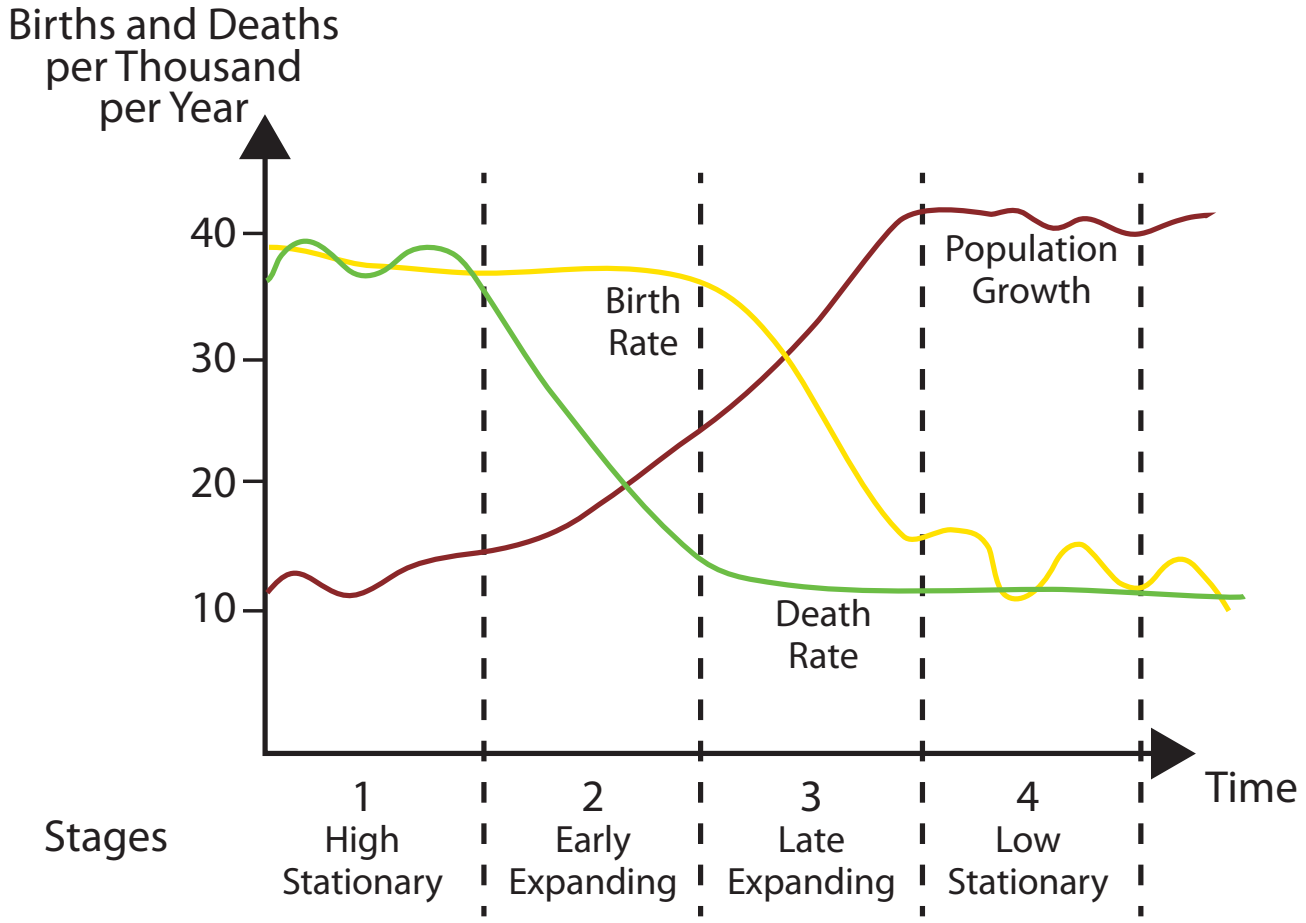
Demographic Transition Model



Source: Barcelona Field Studies Centre (geographyfieldwork.com)

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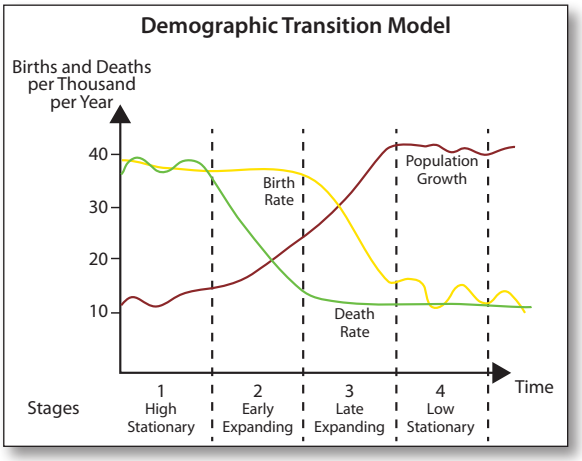
IR-18: Demographic Transition Model Overview

The demographic transition model is a spatial model that is divided into four sections. The model ties many geographic topics together, most notably population growth and economic development, leading some people to generalize that the model really addresses the socioeconomic progress of a group of people.

