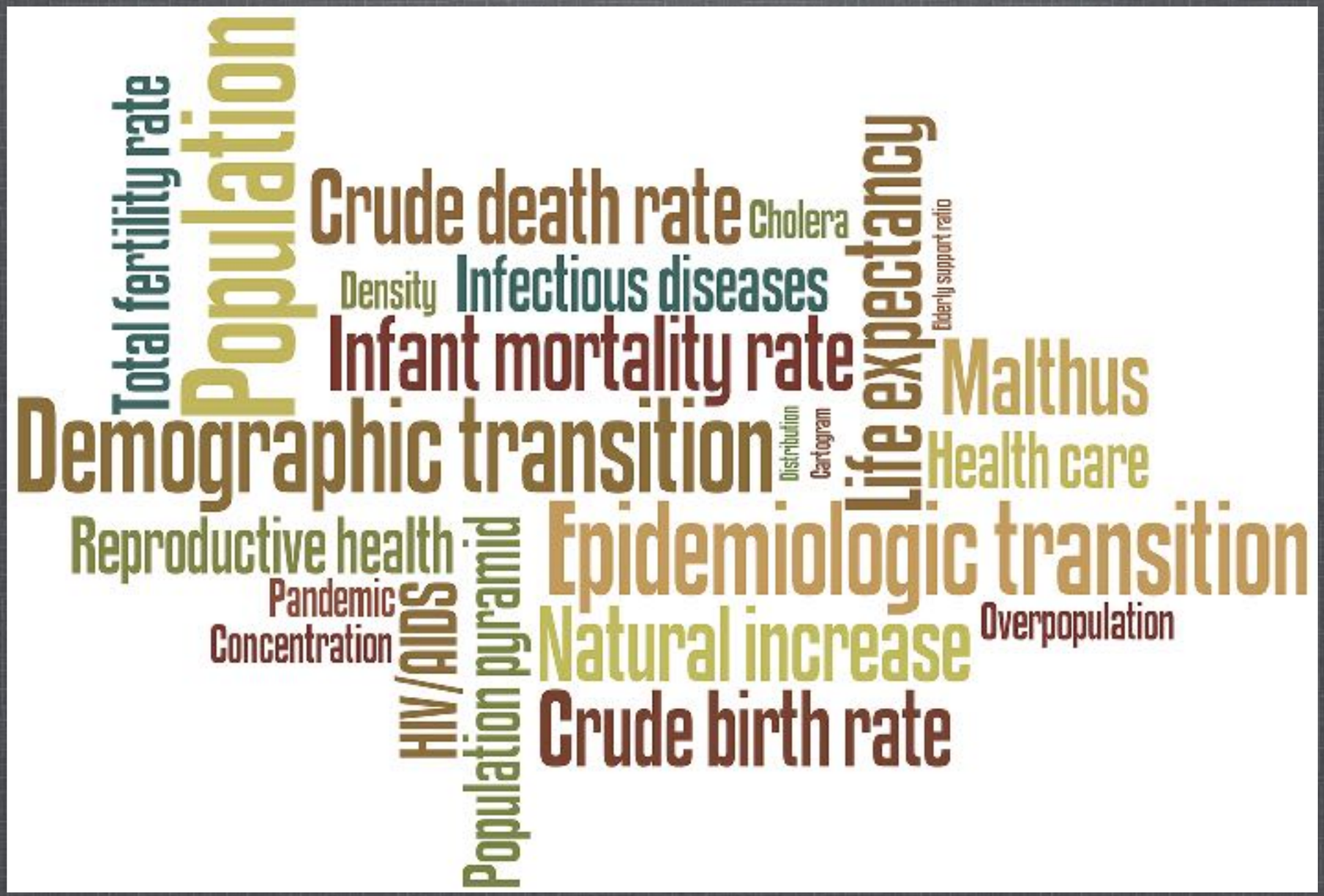
HWG UNIT 1 SG 1

Population



I. INTRODUCTION

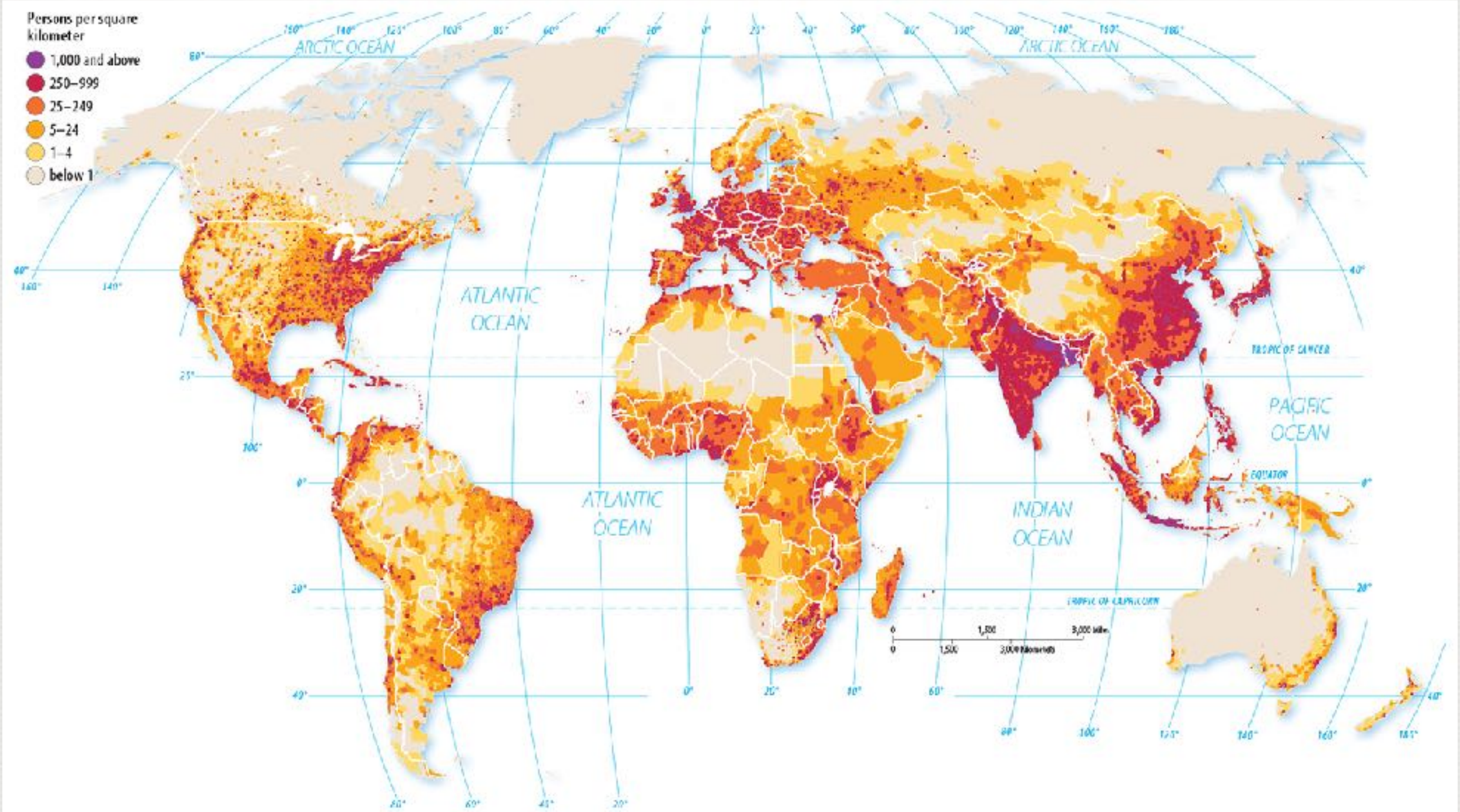
A. The world population today is approximately 7 billion people, concentrated in a few regions of the world.

More people are alive and living longer than any other time in the history of humankind.

WHAT IS THE IDEAL KIND OF PLACE TO LIVE?

- Temperature Ranges
- Humidity
- Rainfall
- Topography
- Access to Water

What Areas Are Humans Avoiding?



II. POPULATION CONCENTRATIONS

- A. Why are there sparsely populated regions?
- B. Humans avoid clustering in certain physical environments.
  - 1. Dry lands
  - 2. Cold lands
  - 3. Mountainous lands
  - 4. Lands that are too wet

POPULATION CLUSTERS

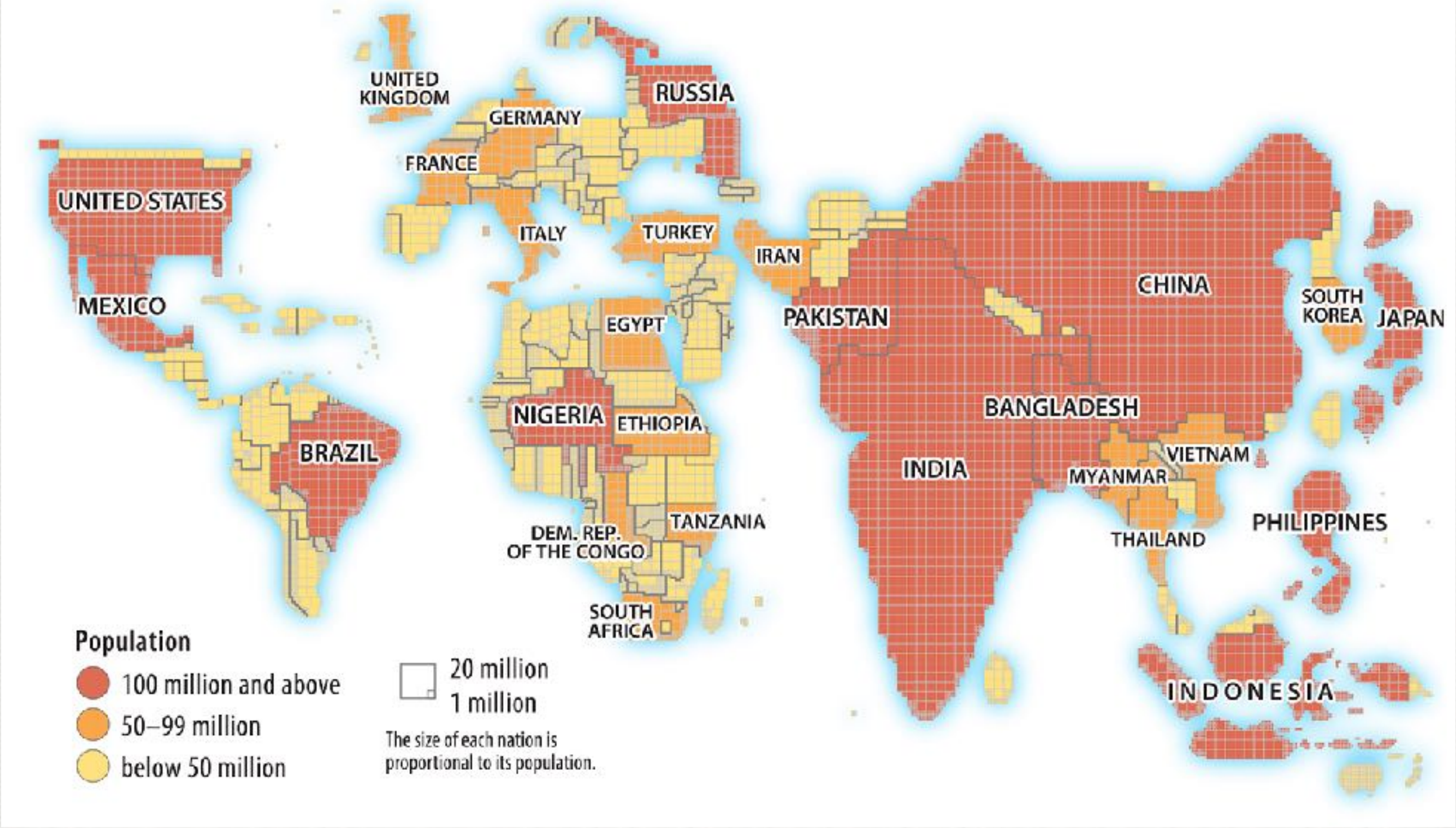
Each colored region contains approximately 1 billion inhabitants.

