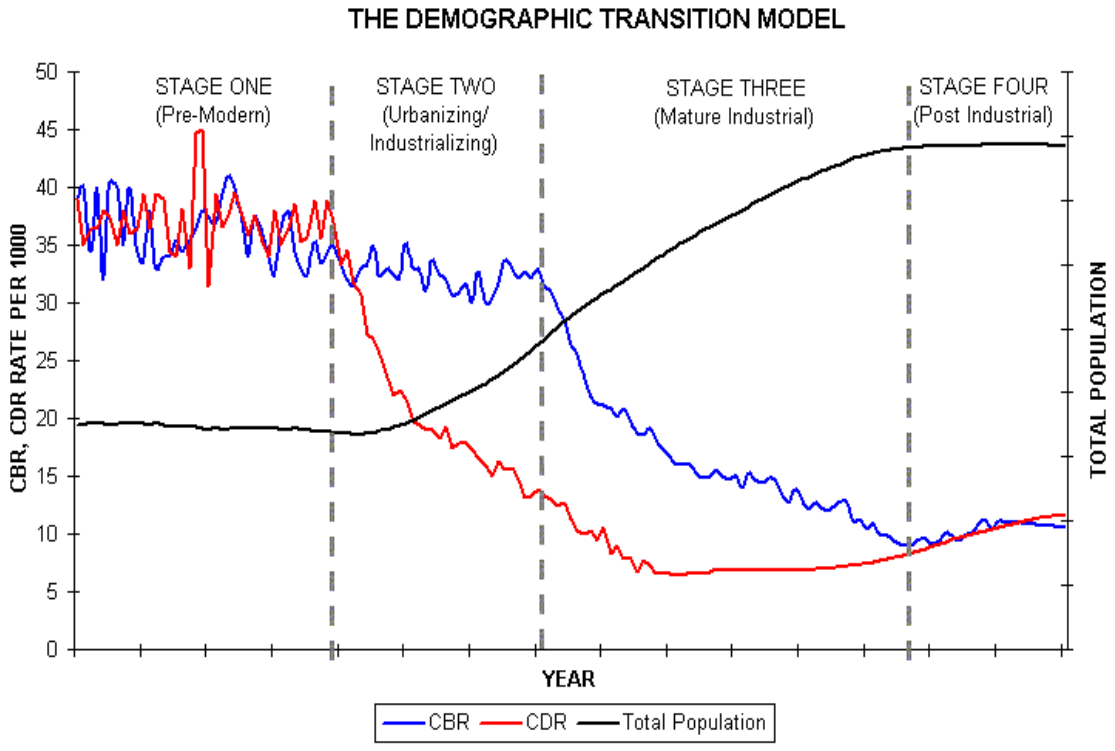
GEOGRAPHY HONS

SEMESTER VI

POPULATION GEOGRAPHY DSC 3

THE DEMOGRAPHIC TRANSITION THEORY

The socio-economic condition of man changes with the change of space and time. This spacio-temporal effect and its influence on demography is a matter of debate among the social scientists. The "Demographic Transition" is a model that describes population change over time. It is based on an interpretation that begun in 1929 by the American demographer **Warren Thompson**, of the observed changes, or transitions, in birth and death rates in industrialized societies over the past two hundred years or so. Thompson observed the difference in demand and supply with the change in the structure of the society.



The salient features of demographic transition theory

The theory of demographic transition states that the economy and society of a country has very clear relation to the birth and death rate of that country, which, in turn regulates the development of that country. Eg.-

High birth and death rate= agricultural economy= weak economy and society

High birth rate and declining death rate=industrialization= triggering development

Declining birth rate and death rate= industrial and commercial economy and modern agriculture= social and economic stability

