

Demography

<p>-Demography: is the scientific study of human populations: their size, composition, & distribution as well as the cases & consequences of changes in these characteristics</p> <p>-Major factors determine the dynamics of a population & determine the most basic characteristics of a population, as well as its demographic future</p> <ol style="list-style-type: none"> 1. Births (fertility) 2. Deaths (mortality) 3. Migration 	<p>Demographers seek to know the levels and trends in population size and its components. They search for explanations of demographic change and their implications for societies.</p> <p>They use censuses, birth and death records, surveys, visa records, even motor vehicle and school registrations. They shape these data into manageable forms such as simple counts, rates, or ratios</p>	<p>Factors Affecting fertility</p> <p>1. General factors (distant/indirect)</p> <ul style="list-style-type: none"> -Cultural values: (large or small families) -Social roles: (Is the wife primarily a child bearer or a child rearer?) -Economic: (Do parents rely on children to look after them in old age?) -Health: (what is the prevalence of gonorrhoea in a population?), that will impair fecundity. <p>2. Specific factors (Proximate determinants/direct)</p> <ul style="list-style-type: none"> -The proportion of women in sexual union. -The percentage of women using contraception. (Spain has the lowest fertility rate due to contraceptives) -The proportion of women who are not currently fecund (primarily because of breastfeeding). -The level of induced abortion. (Russia has low fertility due abortion) (African countries: women marry early & bring more children, but they breast feed for 2-3 years, prolonging the period of infecundity following childbirth) 	<p>Mortality: deaths in a certain pop.</p> <ol style="list-style-type: none"> 1. Death Rate (the crude death rate): is the number of deaths per 1,000 population in a given year. 2. Specific-Death rates (for subgroups in a population) <ul style="list-style-type: none"> • Age-Specific death rate • Cause-specific death rate • Sex-specific death rate • Disease-specific death rate 3. Infant Mortality Rate (IMR): is the number of deaths of infants under age 1 per 1,000 live births in a given year. 4. Maternal mortality ratio: is the number of women who die as a result of complications of pregnancy or childbearing in a given year per 100,000 live births in that year. (maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes)
<p>The Tools of Demography</p> <ol style="list-style-type: none"> 1. Count: The absolute number of a population or any demographic event occurring in a specified area in a specified time period 2. Rate: The frequency of demographic events in a population during a specified time period (usually a year) divided by the population "at risk" of the event occurring during that time period. (how common it is for a given event to occur). <ul style="list-style-type: none"> -Crude rates are rates computed for an entire population -Specific rates are computed for a subgroup, usually the population more nearly approximating the population "at risk" of the event (age-specific, sex-specific, race-specific, occupation-specific) 3. Ratio: The relation of one population subgroup to or to another subgroup; that is, one subgroup divided by another (a demographic to another demographic) 4. Proportion: The relation of a population subgroup to the entire population; that is, a population subgroup divided by the entire population 	<p>Fertility: is the number of live births women have.</p> <ol style="list-style-type: none"> 1. Total Fertility Rate (TFR): is the average number of children that would be born to a woman by the time she ends childbearing. <ul style="list-style-type: none"> -it is one of the most useful indicators of fertility (it gives the best picture of how many children women are currently having) -TFR in Jordan: decreased within the past 30 years Mafrq: the highest, Amman: the lowest 2. Birth Rate (Crude Birth Rate): indicates the number of live births per 1,000 population in a given year <ul style="list-style-type: none"> -It is the most easily obtained & most common reported fertility measure 3. General Fertility Rate (GFR) (the fertility rate): is the number of live births per 1,000 women ages 15-49 in a given year. <ul style="list-style-type: none"> -it is a more refined measure than the birth rate because it relates births to the age-sex group at risk of giving birth (women ages 15-49). <p>Replacement level fertility: The level of fertility at which a couple has only enough children to replace themselves, or about two children per couple. (This population will eventually stop growing). It needs a TFR slightly higher than 2</p>	<p>Fecundity: The physiological ability of women to reproduce. Some are infecund due to disease or genetic dysfunction. Mothers could be infecund when they breastfeed.</p> <ul style="list-style-type: none"> -For individuals, fecundity ranges between 0-30 children. <p>Life Expectancy: an estimate of the average number of additional years a person could live if the age-specific death rates for a given year prevailed for the rest of his life.</p> <ul style="list-style-type: none"> -a hypothetical measure based on current death rates & actual death rates change over a person's lifetime. Each person's life expectancy changes as he grows older & as mortality trends change 	<p>Morbidity: refers to disease & illness, injury & disability, in a population.</p> <ol style="list-style-type: none"> 1. Incidence Rate: The incidence rate is the number of people contracting a disease during a given time period per 1,000 population at risk. 2. Prevalence: The prevalence rate is the number of people who have a particular disease at a given point in time per 1,000 population. This rate includes all known cases that have not resulted in death, cure, or remission, as well as new cases developing during the specified period. <p>Case Fatality Rate: is the proportion of people contracting a disease who die of that disease during a specified time period.</p>