II. POPULATION CONCENTRATIONS

- C. There are four regions of the world with large clusters of human population:
  - –East Asia (China, Japan, North & South Korea, Taiwan)
  - –South Asia (India, Nepal, Bhutan, Bangladesh, Sri Lanka)
  - –Southeast Asia [Myanmar (Burma), Thailand, Vietnam, Indonesia)
  - –Western Europe

D. A cartogram shows the size of countries according to population rather than land area, as is the case with most maps.

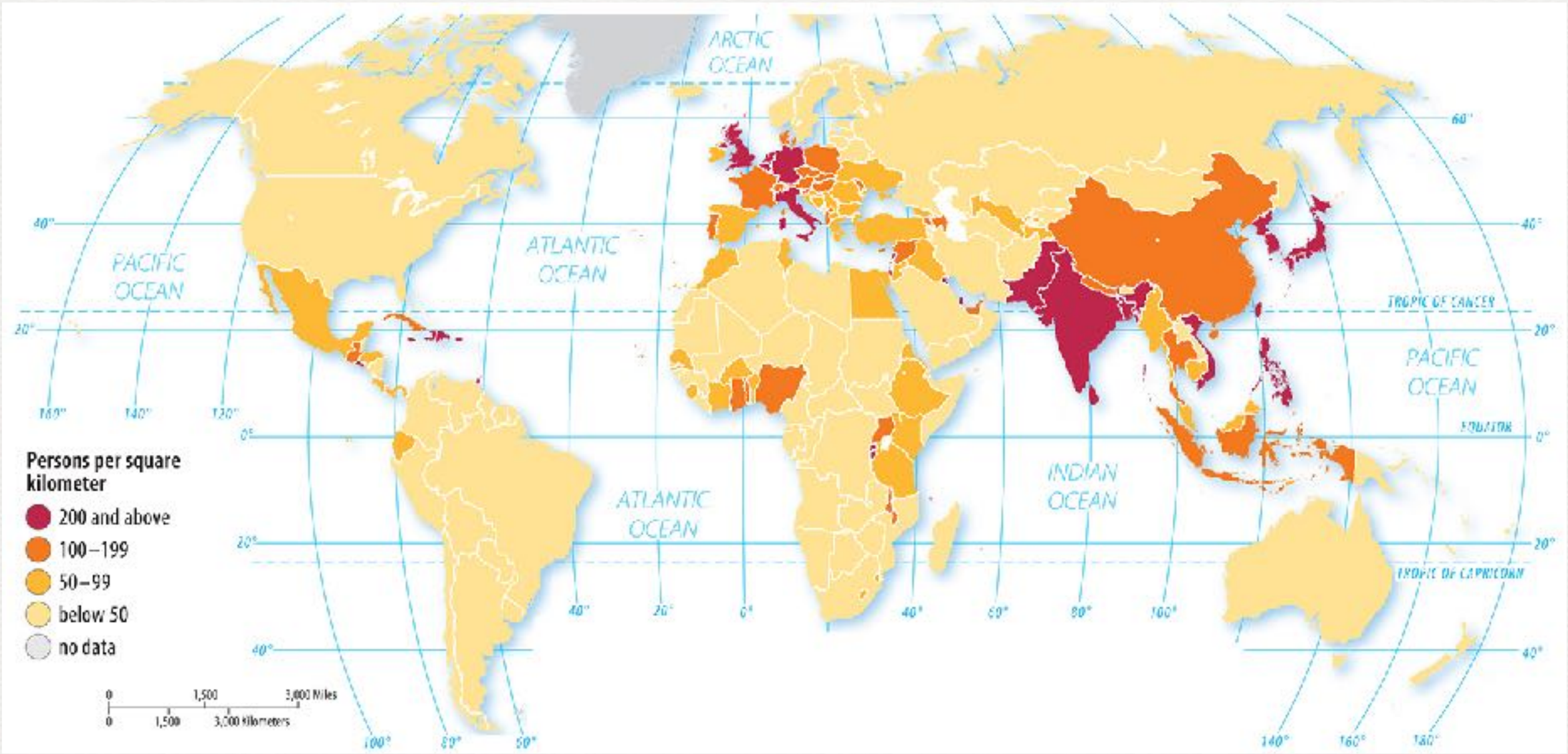
POPULATION CARTOGRAM



III. POPULATION DENSITY

- **A. Population density (Arithmetic Density)**
  - –1. The number of people occupying an area of land OR
  - –the total number of persons/total land area

ARITHMETIC DENSITY



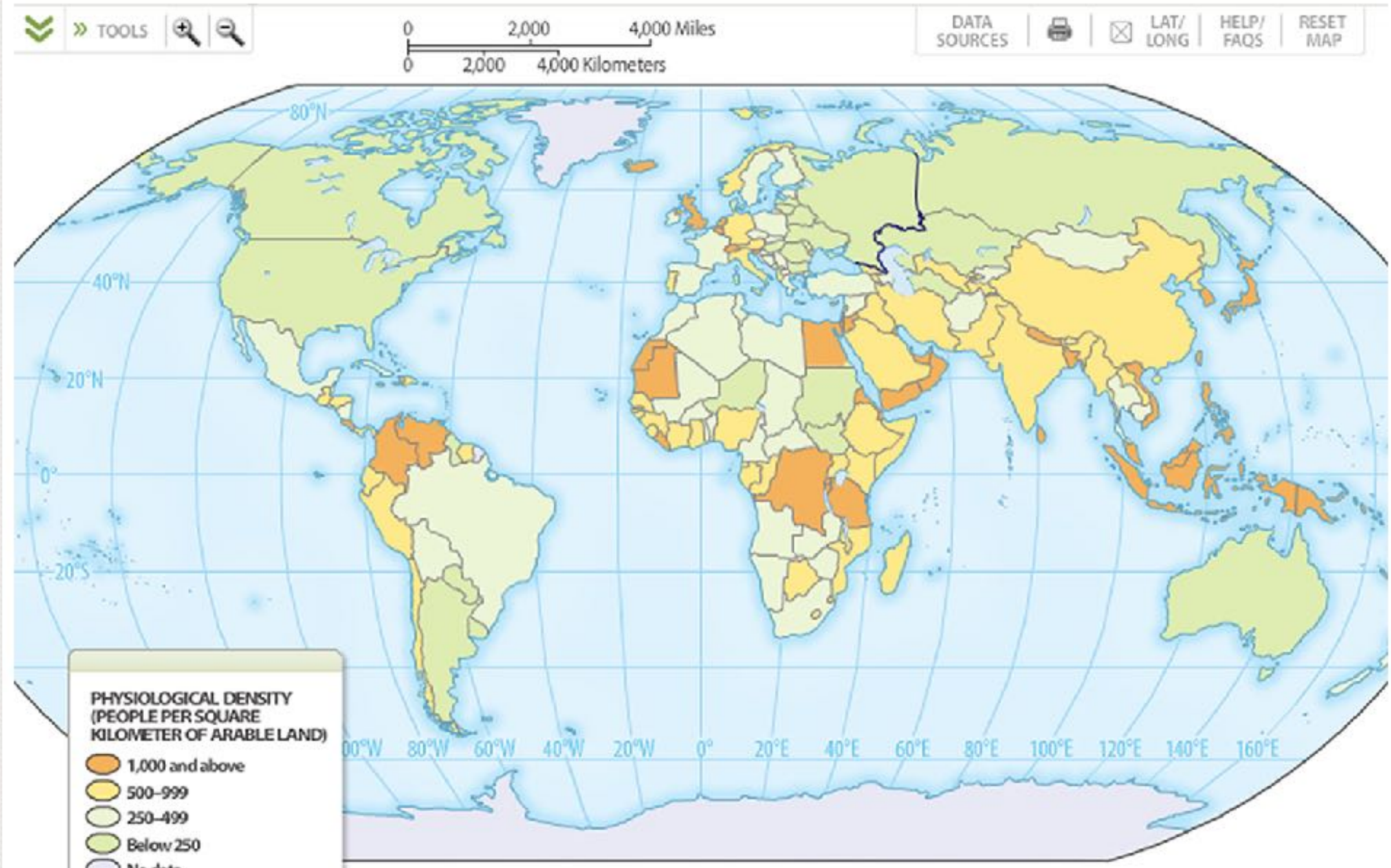
ARITHMETIC DENSITY

Country	Arithmetic Density	Physiological Density	Agricultural Density	Percentage Farmers	Percentage Arable Land
Canada	4	83	1	2	5
United States	35	199	3	2	18
The Netherlands	498	1,610	26	3	31
Egypt	87	3,011	273	29	3

III. POPULATION DENSITY

- **C. Physiological density**
  - –Total number of people supported by a unit of arable (farmable) land (a more meaningful measurement)
  - –By combining both arithmetic and physiological data, geographers can get a sense of the capacity of land to provide sustenance for humankind.