This model was developed in 1929 and was modified in 1945. The basis of the original data was Western Europe, specifically, England and Wales. Broad application can be made to other countries as well, such as the United States.

An interesting anomaly is that technology has affected the underlying concept of this model in recent decades. It took centuries for some European and North American countries to go through the demographic transition, but today, newly industrializing countries, such as South Korea, China, and Mexico, progress through the model in a matter of decades. The demographic transition model illustrates the overall population growth of a country at different stages of time. There are many factors that influence fertility rates and childbearing trends, including economics, education, infrastructure, and political policies.



Source: Barcelona Field Studies Centre (geographyfieldwork.com)

What do you think is represented by the model? How do birth and death rates affect population size?

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Read IR-20 and use the graphic organizer below to record your notes.

Stage	Notes	Visual Representation
Stage 1		
Stage 2		
Stage 3		
Stage 4		

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Read IR-20 and use the graphic organizer below to record your notes.

Stage	Notes	Visual Representation
Stage 1	*In Stage 1, also known as the pre-agrarian period, birth rates and death rates are relatively high. This stage is characterized by the number of deaths equaling the number of births, and so there is no real growth. Countries associated with this stage of demographic transition include Somalia, Afghanistan, and Sierra Leone.*	*Students might draw a number sign next to a symbol to represent births and an equal sign next to a symbol to represent deaths.*
Stage 2	*In Stage 2, also known as the agrarian period, agriculture develops as an important economic activity. Agriculturally based societies use simple tools to plant and cultivate crops; no complex machines are used at this point because they had not yet been introduced to these countries. As a direct result of agricultural activities, an increase in the food supply led to an overall increase in the caloric intake of the population. As people have more food to eat, the death rate begins to decrease. The birth rate, however, remains relatively unchanged through most of Stage 2 because people do not change their social behavior. In fact, the fertility rate usually increases to more than 3% as people live through childbearing age. Countries in this stage of demographic transition include Guatemala, Vietnam, and the Philippine Islands.*	*Students might draw farmers working their crops with farming tools and a symbol to represent deaths decreasing.*

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Stage	Notes	Visual Representation
Stage 3	*Stage 3 is considered the period of industrialization. With the advent of complex machines (e.g., tractor, cotton gin, and spinning jenny), people were able to increase the efficiency of producing food and clothing. More land could be cultivated in less time, allowing people to utilize their time in other ways. People often maximized their extra time by pursuing educational opportunities or researching and developing new technology. This new knowledge led to a general improvement in health care and sanitation, thus causing life expectancy to increase.* *In addition to the economic changes during Stage 3 of the demographic transition, there were social changes. Because fewer farmers were needed, there was an increase in urbanization as unemployed farmers moved to cities to find jobs in factories. In more developed countries, rural migrants moved to tenement housing, usually close to the factories. In less developed countries, migrants lived in similar low-level housing and slumlike conditions. In Brazil, these settlements are called* favelas*; in northern Mexico and the southwestern United States, they are called* colonias *or* barrios*; in Europe, they are known as ghettos.* *One of the results of industrialization on the population growth rate in many societies is that fewer children are needed as labor resources. If children are not working in the fields or factories and contributing to the family's total income, they become an economic*	*Students might draw complex machines, people in school, a symbol to represent life increasing, and farmers looking for work.*

Stage	Notes	Visual Representation
Stage 3	*liability rather than an economic resource. As social and economic priorities change due to a society becoming more economically developed, the family structure changes and the growth rate, or natural increase rate, slows down. Countries in this stage of demographic transition include Mexico, India, and Ukraine.*	
Stage 4	*Stage 4 is highly mechanized and urbanized. Farmers have access to advanced technology (e.g., computers on their tractors) and to migrant labor. Women have different roles in society because many of them choose to obtain a college education and enter the work force. Most people have service sector jobs that require a college education or technical training. These jobs tend to be associated with higher wages. Health care and level of education influence people's decision to have fewer children. The birth rate and the death rate are at similarly low levels, maintaining a slow population growth rate. Countries in this stage of the demographic transition include the United States, the United Kingdom, and Australia.*	*Students might draw tractors with computers, women attending college, a symbol to represent birth at a low level, and a symbol to represent death at a low level.*

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Demographic Transition

Stage 1
Stage 1 of the demographic transition model is known as the pre-agrarian period. **Birth rates**, the number of births per 1,000 people, and **death rates**, the number of deaths per 1,000 people, are relatively high. This stage is characterized by the number of deaths equaling the number of births, so there is no real growth. Countries associated with this stage of the demographic transition include Somalia, Afghanistan, and Sierra Leone.