<p>-<u>Age and sex</u> are the most basic characteristics of a population.</p> <p>-Every population has a different age & sex composition —the number & proportion of males & females in each age group—</p> <p>-This structure can have considerable impact on the population’s social & economic situation, both present & future</p>	<p>Population profiles (general profiles of age-sex composition)</p> <p>1. <u>Rapid growth</u> is indicated by a pyramid with a large percentage of people in the younger ages.</p> <p>2. <u>Zero growth or decreasing</u> (negative growth) is reflected by a pyramid with a smaller proportion of the population in the younger ages.</p> <p>3. <u>Slow growth</u> populations are shown by roughly equal numbers of people in all age ranges, tapering off gradually at the older ages.</p>
<p>Median Age: is the age at which exactly half the population is older & half is younger.</p> <p>Sex Ratio: is the ratio of males to females in a given population</p> <p>-usually expressed as the number of males for every 100 females.</p> <p>-After birth, sex ratios vary because of different patterns of mortality & migration for males & females within the population.</p> <p>-Females live longer & Males are more numerous</p> <p>-Except after wars-</p>	<p>-Natural increase: The change in population size accounted for by <u>more births</u> in the population than deaths</p> <p>-Natural decrease: population decline resulting from <u>more deaths</u> than births.</p> <p>Rate of Natural Increase: is the rate at which a population is increasing (or decreasing) in a given year due to a surplus (or deficit) of births over deaths, expressed as a percentage of the base population.</p>
<p>Population change has three <u>components</u>: births, deaths, & migration.</p> <p>-During most of history, world population increased very slowly, but during the 20th century, this growth has accelerated.</p> <p>-A change in population size over a given period of time <u>equals</u> the number of people in the population at the beginning of the period plus any births that occur during the period, minus any deaths, plus net migration during the period.</p> $P1+(B-D)+(I-E)= P2$	<p>Growth rate is the rate at which a population is increasing (or decreasing) in a given year due to natural increase & net migration, expressed as a percentage of the base population.</p> <p>-The growth rate takes into account all components of population growth: births, deaths, & migration.</p> <p>-It <u>equals</u> (births – deaths) +_ net migration/ total population X K (100). (Net migration is the number of immigrants minus emigrants)</p>
<p>Population policies (to control the growth)</p> <p>-National population commissions were formed in different countries</p> <p>-They formulated national population policies & action plans</p> <p>-One major component of the action plan deals with reproductive health</p> <p>-Reproductive health in the context of population includes reproductive rights, sexuality, family planning, reproductive morbidity, violence against women, gender based differences, male involvement in reproductive health.</p> <p>(The ultimate goal of Demography: to use our resources in the most wise & effective way possible)</p>	

Birth Rate (Crude Birth Rate)

$$\frac{\text{\# of births}}{\text{Total mid-year population}} \times 1000$$

General Fertility Rate (The Fertility Rate)

$$\frac{\text{\# of births}}{\text{\# of women ages 15-49}} \times 1000$$

Death Rate (Crude Death Rate)

$$\frac{\text{\# of deaths}}{\text{Total population}} \times 1000$$

Disease-Specific Death Rate

$$\frac{\text{Deaths from the disease}}{\text{Total population}} \times 100000$$

Age-Specific Death Rate

$$\frac{\text{Deaths of population ages 15-24}}{\text{Population ages 15-24}} \times 1000$$