PHYSIOLOGICAL DENSITY



PHYSIOLOGICAL DENSITY

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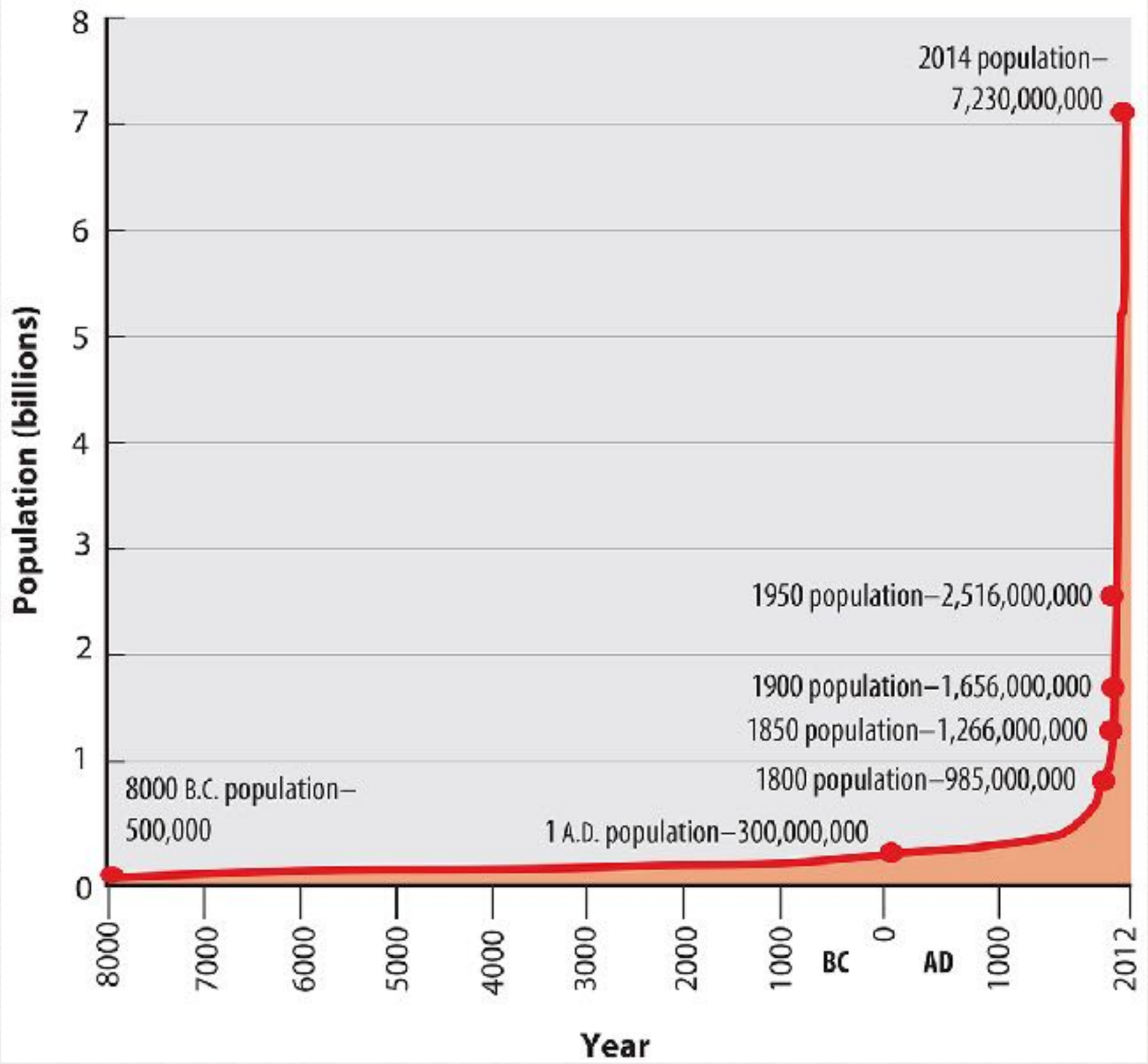
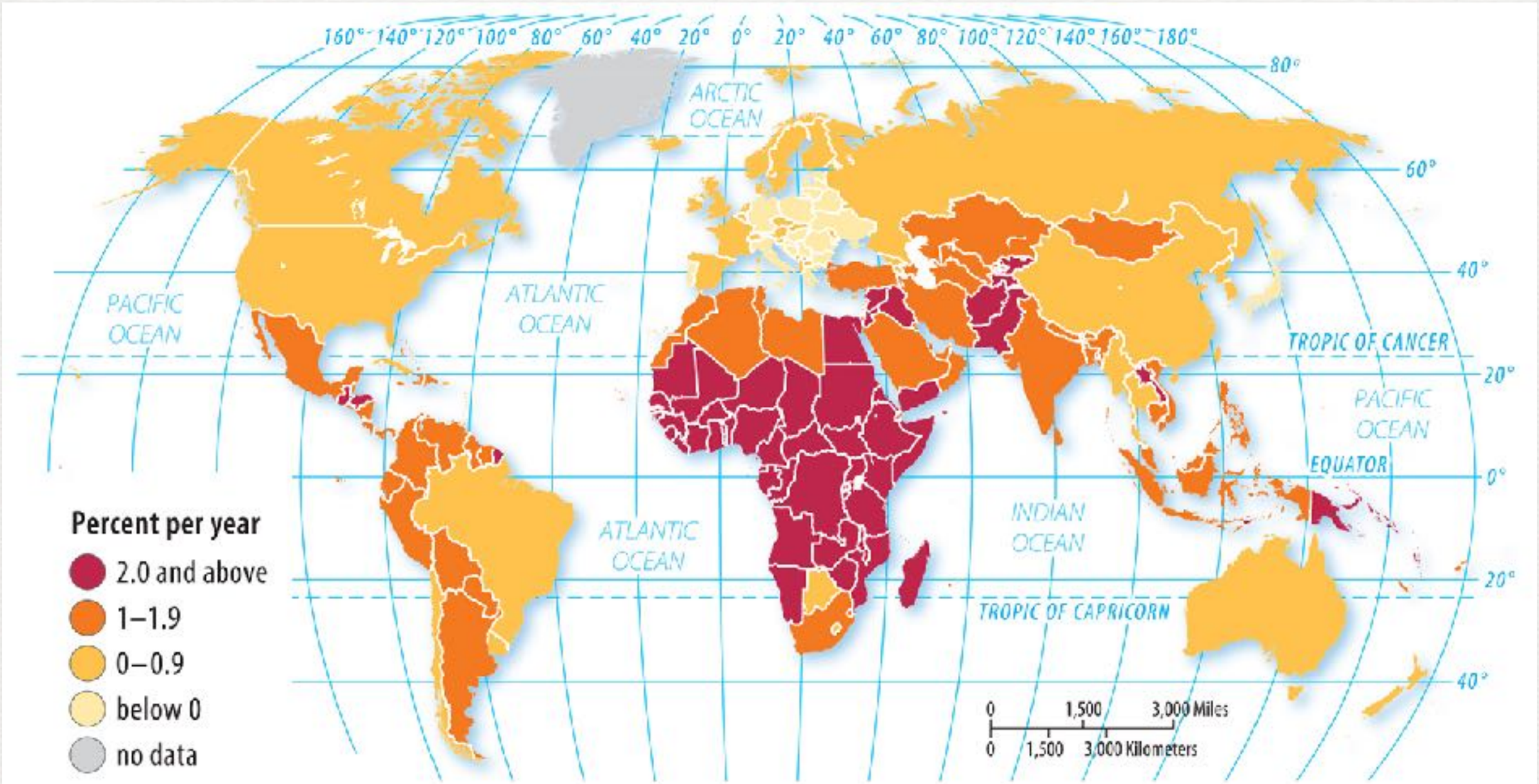
POPULATION GROWTH



IV. COMPONENTS OF CHANGE

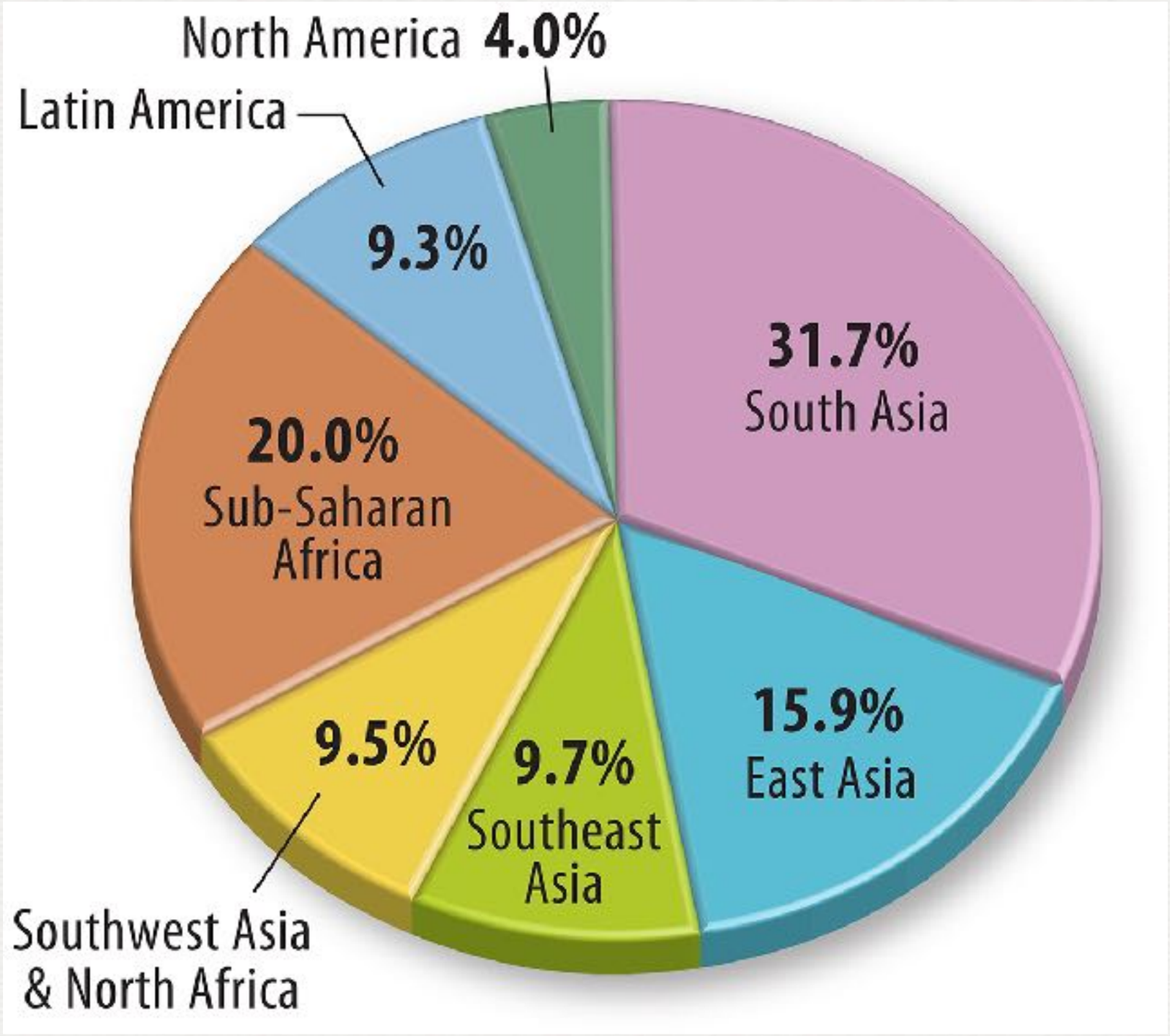
- **A. There are three main measures of population change:**
  - **1. Natural Increase Rate (NIR)**
    - a. Percentage by which a population grows in a year
    - b. Only uses birth and death rates
    - c. Immigration and emigration are excluded

NIR



How could you have a population growth below zero???

Which regions are wealthier? Poorer?

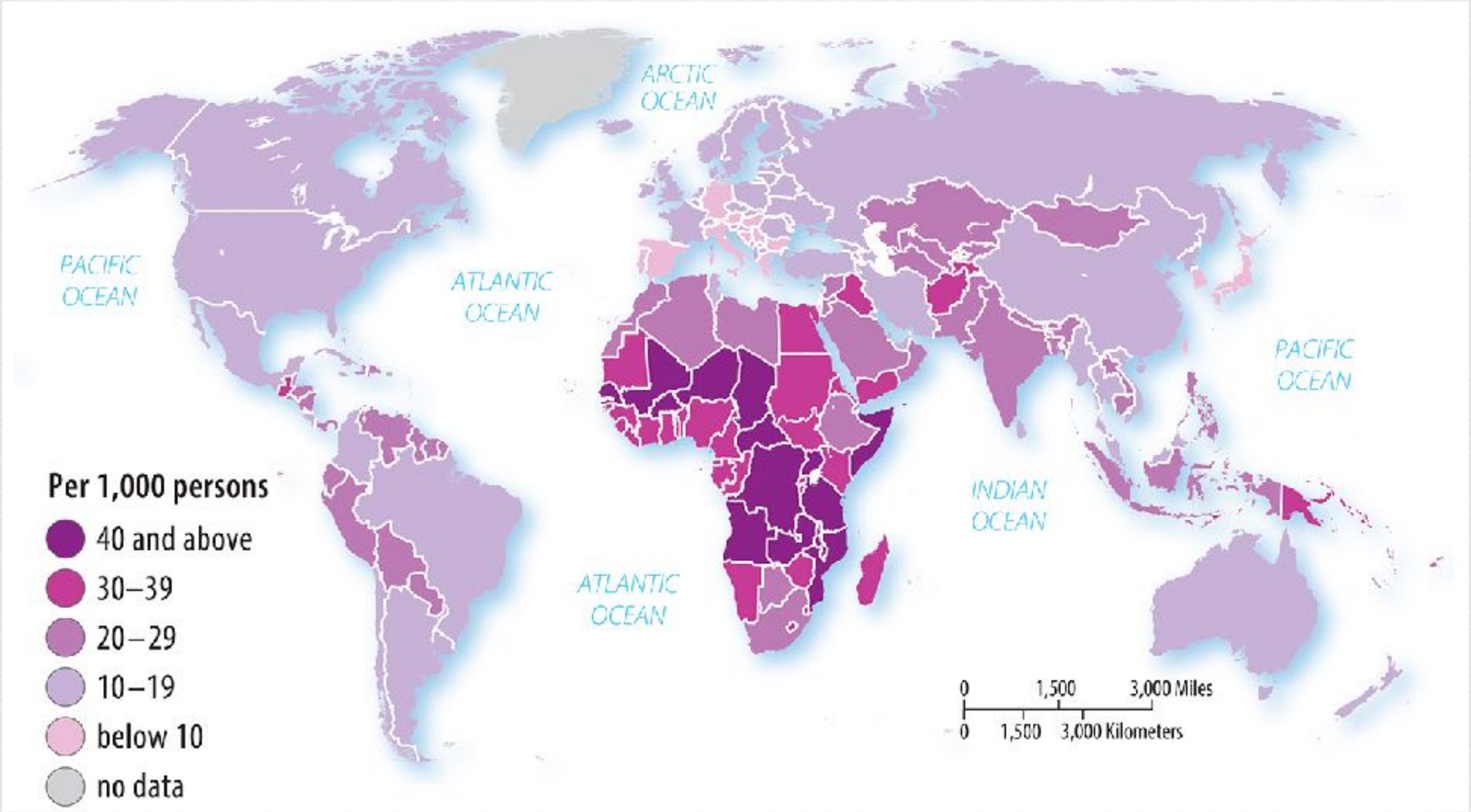


IV. COMPONENTS OF CHANGE

- **2. Crude Birth Rate (CBR)**
  - a. Total number of live births/year/1,000 people in a society

