

Definition and Types of Population Change

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CDC 103 – Lecture 9 – April 8, 2012

Population Change

- This course covers the following topics:
 - *Definition and types of population change, population direction, absolute and percentage change;*
 - *Measures of population change;*
 - *Description of trends;*
 - *Accuracy of measures; and*
 - *Components of population change.*



Objectives and Learning Outcomes

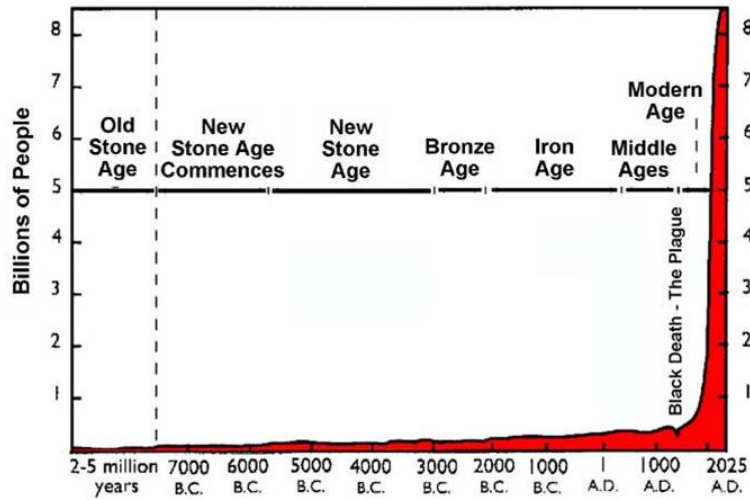
- By the end of this course, you will be able to:
 1. *Calculate measures related to population change using different methods and approaches, and*
 2. *Read, understand, and utilize demographic literature related to population change.*



Defining Population Change

- Population change is measured as the difference between the size of the population at different dates.

World Population Growth



Absolute and Percentage Change

- One may obtain the absolute amount of change in the population at different dates by subtracting the population at the earlier date from the population at the later date.
- The percentage change over the period is obtained by dividing the absolute change by the population at the earlier date and multiplying by 100.



Absolute and Percentage Change

- **Example:**
- Population in 2000 is 48 million
- Population in 2010 is 60 million
- Calculate the absolute and percentage change.

- Absolute change = $60 - 48 = 12$ million
- Percentage change = $((60 - 48)/48) * 100$
- = 25 percent



Problems in the Measurement

- Three problems are usually associated with the measurement of population change:
 1. *Change in Territory (Geographical Area)*
 2. *Change in Definition*
 3. *Change in Coverage*



Change in Territory

- The national territory in which enumeration takes place may change as the result of conquest, treaties, advancement of the frontiers of settlement, and similar events.
- Within national boundaries, water areas may be transformed into land areas, and vice versa
- Often, it is possible to show the population within constant boundaries and then to compute the change for this area.



Change in Definition

- Populations may be defined in different ways, and changes from one definition to another over time hinder assessments of population growth.
- Population data may be collected using *de jure* counts, or *de facto* counts.
- A change from a *de jure* to a *de facto* basis in taking a census will not ordinarily have a great effect on the intercensal change at the national level, but it will often greatly affect the change in *the population of certain geographic subdivisions* (governorates/provinces/regions).



Change in Coverage

- The last consideration of the problems in measuring population change is whether the completeness of coverage has remained consistent.
- If the net undercount of the population varies among censuses, estimates of intercensal growth will be biased upward when coverage improves and downward when coverage worsens.
- If we know the percent undercount, we can obtain an adjusted population.



Ask



Next Week

- **April 15: Methods of Measuring Population Change**
- **Readings:**
- Siegel, J. & Swanson, D. Chapter 11 ; pp :253-264.

- **Assignments:**
- Calculate the absolute and percentage change of your country's population – or a country of your choice – in the last two successive censuses.
- Comment on the results