

POPULATION GROWTH THEORIES

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POPULATION OF INDIA

1,416,348,084 (1.416 billion) March, 2023



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Malthus' Theory of Population Growth

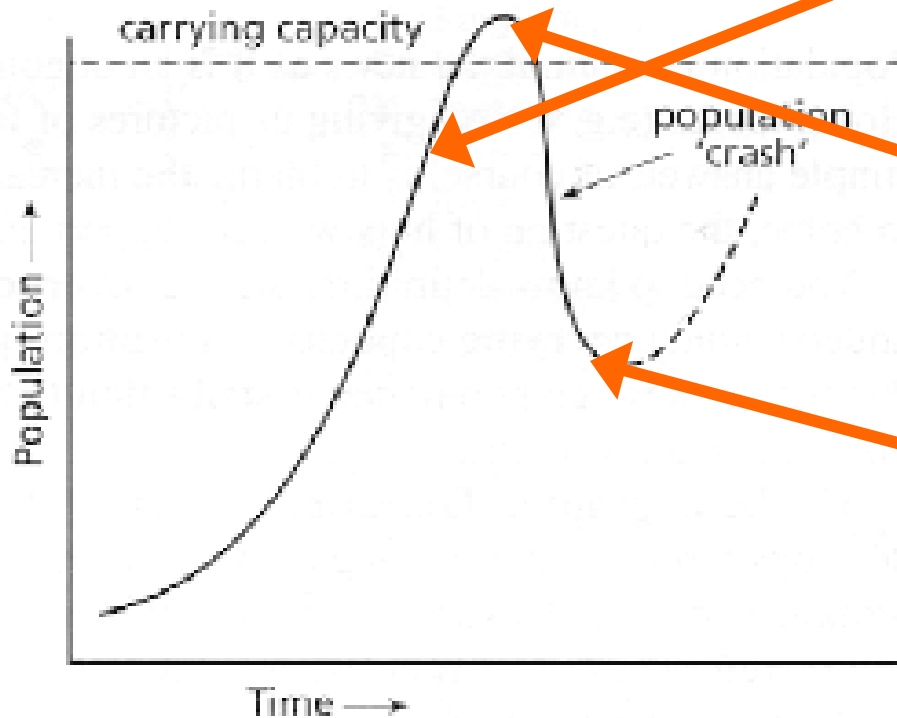
- In 1798 Thomas Malthus published his views on the effect of population on food supply. His theory has two basic principles:
- Population grows at a **geometric** rate i.e. 1, 2, 4, 16, 32, etc.
- Food production increases at an **arithmetic** rate i.e. 1, 2, 3, 4, etc.



Old dead guy

- The consequence of these two principles is that eventually, population will exceed the capacity of agriculture to support the new population numbers. Population would rise until a limit to growth was reached. Further growth would be limited when:
 - preventive checks - postponement of marriage (lowering of fertility rate), increased cost of food etc.
 - positive checks - famine, war, disease, would increase the death rate.

Malthusian ideas are often supported by Western governments because it highlights the problem of too many mouths to feed, rather than the uneven distribution of resources;