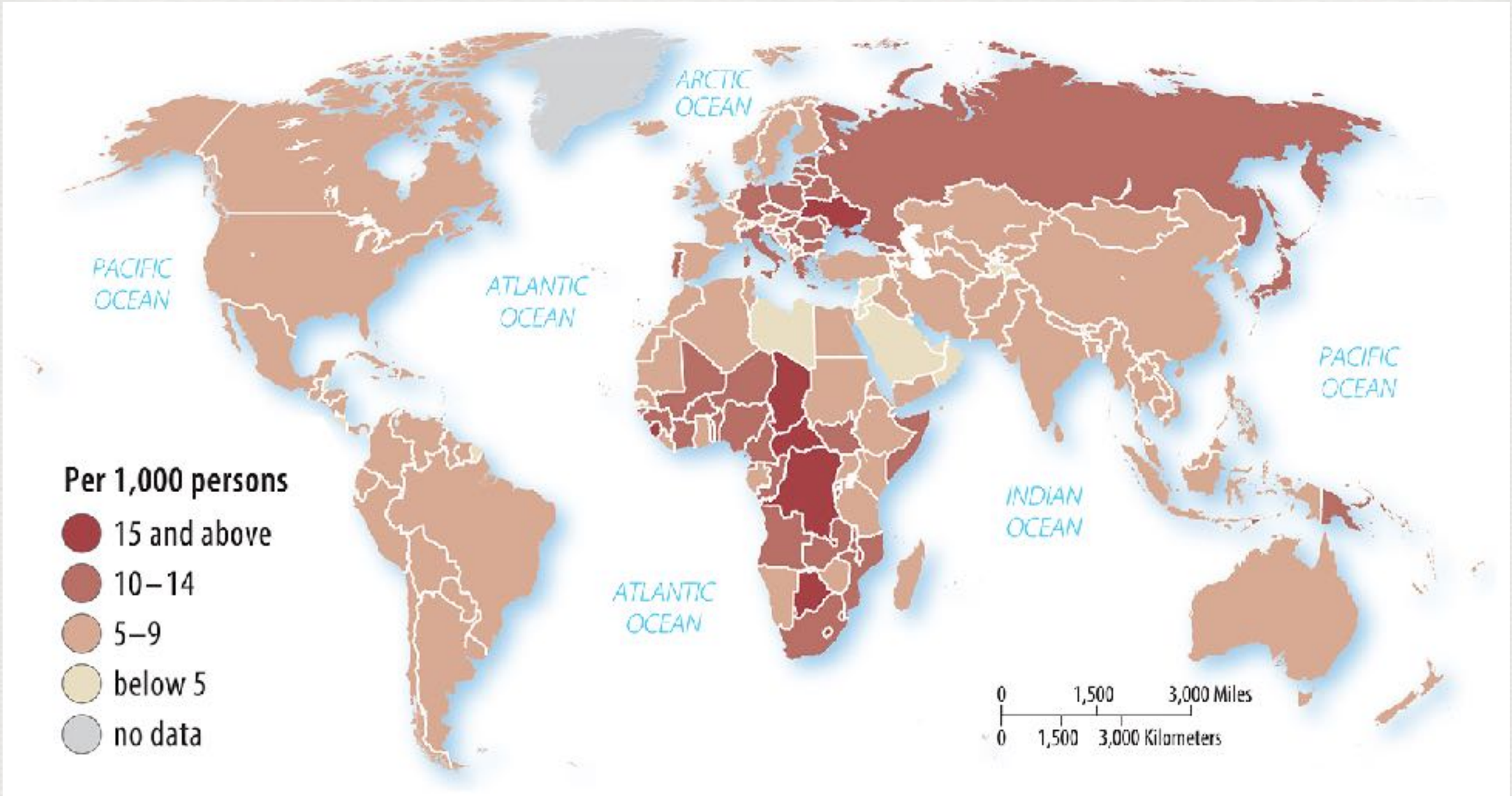
NIR = CBR – CDR/10

CRUDE BIRTH RATE



- **3. Crude Death Rate (CDR)**
  - a. Total number of deaths/year/1,000 people in a society

CRUDE DEATH RATE



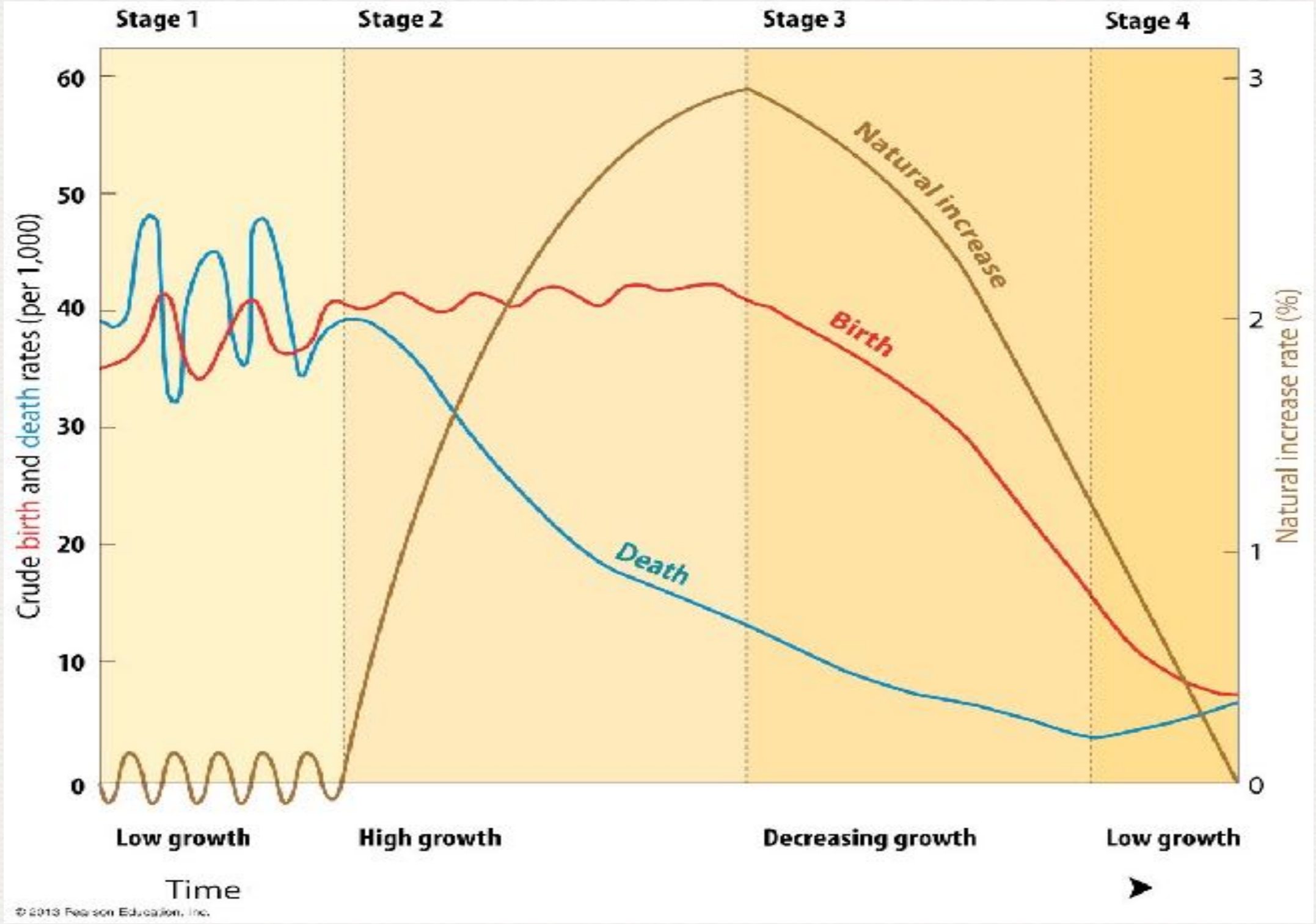
CALCULATING NIR

$$NIR = \frac{CBR - CDR}{10}$$

V. THE DEMOGRAPHIC TRANSITION

- **A. Demographic transition**
  - –1. Process of change in a country's population.
  - –2. Every country is in one of the *four stages* of the demographic transition, each country falls in one stage or another.
  - –3. Geographers use the DT model to represent change in population structure over time.