Infant Mortality Rate

$$\frac{\text{\# of deaths in infants under age 1 in a given year}}{\text{Total live births in that year}} \times 1000$$

Maternal Mortality Ratio (or rate) (sometimes referred to it as the maternal mortality rate)

$$\frac{\text{\# of maternal deaths}}{\text{Total live births}} \times 100000$$

Incidence Rate

$$\frac{\text{\# of people Developing the disease During a given time}}{\text{Population at risk}} \times K$$

Prevalence

$$\frac{\text{\# of people ages 15-49 having a disease}}{\text{Total population ages 15-49}} \times 1000 \text{ or } 100$$

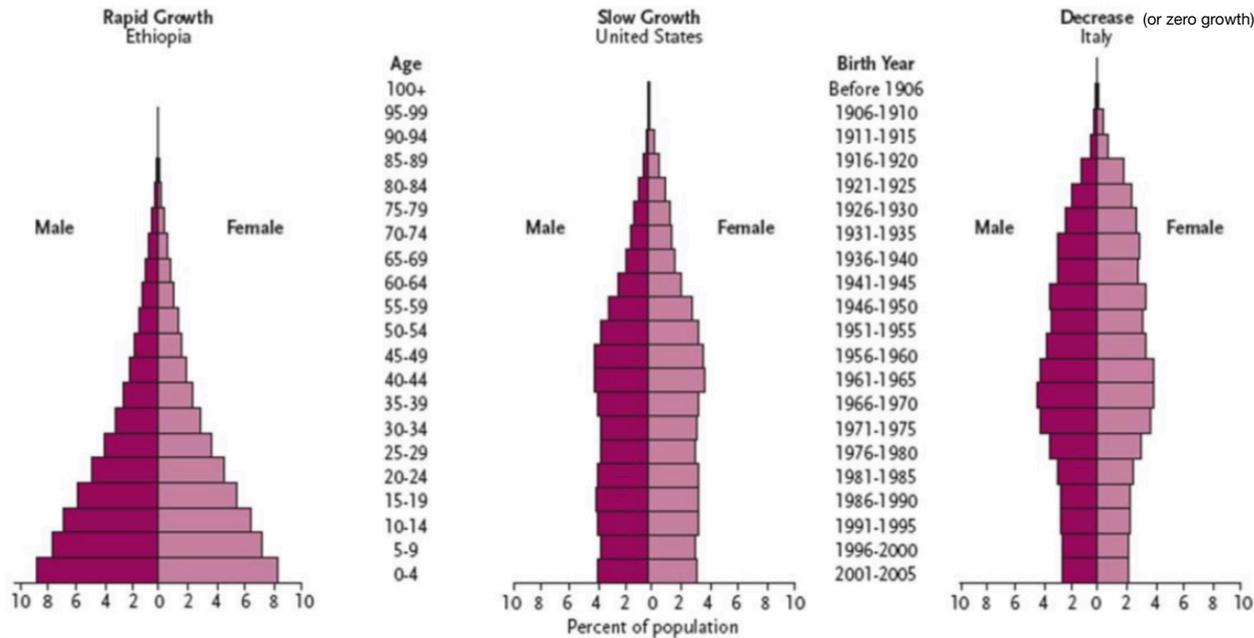
Case Fatality Rate

$$\frac{\text{\# of people dying from the disease}}{\text{\# of people contracting the disease}} \times 100000$$

The incidence rate & other morbidity rates vary so widely in magnitude that any constant (k) may be used that expresses the rate in a clear manner (from “per 100” or “percent” to “per 100,000”)

Population Pyramid

- It graphically displays a population's age & sex composition.
- Horizontal bars present the numbers or proportions of males & females in each age group
- The shape of the pyramid tells you a lot about the special circumstances of any country.