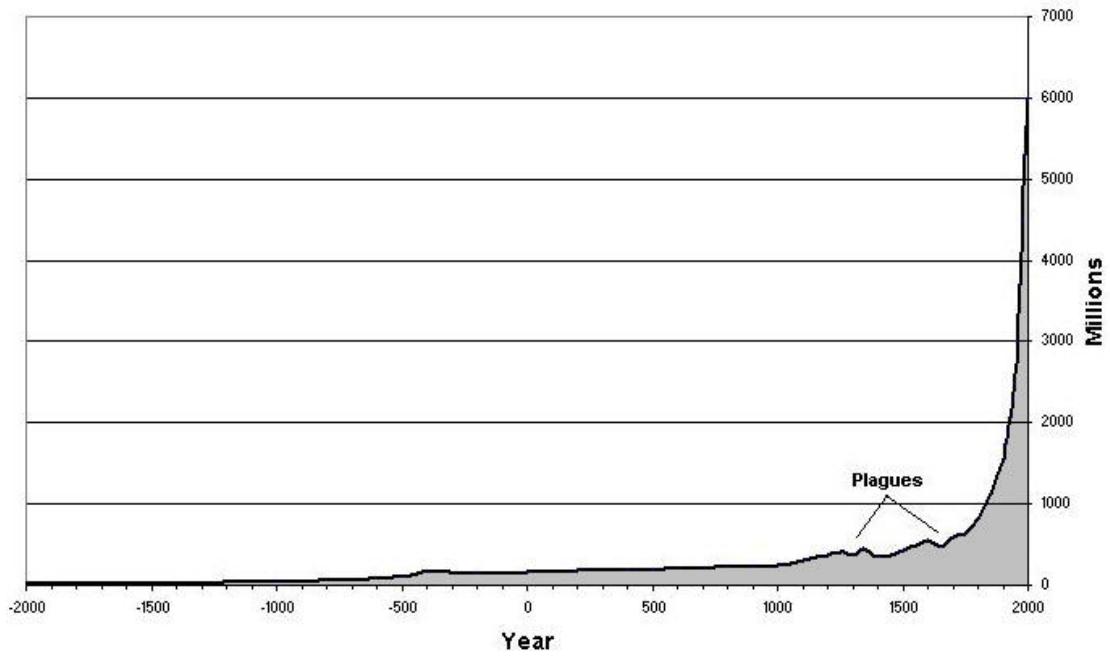
Declining birth rate and heavy decline in death rate= heavy decrease in population= weakening of a steady economy (this is a temporary state)

According to Bijou Garnier(1966), there are three stages of population rise

- **Increasing primitive stage**
- **Transitional phase**
- **Mature stage**

STAGE ONE

It is associated with pre Modern times, and is characterized by a balance between birth rates and death rates. This situation was true of all human populations up until the late 18th.C. when the balance was broken in Western Europe. in this stage, birth and death rates are both very high (30-50 per thousand). Their approximate balance results in only very slow population growth. Over much of pre-history, at least since the "Agricultural Revolution" 10,000 years ago, population growth was extremely slow. Growth rates would have been less than 0.05%, resulting in long doubling times of the order of 1-5,000 yrs.



HIGHLIGHTS IN WORLD POPULATION GROWTH

1 billion in 1804	3 billion in 1960 (33 years later)	5 billion in 1987 (13 years later)
2 billion in 1927 (123 years later)	4 billion in 1974 (14 years later)	6 billion in 1999 (12 years later)

Given its characteristics, Stage One is sometimes referred to as the **"High Stationary Stage"** of population growth ("high" birth and death rates; "stationary" rates and "stationary" total population numbers).

Death rates were very high at all times in this stage for a number of reasons, including:

- Lack of knowledge of disease prevention and cure;
- occasional food shortages.

Spikes in the rate of death were caused by outbreaks of infectious diseases such as influenza, scarlet fever, or plague. However, on a daily basis, it was primarily the lack of clean drinking water and efficient sewage disposal, and poor food hygiene that created an environment in which only a minority of children survived childhood. Water and food borne diseases such as cholera, typhoid, typhus, dysentery, and diarrhea were common killers, as were TB, measles, diphtheria, and whooping cough. Today in the developed world, at least, these are now minority causes of death.