VI. THE DEMOGRAPHIC TRANSITION



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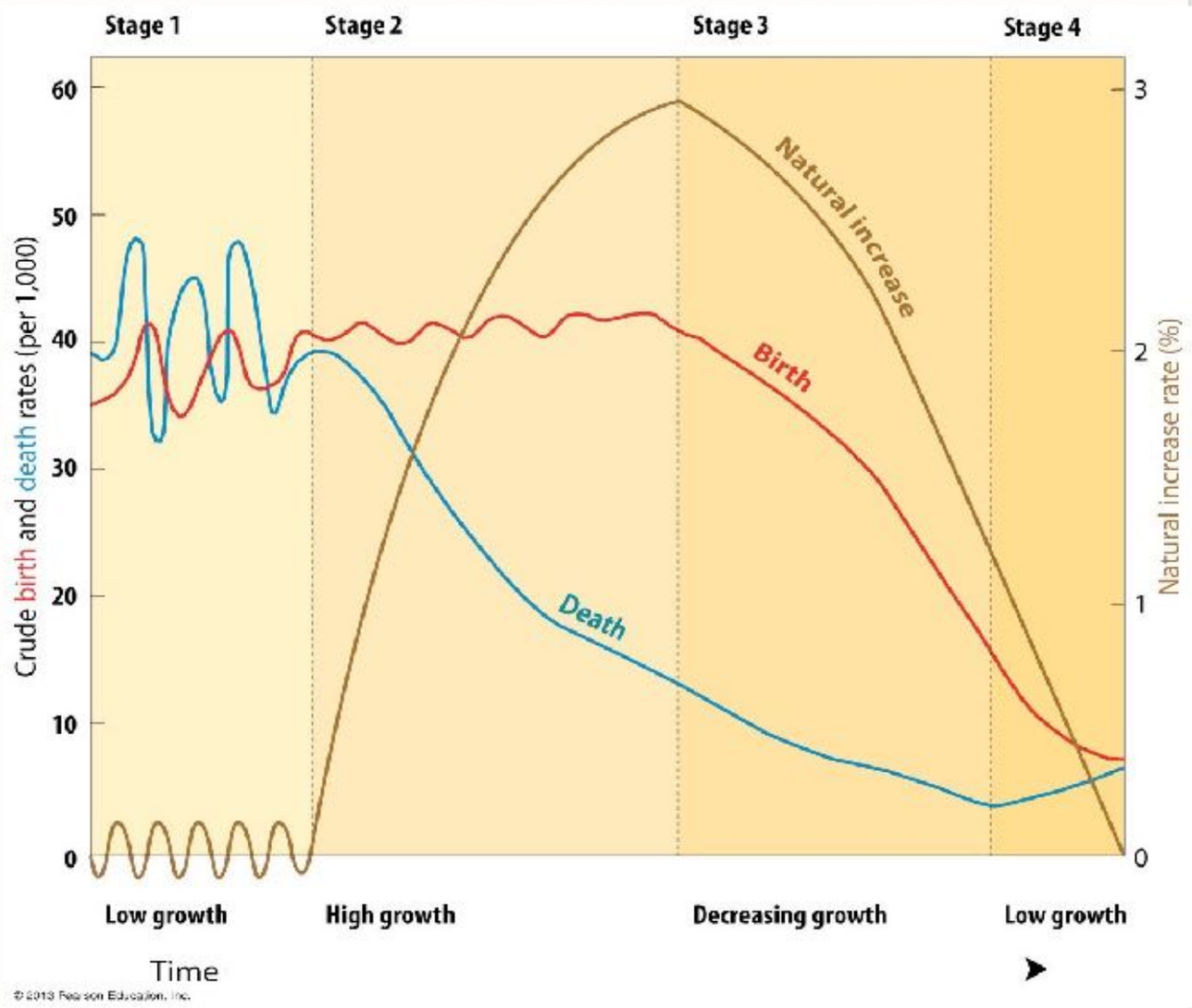
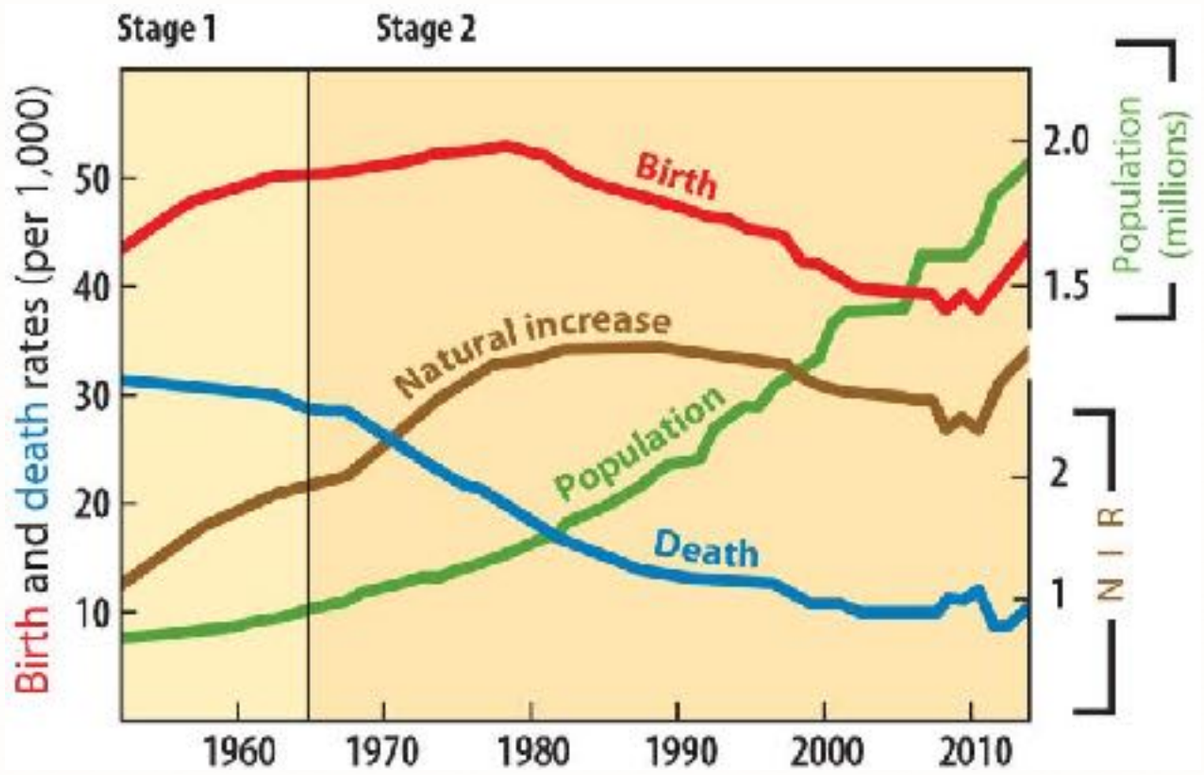
VI. THE DEMOGRAPHIC TRANSITION

- **B. Stage 1**
  - 1. Very <u>high</u> CBR
  - 2. Very <u>high</u> CDR
  - 3. Very low NIR
  - 4. <u>No country</u> is currently in Stage 1



VI. THE DEMOGRAPHIC TRANSITION

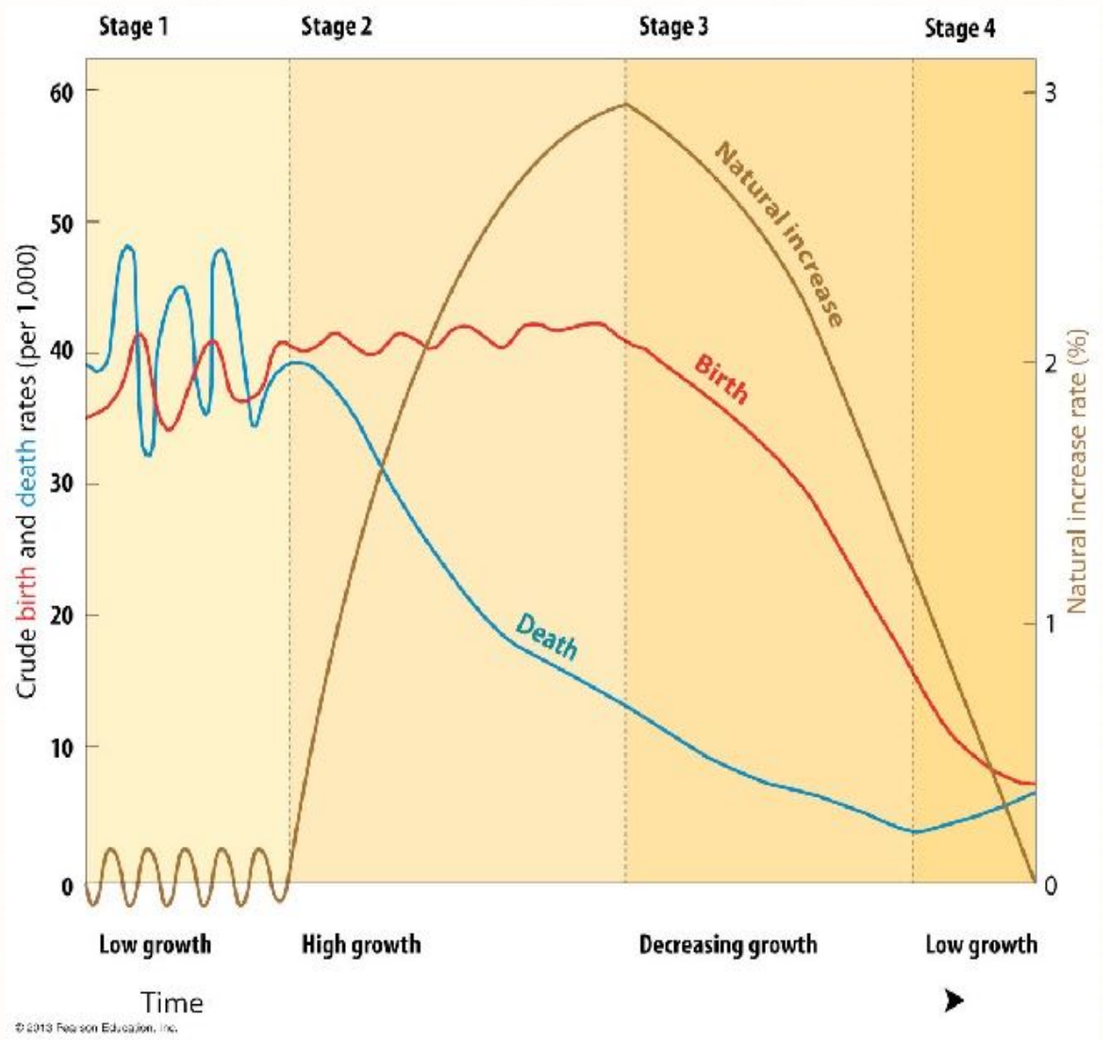
- **C. Stage 2 (Cape Verde Islands, Africa)**
  - –1. High CBR
  - –2. Rapidly declining CDR
  - –3. Very high NIR
  - –3rd World Countries



Third World Problems - Real Problems

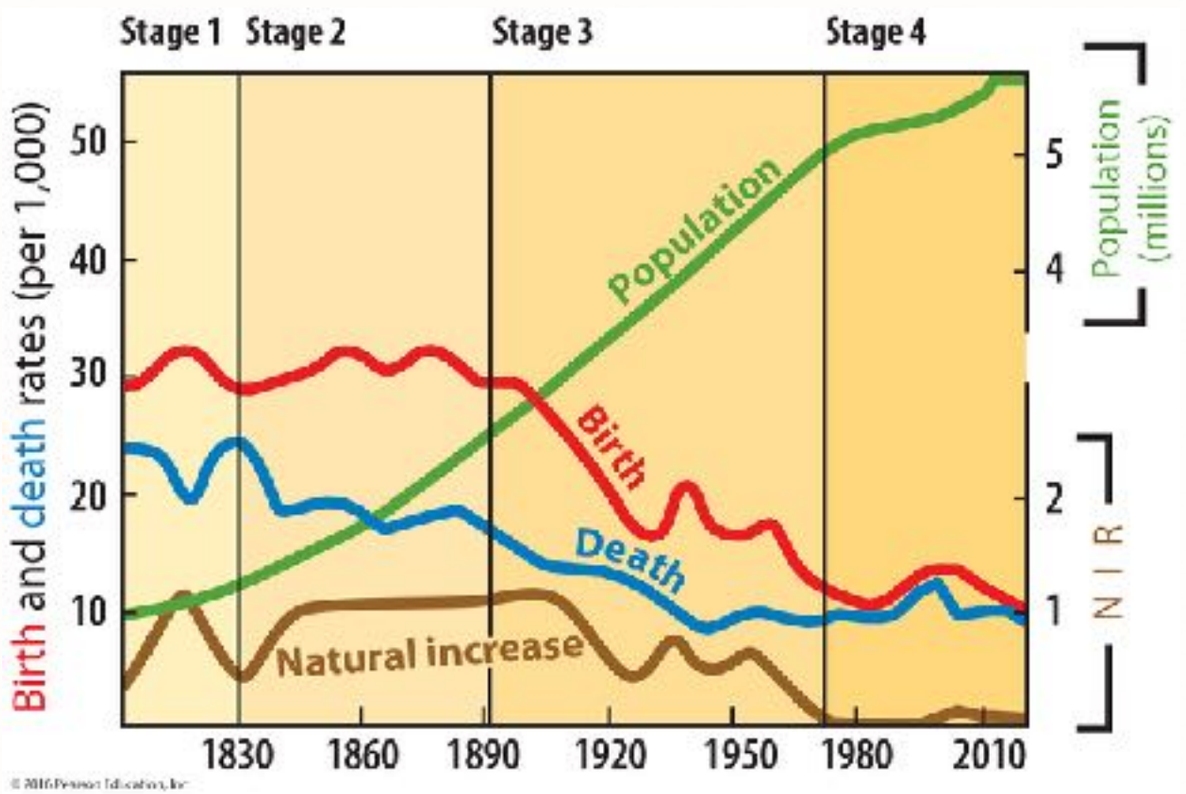
VI. THE DEMOGRAPHIC TRANSITION

- **D. Stage 3 (Chile)**
  - –1. <u>Rapidly declining</u> CBR
  - –2. Moderately declining CDR
  - –3. Moderate NIR
  - –2nd World Country



