower than that in urban areas.

Reasons for female life expectancy being higher than male life expectancy.

Female life expectancy has tended to exceed that of males. During the entire twentieth century only during 1951-81 male life expectancy was slightly higher than female life expectancy. Reasons for higher female life expectancy are as under:

1. Females have modest innate mortality advantage. This advantage played important role in that phase in which non-communicable diseases account for a clear majority of all deaths.
2. Male mortality at later adult ages (more than 30) is resistant to decline because of behavioral problems like greater use of alcohol and tobacco among males.
3. Fertility decline is also a reason for faster mortality rate fall among females. The fact that women are now having fewer births has almost certainly worked to improve their health status, relative to what it would have otherwise been.

In India like elsewhere there is a considerable time lag between falling in death rate and then a fall in birth rate.

Reasons for fall in death rate

Fall in the country's birth rate is only detectable in the 1970s. Reasons for fall in birth rate are as follows:

1. Rise in the average age of women at marriage.
2. Rise in the use of contraception (49% women in the fertile age group are using modern methods of contraception (out of these 75% women use sterilization).
3. Fall in death rate. The expectation of a kid surviving after birth has risen so there is less inclination among people to have more children. Mortality decline as a remote cause of fertility decline comes out if time series data is looked at carefully. Following are the features of the data-
 - a. There is a time order i.e. cause precedes the effect.
 - b. Both the cause and effect stretch over broadly similar durations.
 - c. The effect is in the direction that would be normally expected i.e. downward.
 - d. The scale of effect is proportional to the scale of cause.

4. Ideational changes. People thinking in relation to fertility and sexual matters have changed because of rising level of education. This has played a role in reducing fertility.
5. Family welfare programme. This program has spread the idea of birth control. Data suggests that educated women are more likely to use contraception.
6. Fertility decline among uneducated women. Recent data suggests that majority of fertility decline has happened among uneducated women. Poor and uneducated women can also reduce their fertility given a chance; however it takes them longer to do so. Family planning services help to provide these people the chance. Family planning services means pre-natal post-natal care, providing the means of birth control etc. given from the side of the government.
7. Urbanization. Rise in the proportion of people living in urban areas has also contributed a lot to the fall of mortality. Urban areas provide economies of scale for providing health as well as family planning amenities.

9. Urbanisation (a cause as well as consequence of demographic change)

Urban Natural Increase: Sustained mortality decline in India has caused urbanization. This is one of the most important reasons of urbanization.

Faster Urban Natural Increase after Independence: This urban natural increase has been faster after independence.

From 1871 to 1941 the rate of urbanization in India was very slow. This was because of high mortality rates. High rate of mortality decline after independence due to control of epidemics caused the rate of urbanization to rise after independence (mortality decline in India happened after 1921 but the rate picked up after independence). Up to 1940s all urban areas in India (like Kolkata, Chennai and Mumbai) had higher death rates than rural areas but reverse happened after independence and because of this urban population increased leading to rise in the rate of urbanization in India.

Reclassification:

Reclassification of also has also caused urbanization after independence because of many villages at a later stage were defined as urban centres because of rise in their population.

Rural Urban Migration: Economic dynamism in urban areas causes rural urban migration which an addition to urban natural increase.

The Future (as a result of demographic change and Urbanisation)

Total Population: India's population will increase by 400 million between 2021 to 2026.

By 2026 total population will be 1420 million.

Fertility Rate: By 2026 fertility rate will be on the average two births per women.

Women will move towards a family building pattern - marry early, have to births in quick succession and then get sterilized.

Mortality Rate: There is considerable scope for future mortality gains through higher level of immunization and better control of diarrheal and respiratory infection.

'Double Burden' of Disease: The phrase of 'double burden' of disease was coined by Visaria. The phrase points to two types of diseases – 1. degenerative diseases like cancer, diabetes, hypertension 2. Infectious diseases e.g. TB, malaria. Both these are expected to rise. Hence aggregate mortality may not fall beyond a point unless there is control of these.

This we can say that the future mortality decline will happen on a rather fragile basis unless the 'double burden' of diseases is controlled.

Nutritional Deficiencies not Improving: Nutritional deficiencies remain widespread. There is apparently little change in the number of underweight children from 1988-89 to 2005-06. Indicated prevalence of childhood anemia actually rose for the same period. There is also an increase in cases of anemia among adult women.

Urban Regional Centres: Two especially dynamic urban regional systems first stretching throughout Western Gujarat and Maharashtra and second centered around Delhi will continue to dominate country's urban structure.

10. Demographic Dividend

The theory of demographic dividend explains the relationship between population and development with the idea of dependency ratio.

The demographic dividend is defined as a rise in the rate of economic growth due to a rising share of working age people in a population. This phenomenon occurs with a falling birth rate and the consequent shift in the age structure of the population towards the adult working ages. It is also commonly known as the demographic gift or bonus or demographic window. With many developing countries particularly in the Asian continent experiencing a rapid decline in fertility, there has been overwhelming optimism that the demographic bonus will take these countries to greater economic heights (James, 2008).

There are three phases of change in the demographic profile of a country:

Phase 1. In this phase fertility is high and mortality declines because of this the size population below 15 years is high and the dependency burden is high.

Phase 2. In this phase fertility starts declining at a fast rate leading to fall in the population of children but rise in the people in working age group because of this there is a reduction in dependency ratio. (Dependency burden is the ratio of people below the age of 15 and above the age of 55 to the entire workforce). This results in rise in savings and investment and productivity provided other things are in place.

Phase 3. In this phase the dependency ratio is again high as a result of higher old age population.

“The demographic bonus or gift is a term used to understand the second phase of the age structure transition. The proportion of the working age population in the total population will be one of the highest during this period with a potential growth inducing impact as well. This is expected to be a short phase in any population depending upon the pace of fertility decline. If the fertility decline is slow and steady as occurred in the western countries, this phase may even pass unnoticed. But for the developing countries of today, which are experiencing a rapid and sudden decline in fertility, the age structure transition is vividly evident and is expected to be present for over 40 years.” (Ibid).

Demographic dividend may also fail to have a positive effect on an economy.

Following points should be noted in this context-

Fall in School Numbers: Average age of school going kids is expected to rise. This is a good thing but this will bring commensurate benefits only if the quality of school education improves.

Fall in Gender Gaps in Education: This is caused by demand side increase in educational aspirations and supply side improvement in quantity and quality of education. Nevertheless significant regional variations remain.

Cereal Yields must Rise Significantly: Future population growth will result in more demand for cereals. This is possible only by increasing the use of fertilizers.

Greater Demand for Water: Rise in population will lead to increase in the demand for water.

Administrative and Political Challenges: Increasing population will lead to creation of more districts and more states. States like Uttarakhand, Jharkhand, and Chhattisgarh were created out of highly populated states.

11. Summary

Demographic Transition Central to India's Development: Increase in life expectancy which has taken place since independence is the single biggest improvement in the conditions of life in modern India.

Position of Women Beginning to Improve: Because of fall in fertility and reduced burden of bearing kids the situation of women in the society has improved.

Crude Death Rate may not Fall in Future but Crude Birth Rate may Fall: Country's rate of population growth will decline further in coming decades.

Aging Population: Because of the fall in mortality rate and fertility rate India's population in future will have more aged people.

Urbanisation is a Good thing but Urban Population is not that good. Too much of population centered in urban areas is bad. It happens as discussed above because of natural growth of urban areas and migration.

India cannot have as Drastic Policy as China: India is a democratic country and it cannot force a population policy on its masses as China has done.