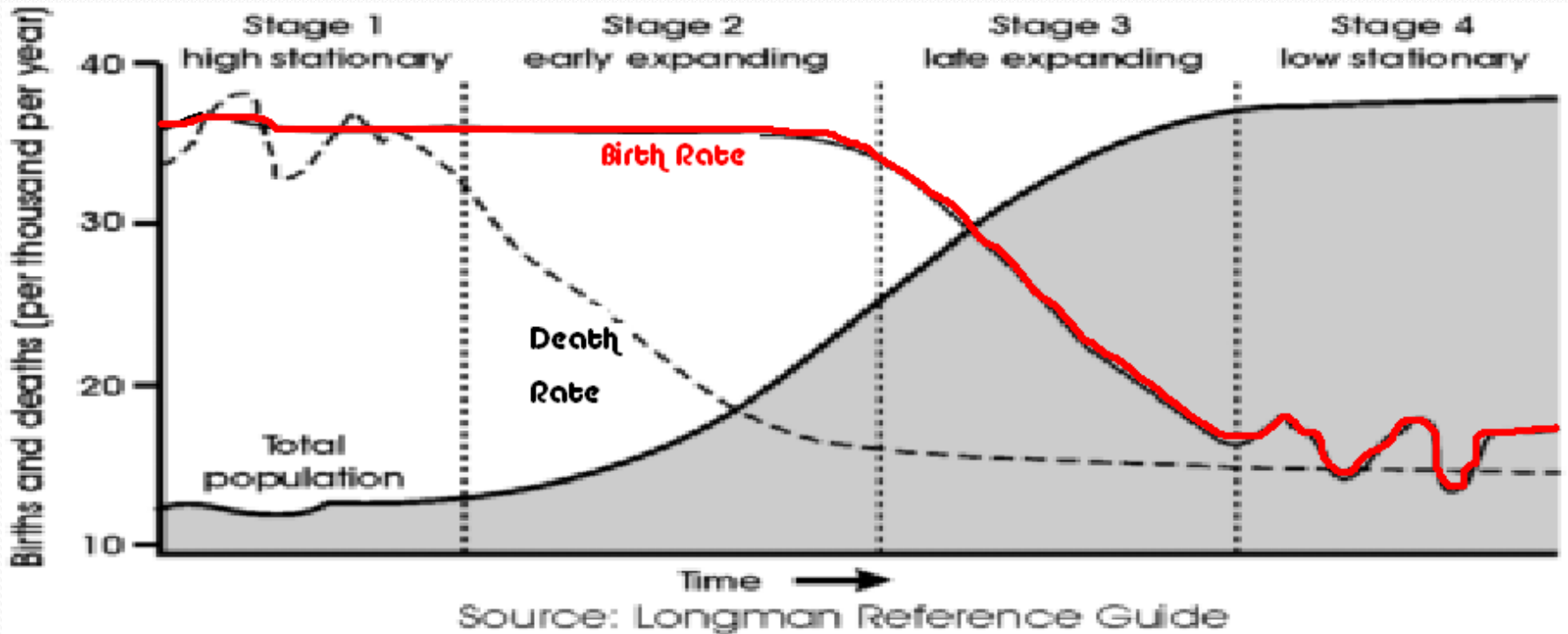
Population grows geometrically....

Population exceeds carrying capacity...

Population is kept in "check" – preventative and/or positive checks

The Demographic Transition Model

- The model of demographic transition suggested that a population's mortality and fertility would decline as a result of social and economic development. It predicted that all countries would over time go through four demographic transition stages.



STAGE 1– High Stationary or Pre-Industrial

- **HIGH BIRTH RATES**

- Little or no family planning
- Parents have many children because few survive
- Many children are needed to work the land
- Children are a sign of virility
- Some religious beliefs and cultural traditions encourage large families

- **HIGH DEATH RATES**

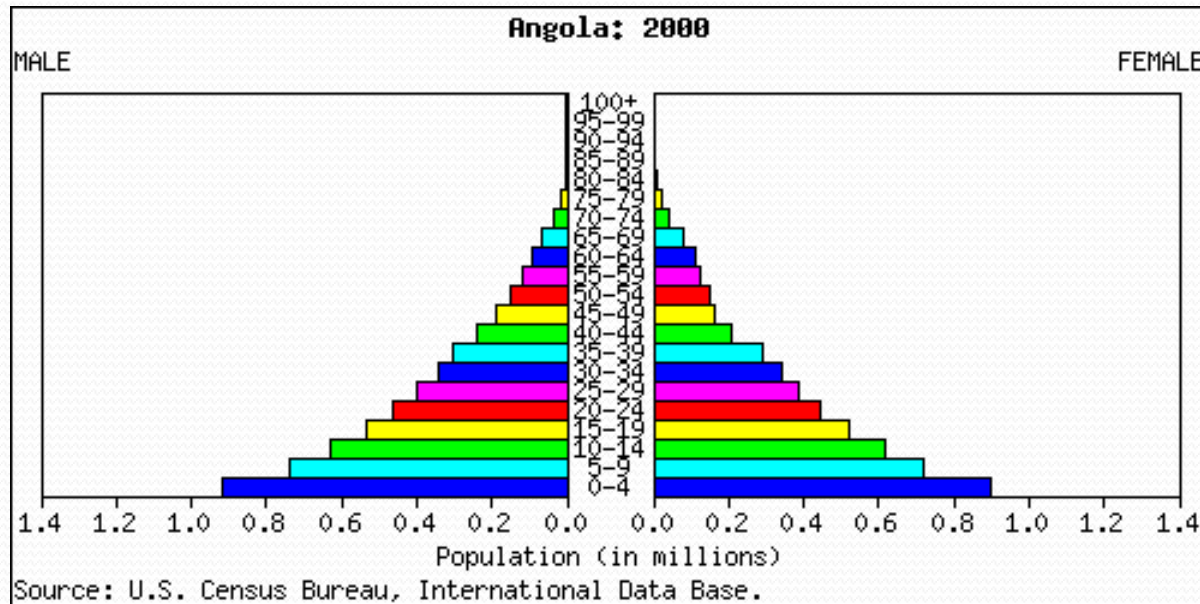
- Disease and plague (e.g. bubonic, cholera, kwashiorkor)
- Famine , uncertain food supplies, and poor diet
- Poor hygiene, no piped clean water or sewage disposal