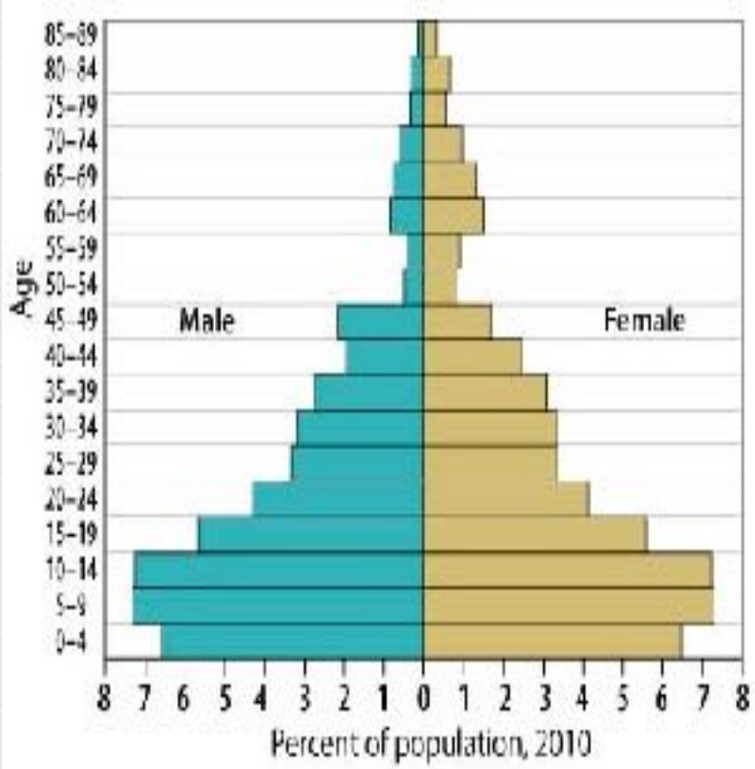
VI. THE DEMOGRAPHIC TRANSITION

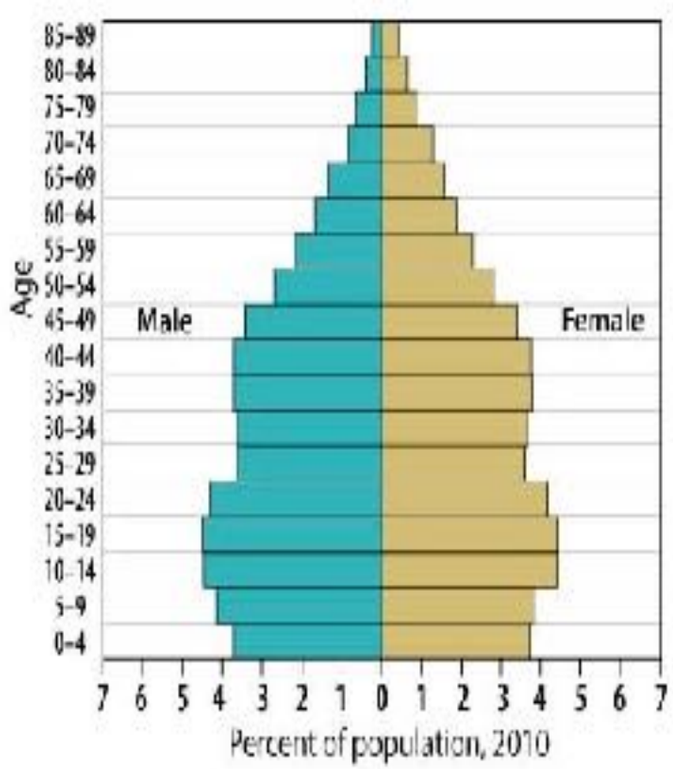
- **E. Stage 4 (Denmark)**
  - 1. Very low CBR
  - 2. Low, slightly increasing CDR
  - 3. <u>Zero or negative</u> NIR
  - 1st World Country

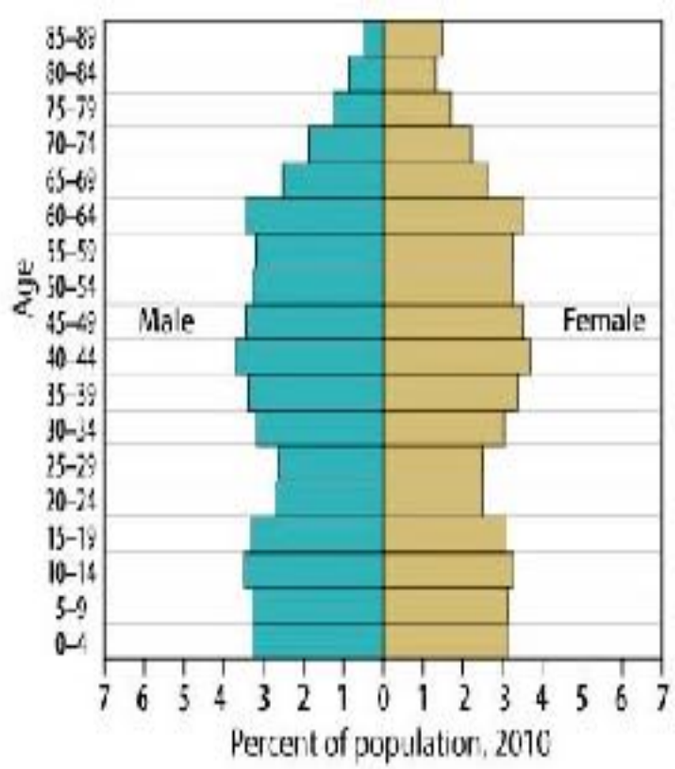


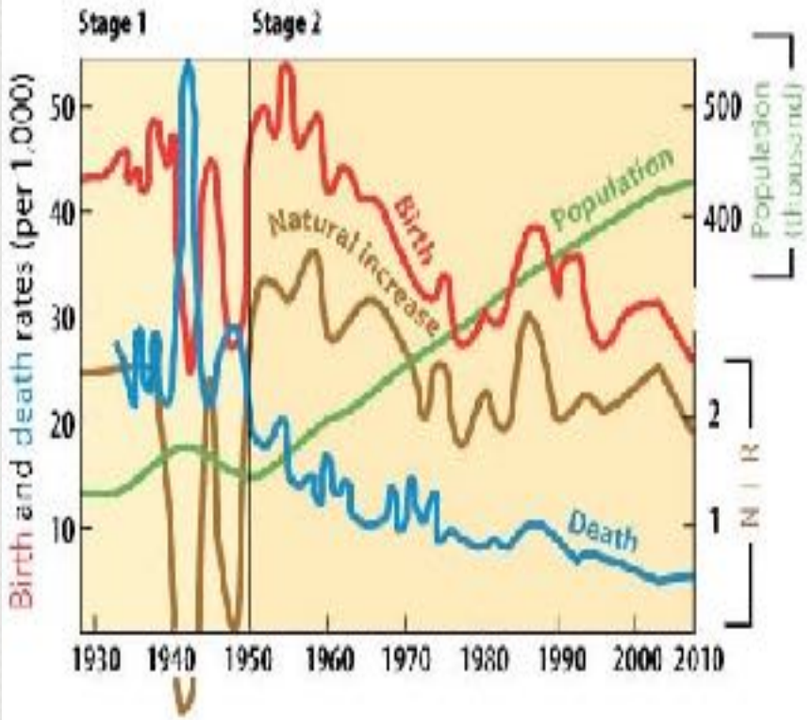
#FirstWorldProblems ... not REAL problems

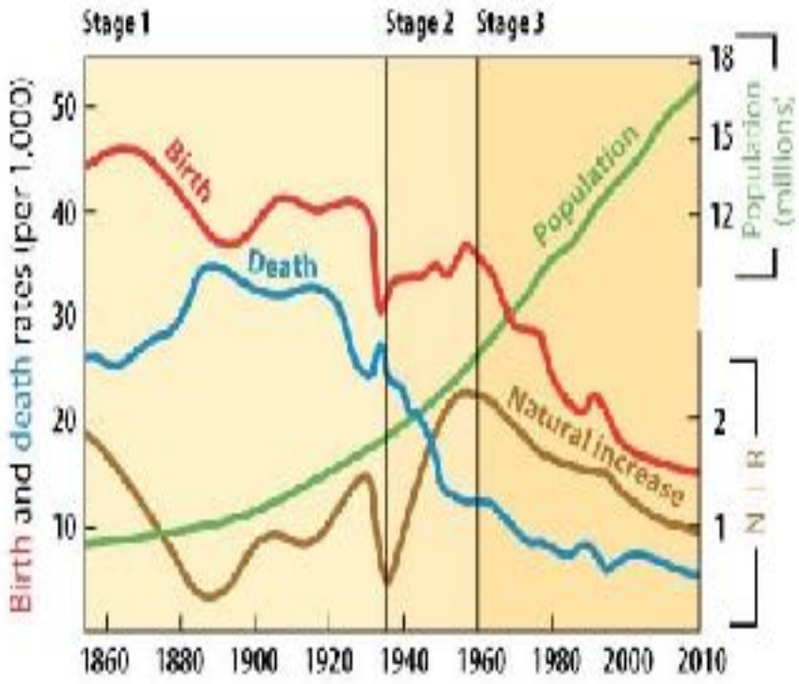
POPULATION PYRAMID AND DEMOGRAPHIC TRANSITION FOR CAPE VERDE (LEFT), CHILE (CENTER), DENMARK (RIGHT)