The high rate of birth (even higher if one were to adjust it for women of childbearing age) could be due any or all of the factors that are associated with high fertility even today in many less developed countries. With a high death rate among children, there would be little incentive in rural societies to control fertility except in the most unbearable of circumstances.

Stage One, then, characterizes all world regions up until the 17th.C. Some demographers sum up its character as a "**Malthusian stalemate**".

STAGE TWO

It sees a rise in population caused by a decline in the death rate while the birth rate remains high, or perhaps even rises slightly. The decline in the death rate in Europe began in the late 18th.C. in northwestern Europe and spread over the next 100 years to the south end east.

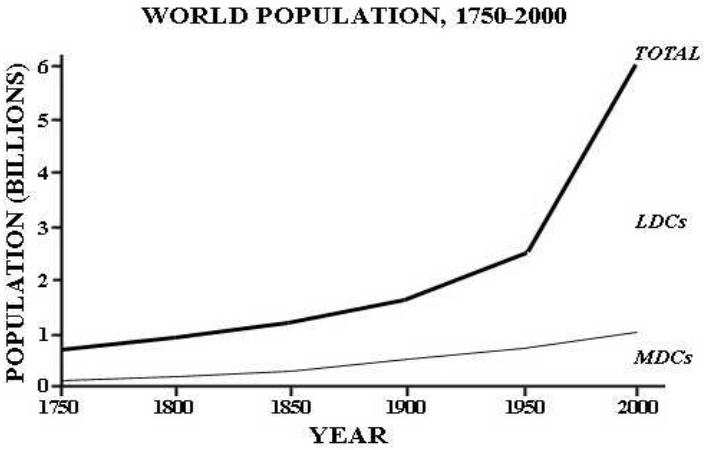
The decline in the death rate is due initially to two factors:

- First, improvements in food supply brought about by higher yields as agricultural practices were improved in the Agricultural Revolution of the 18th.C. These improvements included crop rotation, selective breeding, and seed drill technology. In England, the greater wealth this brought about enabled people to marry earlier, thus raising the birth rate slightly at the same time. Another food related factor was the introduction of the potato and maize (corn) from the Americas. These new crops increased the quantity of foodstuffs in the European diet, especially in northern Europe.

- Second, there were significant improvements in public health that reduced mortality, particularly in childhood. These are not so much medical breakthroughs (which did not come until the mid 20th.C.) as they are improvements in water supply, sewage, food handling, and general personal hygiene following on from growing scientific knowledge of the causes of disease. This is illustrated below for the case of measles and TB in the USA over the past 100 years. However, bear in mind that killer infectious diseases such as TB are airborne and not water borne, so public engineering works such as sewer and water supply cannot take all the credit. In fact, perhaps the most important factor here was increased female literacy allied with public health education programs in the late 19th. and early 20th. Centuries.

A consequence of the decline in mortality in Stage Two is an increasingly rapid rise in population growth (a "population explosion") as the gap between deaths and births grows wider. Note that this growth is not due to an increase in fertility (or birth rates) but to a decline in

deaths. This change in population growth in north western Europe begins the population rise that has characterized the last two centuries, climaxing in the second half of the 20th.C. as less developed countries entered Stage Two.



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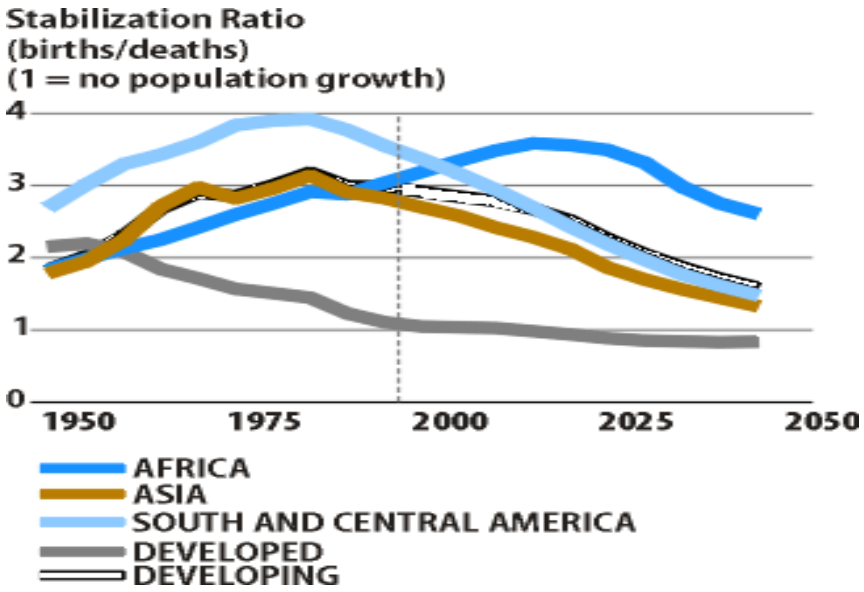