- **POPULATION GROWTH-- SLOW**

STAGE 1

Birth Rate	High
Death Rate	High
Natural Increase	Low
Fertility Rate	High
Infant Mortality Rate	High
Example Region	Various isolated communities in the least developed regions of Africa; war-torn regions (eg Afghanistan, Sudan, Angola); political hotspots (eg North Korea)
Other Characteristics:	Characterizes pre-industrial societies. Most of the population is rural and involved in subsistence agriculture.

STAGE 1 Pyramid



- Due to high birth rates, the pyramid shape would have a wide base;
- Due to high death rates, the pyramid would be very short in height; concave shape indicates low life expectancy.

STAGE 2– Early Expanding or Early Industrial (Rapid population growth)

- Ehrlich described this stage as the “population explosion”
- **HIGH BIRTH RATES**
 - As STAGE 1
- **FALLING DEATH RATES**
 - Improved medical care e.g. vaccinations , hospitals, doctors, new drugs, and scientific inventions
 - Improved sanitation and water supply
 - Improvements in food production in terms of quality and quantity
 - Improved transport to move food and doctors
 - A decrease in child mortality
- **POPULATION GROWTH-- RAPID**

EARLY STAGE 2

Birth Rate	High
Death Rate	Decreasing
Natural Increase	Increasing
Fertility Rate	High
Infant Mortality Rate	High
Example Region	Sub-Saharan Africa

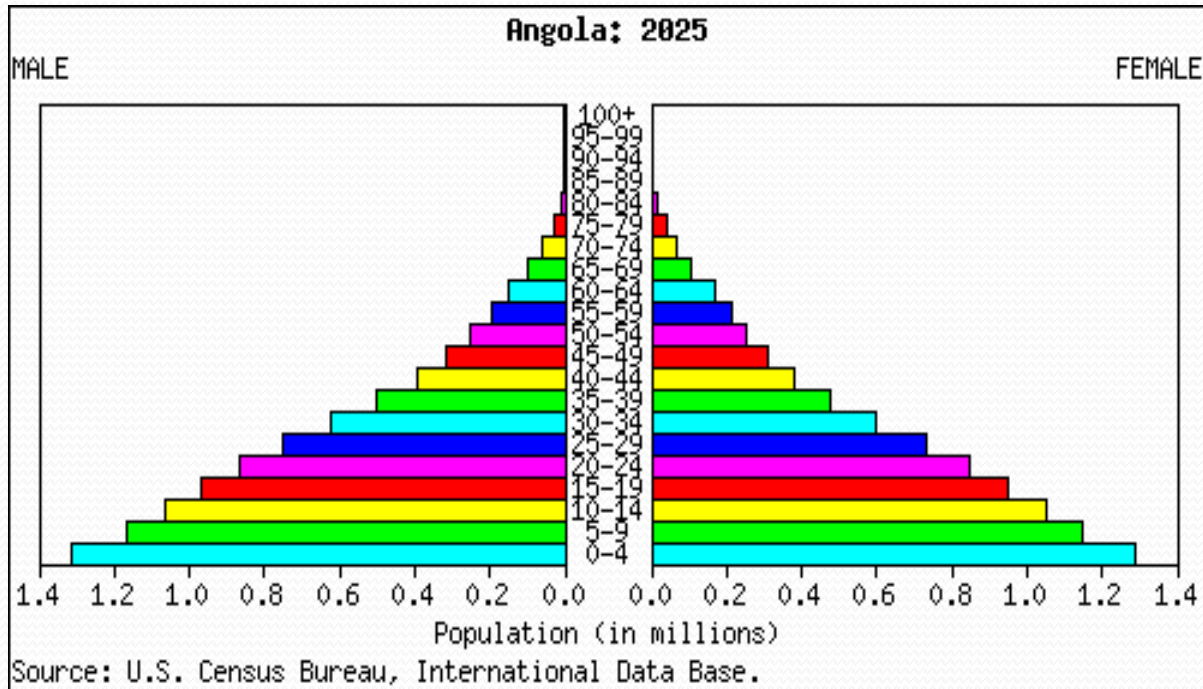
Other Characteristics: Characterizes post-industrial societies. Most of the population is rural, but urbanization is increasing rapidly. Dependency load begins to increase rapidly as the young cohort (%<15 yrs old) begins to dominate the proportion of the population.