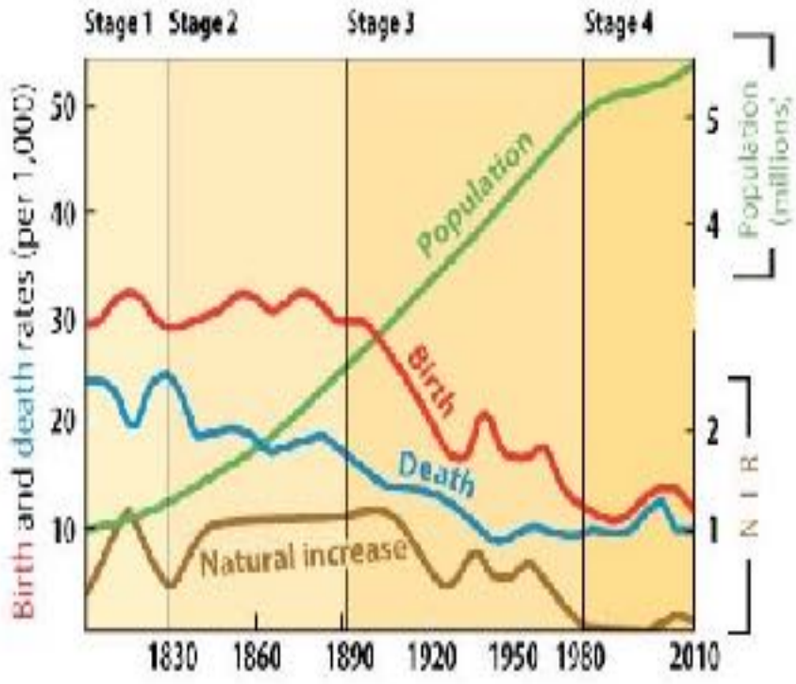












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VI. POPULATION & RESOURCES

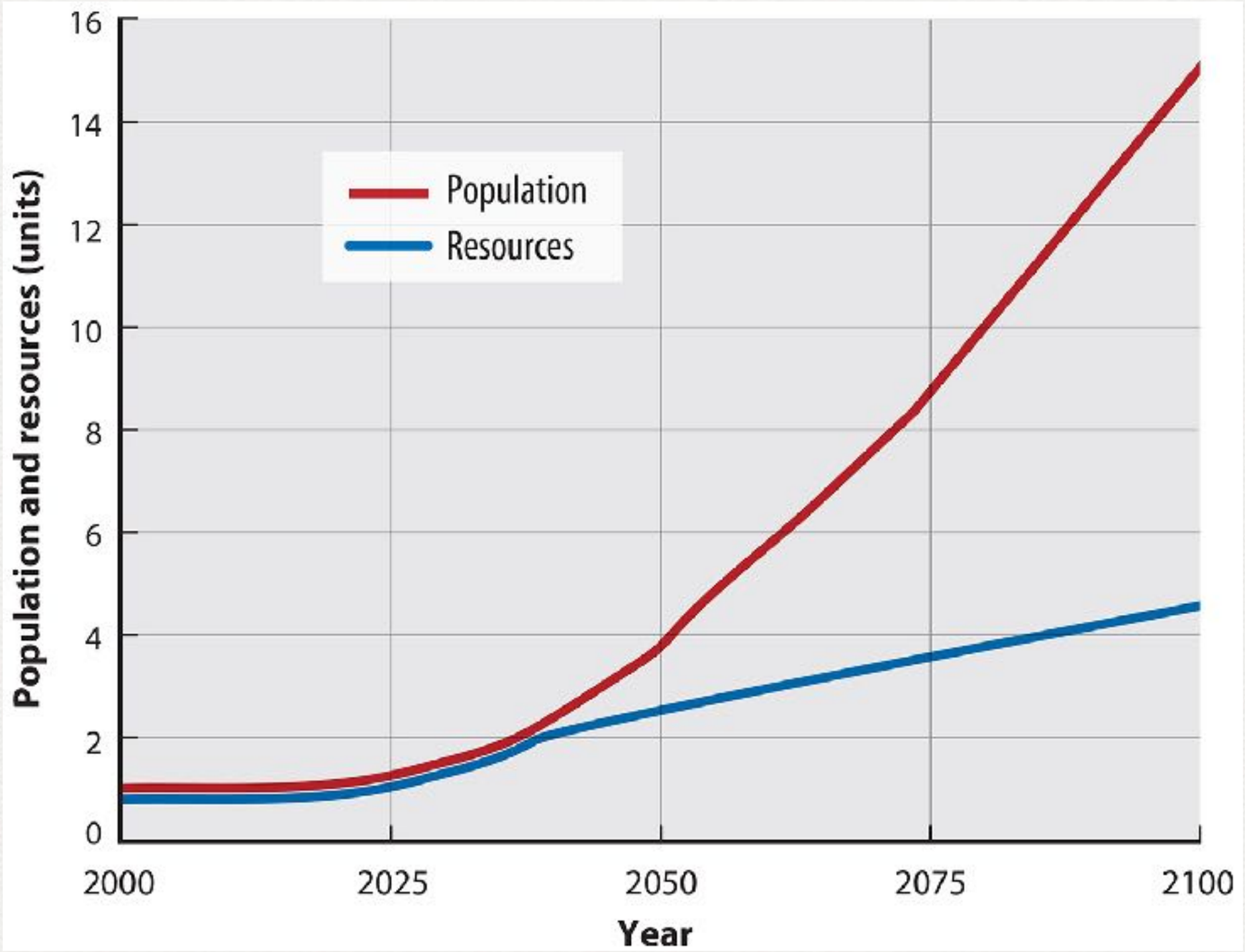
- A. Overpopulation is a condition in which the number of people in an area exceeds the capacity of the environment to support life at a decent standard of living.
- B. Thomas Malthus (1766 - 1834) wrote “An Essay on the Principle of Population, 1798.” According to Malthus:
  - 1. Population increases geometrically (exponentially)
  - 2. Resources increases arithmetically (constant rate)

THE GAMBIA: OVERPOPULATION THREAT

Today	1 person, 1 unit of food
25 years from now	2 persons, 2 units of food
50 years from now	4 persons, 3 units of food
75 years from now	8 persons, 4 units of food
100 years from now	16 persons, 5 units of food

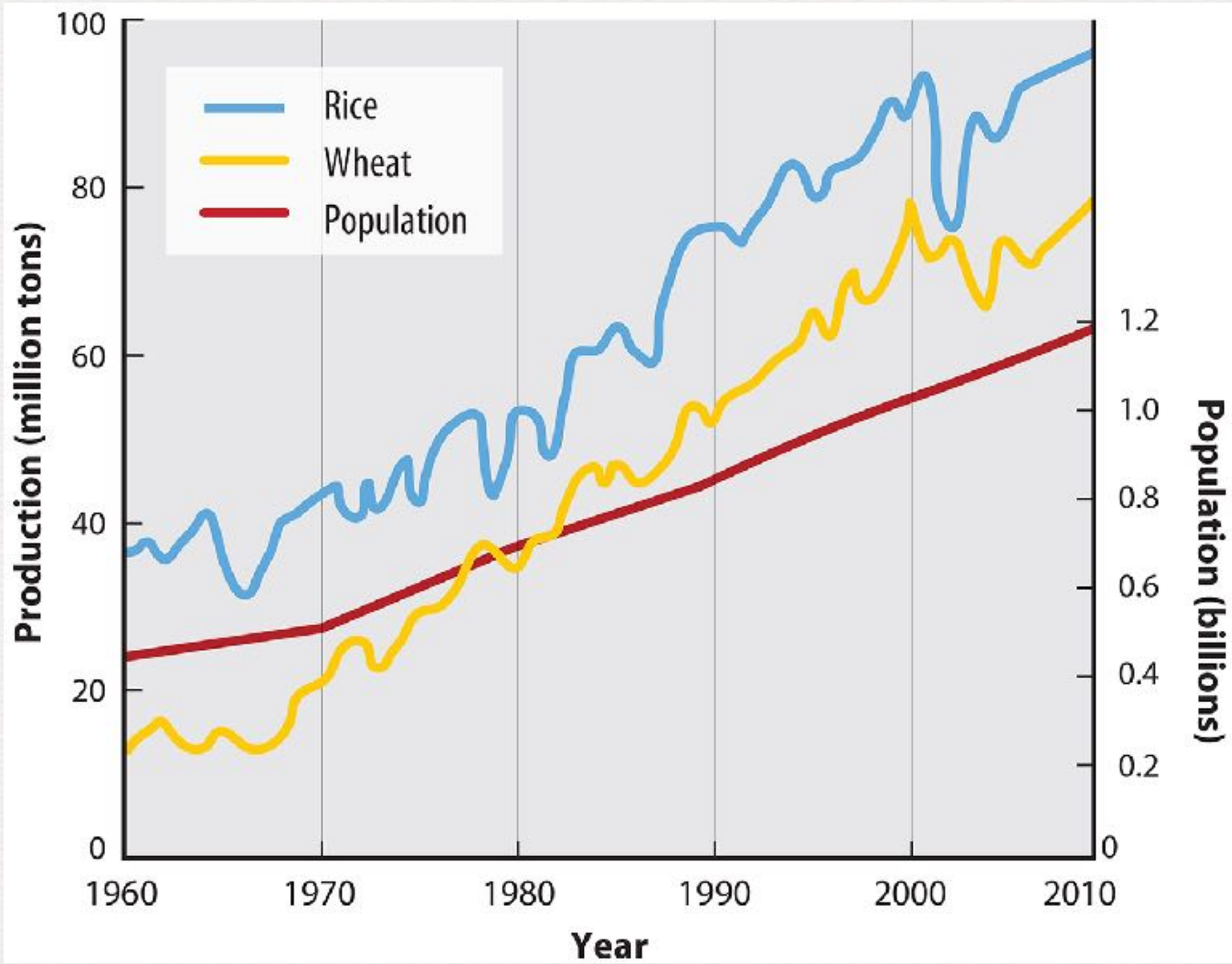
- 3. Contemporary Malthus supporters observe that today:
  - a. Relatively poor countries have experienced the most rapid population growth.
    - (1) Little wealth in these countries to support growth
    - (2) World population growth is outstripping many global resources.
    - (3) Will result in war and other civil violence

Malthus' Theory



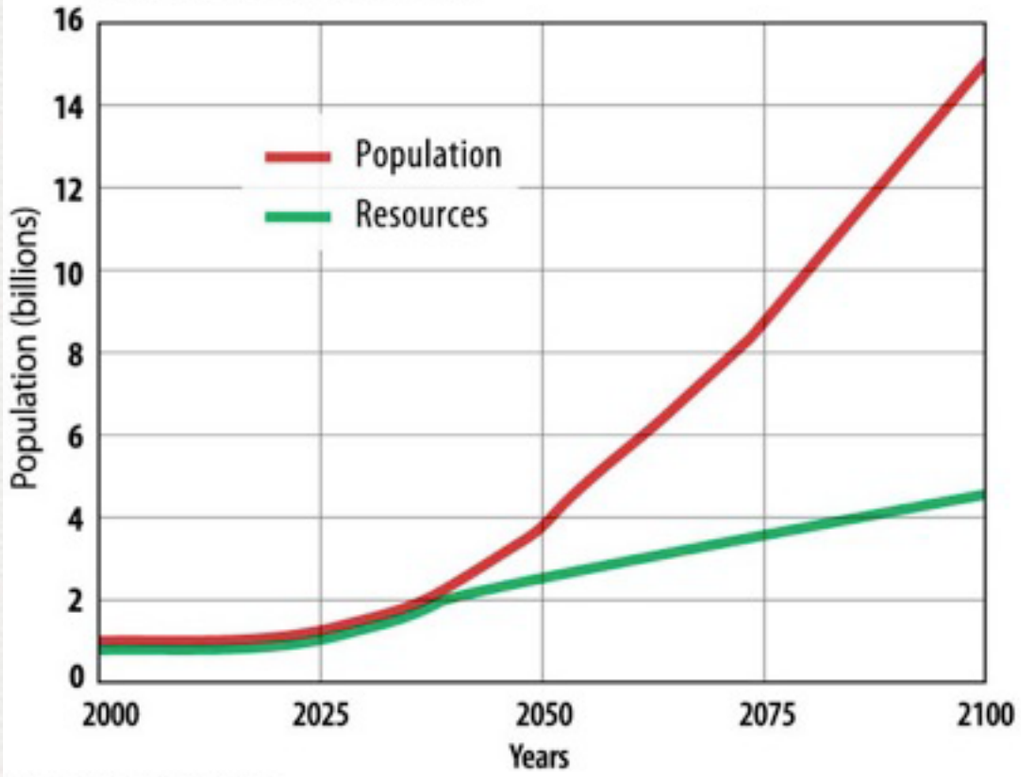
- 4. Malthus's Critics
  - a. Argue a larger population could stimulate economic growth, food production, and technological development.
  - b. Unjust social practices are to blame, not lack of resources.
  - c. Some argue that high population growth leads to greater political and economic power.

Malthus' Theory Applied to India



5. Malthus's theory and reality
   a. Globally, Malthus's theory has not been supported during the past 50 years.
   b. World food production has increased faster than the NIR.
   c. Hunger and famine are distribution problems and not production problems.
   d. Cultural, economic, and technological change has slowed population growth.