Stage 2
In Stage 2 of the demographic transition, or the agrarian period, agriculture is developed as an important economic activity. Agriculturally based societies use simple tools to plant and cultivate crops; no complex machines are used at this point because they had not yet been introduced to these countries. As a direct result of agricultural activities, an increase in the food supply led to an overall increase in the caloric intake of the population. As people have more food to eat, the death rate begins to decrease. The birth rate, however, remains relatively unchanged through most of Stage 2 because people do not change their social behavior. In fact, the fertility rate usually increases to more than 3% as people live through childbearing age. As the model in IR-17 and IR-18 demonstrates, the total population begins an aggressive climb through Stage 2. Countries in this stage of demographic transition include Guatemala, Vietnam, and the Philippine Islands.

Stage 3
Stage 3 is considered the period of industrialization. With the advent of complex machines (e.g., tractor, cotton gin, and spinning jenny), people were able to increase the efficiency of producing food and clothing. More land could be cultivated in less time, allowing people to utilize their time in other ways. People often maximized their extra time by pursuing educational opportunities or researching and developing new technology. This new knowledge led to a general improvement in health care and sanitation, thus causing life expectancy to increase.

In addition to the economic changes during Stage 3 of the demographic transition, there were social changes. Because fewer farmers were needed, there was an increase in urbanization as unemployed farmers moved to cities looking for jobs in factories. In more developed countries, these rural migrants moved to tenement housing, usually close to the factories. In less developed countries, migrants lived in similar low-level housing and slumlike conditions. In Brazil, these settlements are called *favelas*; in northern Mexico and the southwestern United States, they are called *colonias* or *barrios*; in Europe, they are known as ghettos.

One result of industrialization on the population growth rate in many societies is that fewer children are needed as labor resources. If children are not working in the fields or factories and contributing to the family's overall income, they become an economic liability rather than an economic resource. As social and economic priorities change due to a society becoming more economically developed, the family structure changes and the growth rate, or natural increase rate, slows down.

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Even as the growth rate slows down, however, the total population continues to rise. Countries in this stage of demographic transition include Mexico, India, and Ukraine.

Stage 4

Stage 4 is characterized as being highly mechanized and urbanized. Farmers have access to advanced technology (e.g., computers on their tractors) and to migrant labor. Women have different roles in society because many of them choose to obtain a college education and enter the work force. Most people have service sector jobs that require a college education or technical training. These jobs tend to be associated with higher wages. Health care and level of education influence people's decision to have fewer children. The birth rate and the death rate are at similarly low levels, maintaining a slow population growth rate. Countries in this stage of the demographic transition include the United States, the United Kingdom, and Australia.

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IR-21: Demographic Transition Model Scenarios

Duplicate and cut out the cards below so that each student will have one set.

Scenario 1	Scenario 2
In a country of more than 21,000,000, the population growth rate is 1.171%. The country has a birth rate of 12.39 per 1,000 people and a death rate of 6.81.	In a country of more than 99,000,000, it is estimated that the birth rate per 1,000 people was 25.68 in 2010, 26.42 in 2000, and 27.07 in 1990.
Scenario 3	**Scenario 4**
In a country of more than 30,000,000, it is estimated that more than 38 babies per 1,000 will be born. The population growth rate is approximately 2.47.	In a country of more than 112,000,000, it is estimated that the population growth rate is 1.118%, the birth rate is 19.39 per 1,000, and the death rate is 4.83.

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In a country of more than 30,000,000, it is estimated that more than 38 babies per 1,000 will be born. The population growth rate is approximately 2.47.	In a country of more than 112,000,000, it is estimated that the population growth rate is 1.118%, the birth rate is 19.39 per 1,000, and the death rate is 4.83.

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1. Generally speaking, _____ is the main factor for the total population of any country or region to increase.
   A. a decrease in the death rate
   B. an increase in the birth rate
   C. access to birth control
   D. economic stability

2. What major event generally is associated with Stage 3 of the Demographic Transition Model?
   A. Agricultural Revolution
   B. Industrial Revolution
   C. Political Revolution
   D. Medical Revolution

3. During which stage of the Demographic Transition Model does the education of women have the greatest impact?
   A. Stage 1
   B. Stage 2
   C. Stage 3
   D. Stage 4

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