LATE STAGE 2

Birth Rate	High
Death Rate	Lowered
Natural Increase	Increasing rapidly
Fertility Rate	High
Infant Mortality Rate	Declining
Example Region	Many African countries, Middle East

Other Characteristics: The beginning of the population “explosion”.
Often, social and economic problems begin on a large scale.
Urbanization continues to grow rapidly. Dependency load is huge due to a massive, young cohort (<15yrs old).

STAGE 2 Pyramid



- As death rates are addressed, the population explosion begins;
- The height of the pyramid grows to reflect the prevention of more deaths; shape becomes less concave as life expectancy increases;
- The width of the base remains large due to the ongoing high birth rates

STAGE 3– Late Expanding or Late Industrial

- **FALLING BIRTH RATES**

- Family Planning utilized; contraceptives, abortions, sterilization, and other government incentives adopted
- A lower infant mortality rates means less pressure to have children
- Increased mechanization and industrialization means less need for labour
- Increased desire for material possessions and less desire for large families
- Emancipation of women

- **DEATH RATES LOW**

- As Stage 2

- **POPULATION GROWTH– STILL GROWING BUT SLOWING**

EARLY STAGE 3

Birth Rate	Decreasing
Death Rate	Low
Natural Increase	High, but decreasing
Fertility Rate	Decreasing
Infant Mortality Rate	Decreasing
Example Region	South and East Asia

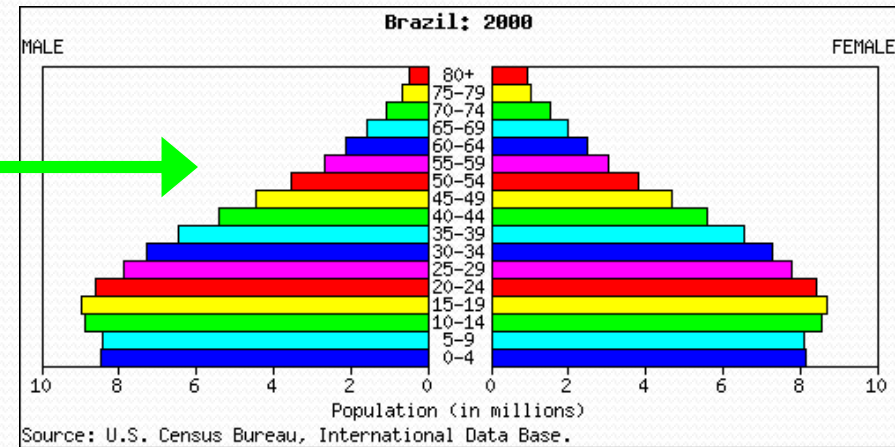
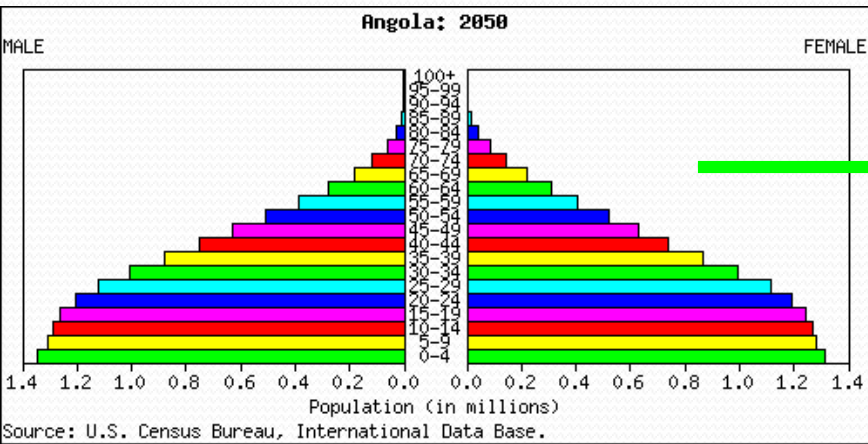
Other Characteristics: Birth control is introduced and begins wide social acceptance. Social and economic issues begin to be addressed. Dependency load is still large due to a large young cohort group (<15yrs old).

