

DEMOGRAPHIC TRANSITION MODEL

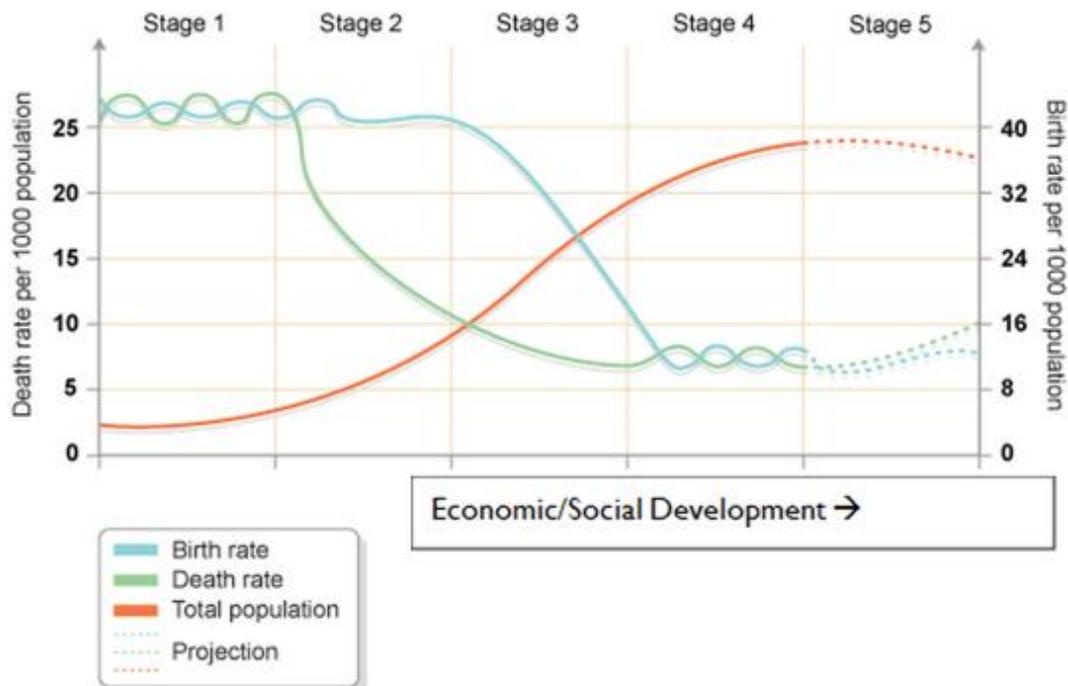
Geography Optional Paper 1, Population and Settlement Geography: Growth and distribution of world population; demographic attributes; Causes and consequences of migration; concepts of over-under-and optimum population; Population theories, world population problems and policies, Social well-being and quality of life; Population as social capital.

About DTM:

- This theory is a descriptive interpretation of the transformation that takes place in the demographic patterns of society.
- It identifies stages through which a society must pass sequentially with conditions which can be predicted beforehand.
- This is a model of population change from a low stable population to a high stable population as a result of a preliminary fall in the death rate from a high level to be followed later by a fall in the birth rate.

ASSUMPTIONS:

- Mortality starts declining before fertility.
- Later, fertility also starts declining and catches up with mortality.
- Socioeconomic development takes place as society transits from one stage to another.



STAGE 1:

Death rate: High due to-

- Poor diet
- Poor sanitation
- Inadequate hygiene
- Lack of medical care
- Short life-expectancy

Birth rate: High due to-

- High infant mortality
- Lack of contraception
- Children are economic assets (more=better)
- Status value of a large family to fathers
- Large families are a social norm

Total population remains low as births are balanced by deaths so irregular annual 'surpluses' are balanced by irregular annual 'deficits' in years when deaths outnumber births.

STAGE TWO: (Defined when the DR starts to fall)

Death rate: Begins to fall due to-

- Improving diet
- Improving living conditions & sanitation
- Advances in hygiene
- Improved medical care
- Longer life-expectancy

Birth rate: Remains high

Total population begins to rise as the frequency of years in which births outnumber deaths increases (it is not due to 'more births' but to 'fewer deaths' with 'consistent births').