The situation here is so bad where children are a huge proportion of the population. On the other hand, older age barely exist like

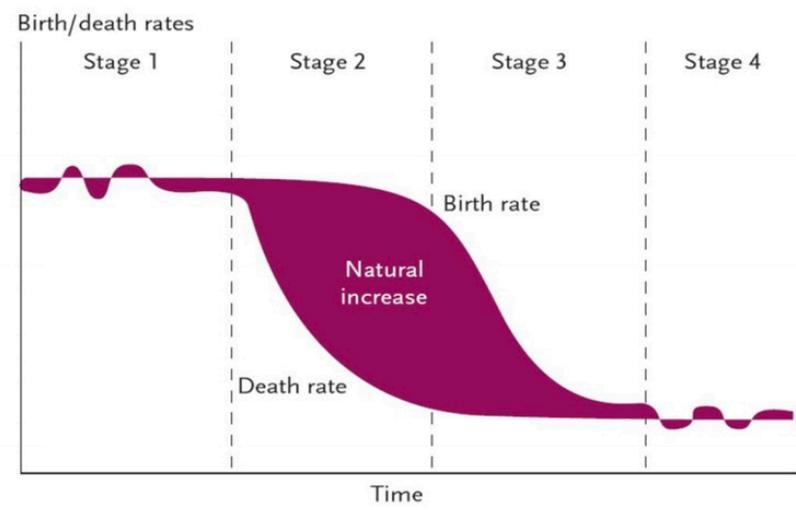
the situation here is balanced, almost every age group is the same percentage

the children's population is very slim, it's narrower than the middle-age population, also the very older population is not that wide

The demographic transition refers to the change that populations undergo from high rates of births & deaths to low rates of births & deaths.

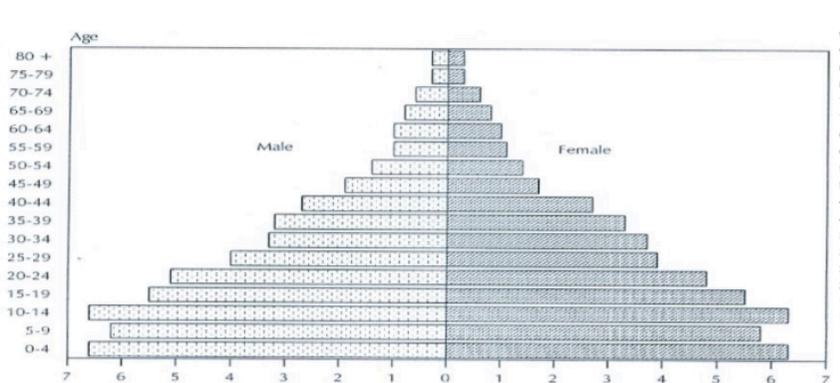
-High levels of births & deaths kept most populations from growing rapidly throughout most of time.

The Classic Stages of Demographic Transitions

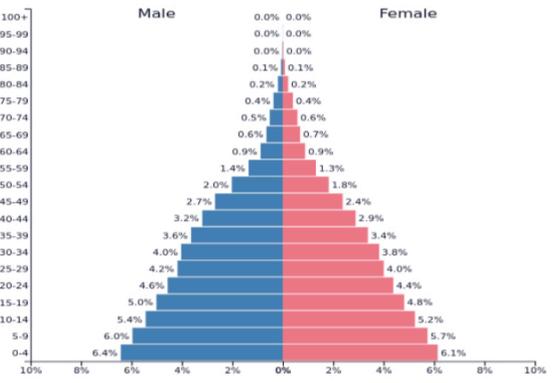


- Stage 1:** A huge death & birth rate which will cause a balance in the population
- Stage 2:** still a very high birth rates but the death rates have decreased significantly (Rapid growth) (a lot of the developing countries are in this stage)
- Stage 3:** there's still a decline in death rates & countries started to work on family planning issues so birth rates are decreasing (A lot of the developed countries are in this stage)
- Stage 4:** significant decrease in deaths and births (if not zero growth, it is negative growth) (some developed country are in this stage)

Jordan's Population Pyramid (2007)



Jordan's Population Pyramid (2017)



11th of July: is considered the world population day; a day when we celebrate demography