LATE STAGE 3

Birth Rate	Decreasing to a manageable level
Death Rate	Low
Natural Increase	Decreasing sharply
Fertility Rate	Decreasing sharply
Infant Mortality Rate	Lowered
Example Region	Latin America, Tiger Economies

Other Characteristics: Ends the population explosion. People choose smaller families due to many social and economic factors. Urbanization dominates. Population stabilization begins. Population continues to grow due to the large young population reaching childbearing age.

STAGE 3 Pyramid



- As birth rates begin to be addressed, the base begins to stabilize and eventually narrow;
- Death rates are low and stabilized, meaning that the pyramid continues to grow higher.

STAGE 4– Low Stationary or Low Fluctuating

- **BIRTH RATES LOW**

- Fertility rates plunge to below replacement rate (2.1 children per woman) because:
 - Valuation of women beyond childbearing and motherhood becomes important
 - Increasing value is placed on material goods over family size in modern industrialized society
 - Widespread choice of contraception by families

- **DEATH RATES LOW**

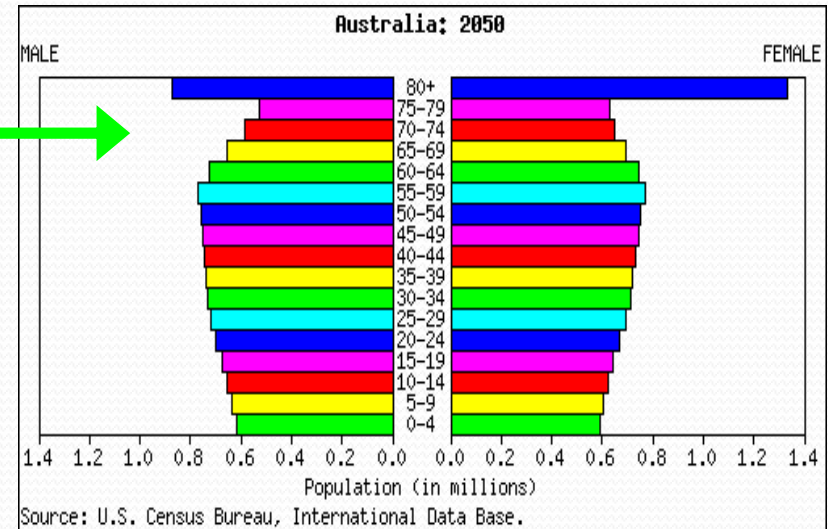
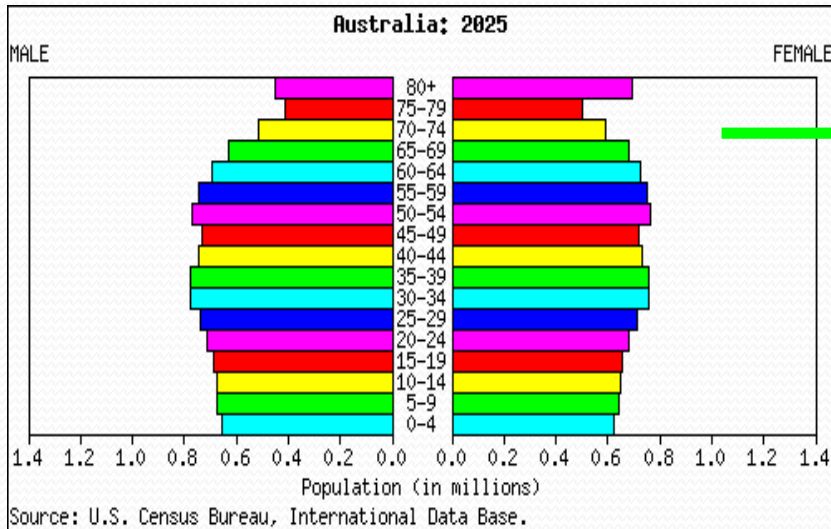
- Child mortality reduced and life expectancy increased due to:
 - Capital (\$\$\$) investment in medical technology
 - Widespread knowledge of healthy diet and lifestyle

- **POPULATION GROWTH– SLOW OR DECLINING (due to aging societies)**

STAGE 4

Birth Rate	Low
Death Rate	Low with spurts as a result of an aging society
Natural Increase	Low or negative
Fertility Rate	Near or below replacement rate
Infant Mortality Rate	Low
Example Region	MEDC's, China
Other Characteristics:	Population growth no longer a social and economic issue. Birth and death rates fluctuate minimally and natural increase stops. An overwhelmingly urban society. Dependency load is small (large working age group).

STAGE 4 Pyramid



- Birth rates and death rates are low; as fertility continues to decline, an AGING SOCIETY emerges.
- Pyramid seems to “invert”...