STAGE THREE: (Defined when the BR starts to fall)

Death rate: Continues to fall

Birth rate: Begins to fall due to-

- More widespread use of reliable contraception
- Children attend school with associated costs
- Increasing status and choice of women
- Increased survival rates of infants
- Smaller families become the norm

Total population rises at its fastest rate at the start of the stage when the surplus of 'births' over 'deaths' is at its maximum. During this phase the rate of increase slows, though the population continues to increase as birth still outnumber deaths.

STAGE FOUR (Defined when the DR & BR level off)

Death rate: Levels off around 9/1000 p.a.

Birth rate: Continues to fall with a strong correlation between improving female education and assertiveness and falling fertility.

The rise in population slows and then levels as birth rate falls to match the existing death rate.

STAGE FIVE (Defined when the BR slips below the DR)

Death rate: Death rate increases due to-

- An ageing population has a higher death rate than a youthful one due to the larger proportion of elderly people reaching the end of their natural lives. There are more elderly people per thousand reaching their extended life expectancy.

Birth rate: Continues to fall with more women choosing a child-free or child-limited lifestyle.

Total population declines as the death rate of an ageing population rises higher than the still-reducing birth rate.

THE MECHANISM OF DTM:

- Early changes in the Death Rate are brought about by economic improvements. The ability to buy more food and with improved nutrition, the ability to pay for better housing, to pay a doctor's fees etc. are often associated with economic development.
- Changes in the Birth Rate are more often a consequence of social changes and shifts in generational attitude – particularly towards the education of girls, the status of women

within a relationship, and attitudes towards the use of reliable contraception. These take longer to permeate a society and explain the time-lag between the fall in the Death Rate and the later decline in the Birth Rate.

SIGNIFICANCE OF DTM:

- It is an empirical model – the result of observation and data collection. The correlation between developing economies and a decline in first the death rate, then the birth rate has been observed in many countries around the world in different stages of development.
- It can be used to analyse the reasons behind population change, so national governments can modify the factors to bring about desired impacts. The One-Child Policy of the Chinese government from 1980 can be seen as desire to bring about a Stage 3 and 4 faster than they would otherwise have occurred.
- It can be a forecasting model, with demographers anticipating the likely future population projections for countries, regions or globally. This allows governments to plan for anticipated changes in the proportions of young people or elderly populations. The UK government's raising of the age at which the state pension can be accessed is a result of it preparing for an increasingly ageing population with fewer 'economically active' contributors to the revenue base as a proportion of the total population.

ISSUES WITH THE DTM:

- While the model can help forecast future population scenarios, it can't be 'predictive' – as each country has individual and unique features that may vary from those encountered by other countries.
- Economic development does not always result in social development that results in rapidly decreasing fertility rates. Some societies maintain traditional views on women, their education, their role, and their status in a marriage so that fertility rates remain higher than may be anticipated.
- Death rates in many rural areas of sub-Saharan Africa have remained higher than may have been expected given the economic development of many countries in the region due to the prevalence and impact of HIV/Aids.
- Fertility trends appear to continue despite economic development ceasing or even reversing. Japan's economy has stagnated for nearly two decades now and yet it continues to see a slump in its birth rate and the most acute ageing population in the world. Social trends are continuing irrespective of the economic direction, so perhaps the two are not connected as closely as thought.
- DTM completely ignores the role of migration. Migration impacts can influence and alter both natural increase/decrease and actual increase/decrease depending on the



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age, fertility, social attitudes and gender of those arriving as immigrants, and those leaving as emigrants.

PREVIOUS YEARS OPTIONAL QUESTIONS:

- Examine the causes and consequences of forced migration of population in the present context. (2017)
- Define the quality of life and explain its parameters with adequate examples. (2017)
- Describe the regional pattern of Life Expectancy in the world and bring out the challenges faced by developing countries due to increasing life expectancy. (2016)
- Critically examine the theories on population migration. (2015).