Another characteristic of Stage Two of the demographic transition is a change in the age structure of the population. In Stage One the majority of death is concentrated in the first 5-10

years of life. Therefore, more than anything else, the decline in death rates in Stage Two entails the increasing survival of children. Hence, the age structure of the population becomes increasingly youthful. This trend is intensified as this increasing number of children enter into reproduction while maintaining the high fertility rate of their parents. The age structure of such a population is illustrated below by using an example from the Third World today:

STAGE THREE

It moves the population towards stability through a decline in the **birth rate**. This shift belies Malthus's belief that changes in the death rates were the primary cause of population change. In general the decline in birth rates in developed countries began towards the end of the 19th.C. in northern Europe and followed the decline in death rates by several decades.

There are several factors contributing to this eventual decline, although some of them remain speculative:

- In rural areas continued decline in childhood death means that at some point parents realize they need not require so many children to be born to ensure a comfortable old age. As childhood death continues to fall parents can become increasingly confident that even fewer children will suffice.
- Increasing urbanization changes the traditional values placed upon fertility and the value of children in rural society. Urban living also raises the cost of dependent children to a nuclear family (education acts and child labor acts increased dependency through the late 1800s). People begin to assess more rationally just how many children they desire or need. Once traditional patterns of thinking are broken the decline is likely to accelerate.
- Increasing female literacy and employment lower the uncritical acceptance of childbearing and motherhood as measures of the status of women. Valuation of women beyond childbearing and motherhood becomes important. In addition, as women enter the work force their life extends beyond the family and the connections they make with other women serve to break their isolation and change their attitudes towards the burdens of childbearing. Within the family they become increasingly influential in childbearing decisions.
- Improvements in contraceptive technology help in the second half of the 20th.C. However, contraceptives were not widely available in the 19th.C. and likely contributed little to the decline. Fertility decline is caused by a change in values than by simply the availability of contraceptives and knowledge of how to use them. Today in the world there exists a close correspondence between fertility and contraceptive use, but this likely

means that those families that have chosen to limit family size find contraceptives the easiest and most effective way to do so.

At some point towards the end of Stage Three the fertility rate falls to replacement levels. However population growth continues on account of population momentum. This can be seen in the Mexico example, and it is responsible for the continued growth in the population of Sweden in the 1980s.

STAGE FOUR

This stage is characterized by stability. In this stage the population age structure has become older and In some cases the fertility rate falls well below replacement and population decline sets in rapidly. Here there are both low birth rates and low death rates. Birth rates may drop to well below replacement level as has happened in countries like Germany, Italy, and Japan, leading to a shrinking population, a threat to many industries that rely on population growth. As the large group born during stage two ages, it creates an economic burden on the shrinking working population. Death rates may remain consistently low or increase slightly due to increases in lifestyle diseases due to low exercise levels and high obesity and an aging population in developed countries. By the late 20th century, birth rates and death rates in developed countries leveled off at lower rates.

As with all models, this is an idealized picture of population change in these countries. The model is a generalization that applies to these countries as a group and may not accurately describe all individual cases. The extent to which it applies to less-developed societies today remains to be seen. Many countries such as China, Brazil and Thailand have passed through the Demographic Transition Model (DTM) very quickly due to fast social and economic change.