MALTHUS'S THEORY



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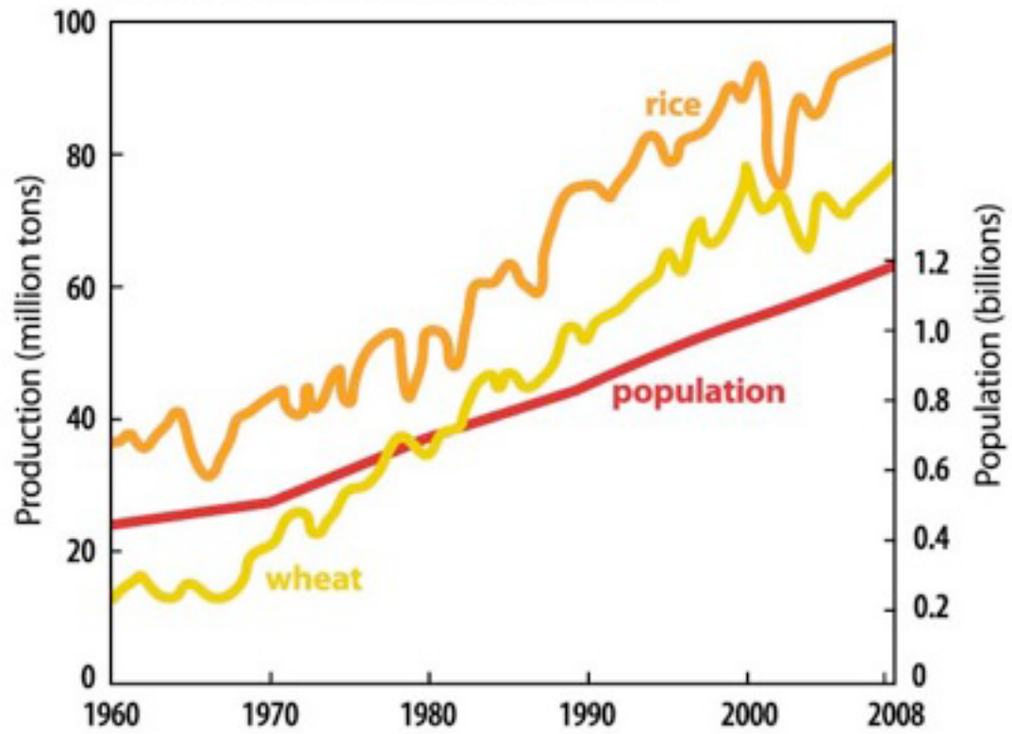
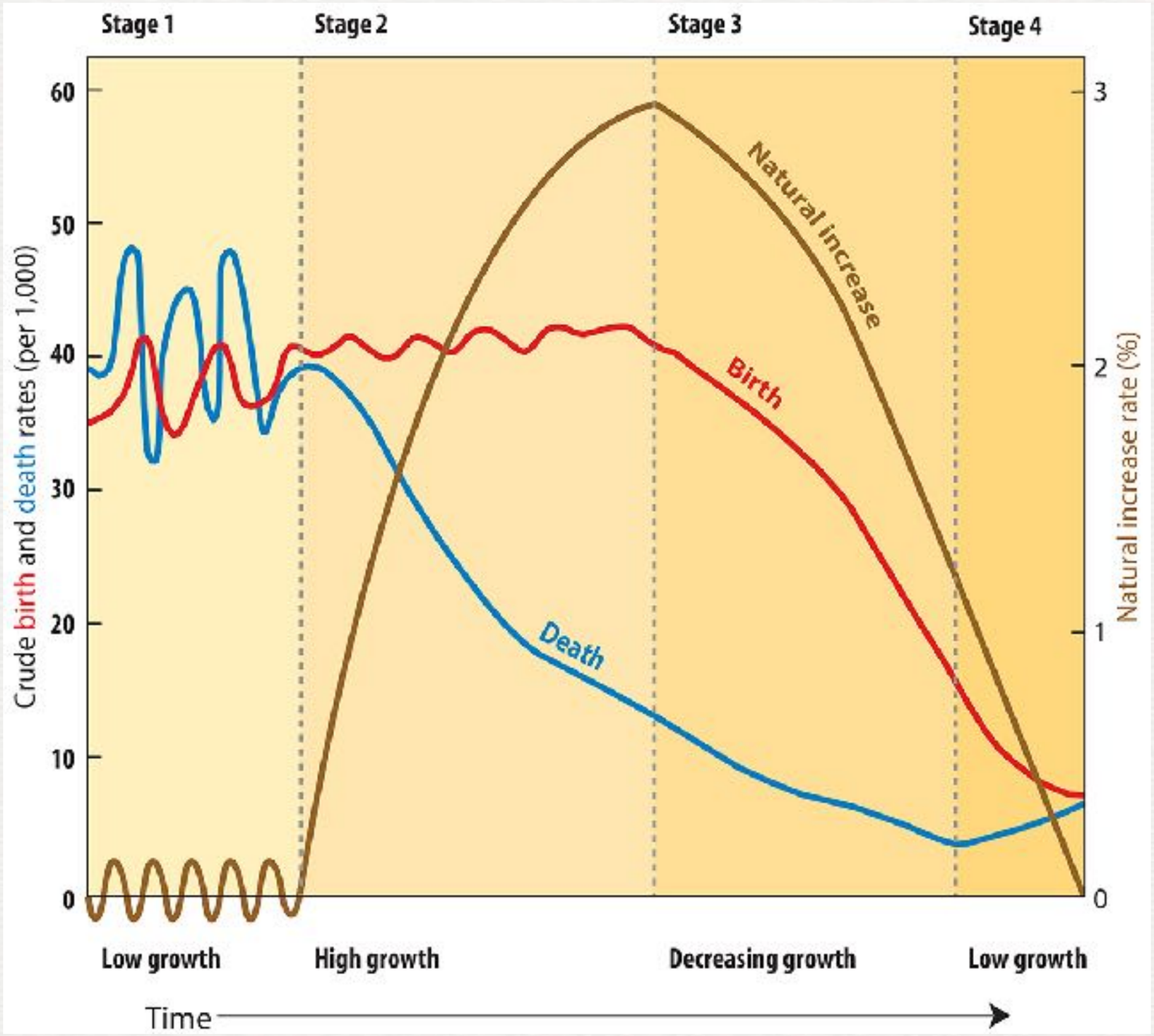
INDIA'S RECENT EXPERIENCE



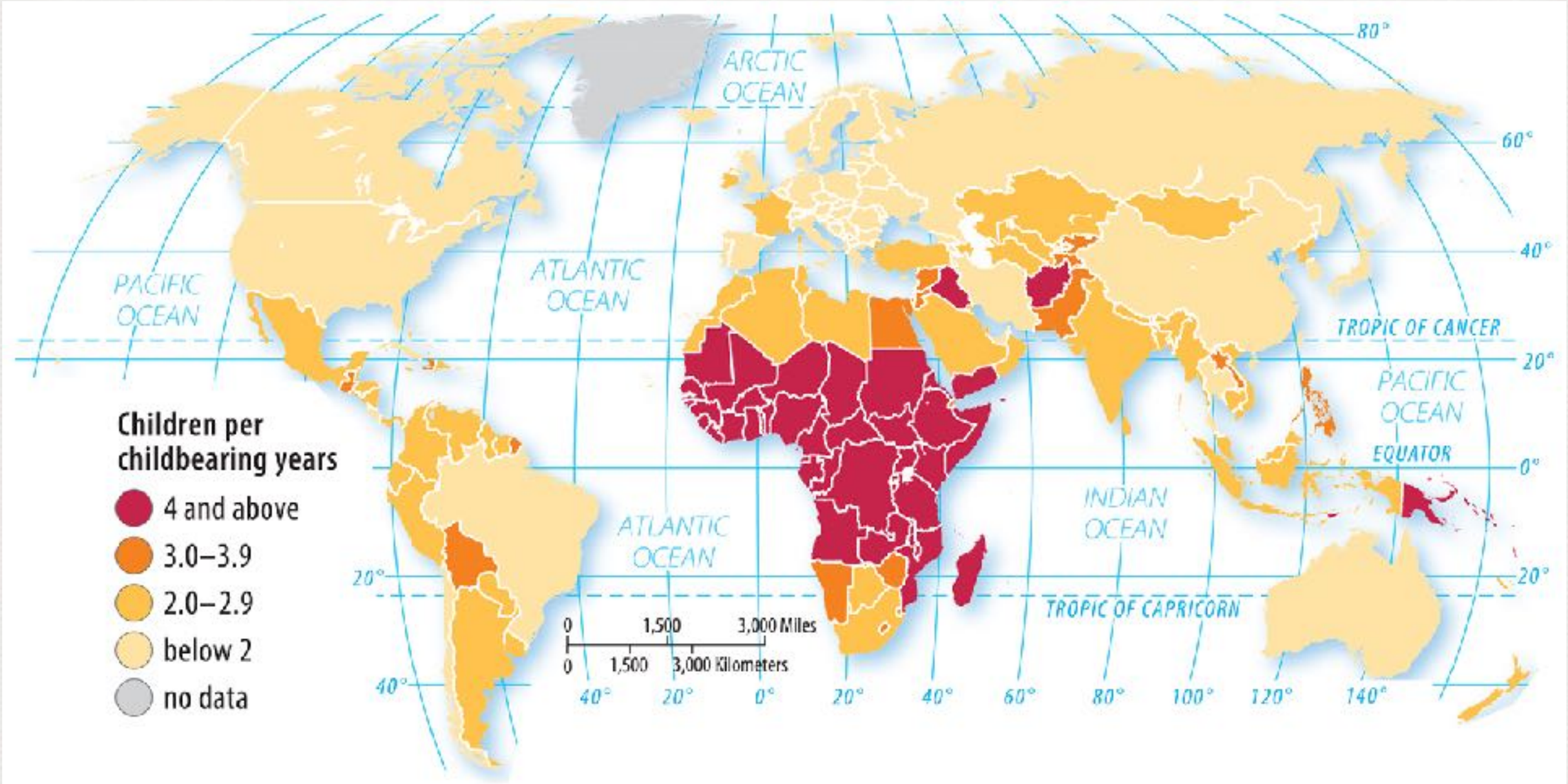
VII. POPULATION FUTURES

- A. Demographic Transition: Possible Stage 5 - Decline
  - 1. Predicted for some developed countries.
  - 2. Characterized by:
    - a. Very low CBR
    - b. An increasing CDR
    - c. Therefor you would have a negative NIR


Stage 1
Stage 2
Stage 3
Stage 4
60
50
40
30
20
10
0
3
2
1
0
Crude birth and death rates (per 1,000)
Natural increase rate (%)
Natural increase
Birth
Death
Low growth
High growth
Decreasing growth
Low growth
Time

- B. Total Fertility Rate (TFR)
  - –1. Average number of children a woman will have throughout her childbearing years
    - a. Behavior predictor

TOTAL FERTILITY RATE



- C. Japan’s Future Population
  - 1. If the demographic transition is to include a stage 5, Japan will be one of the world’s first countries to reach it.
  - 2. Japan faces a severe shortage of workers. Instead of increasing immigration, Japan is encouraging more Japanese people to work.

- D. China’s Future Population
- 1. The core of the Chinese government’s family planning program has been the One Child Policy, adopted in 1980.
- 2. Since 2000, China has actually had a lower CBR than the United States.
- 3. With the United Nations now forecasting China to lose population by 2100, the government has relaxed the One Child Policy.

- E. India’s Future Population
  - 1. India was the first country to embark on a national family planning program starting in 1952.
  - 2. During the 1970s India set up camps to perform sterilizations, but this resulted in widespread opposition.
  - 3. India is poised to pass China as the world’s most populous country by 2030.