



IDX G10 Human Geography H
Study Guide S1 Midterms
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2.1 Where Are the World's People Distributed

A) Demography

- Demography: the scientific study of population characteristics

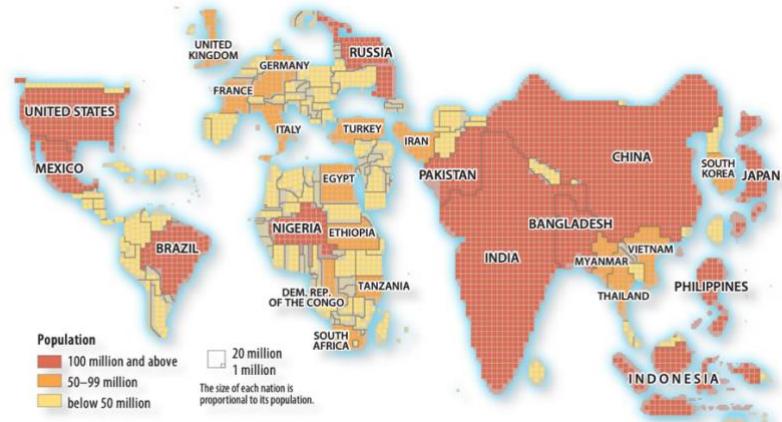
B) Introducing Population & Health

- The study of population geography is important because
 - More people are alive currently than at any other point in Earth's long history
 - Virtually all global population growth is concentrated in developing countries
 - The world's population increased at a faster rate during the second half of the 20th century than ever before in history
- Geographers are interested in the relationship between the population and Earth's resources
- Overpopulation: when the number of people exceeds the capacity of the environment to support life at a decent standard of living
 - Threat to some regions of the world, but not in others
 - Some regions have a favourable balance between people and available resources, whereas others do not
- Census: data source for population geography
 - Controversial in many countries because
 - Nonparticipation
 - Homeless people, ethnic minorities, and citizens who do not have proper immigration documents may be less likely to complete census forms
 - People fear that censuses will be given to government agencies
 - Sampling

- Statistical sampling techniques can be utilised to get a more accurate count
- Can identify detailed characteristics of people, housing, and businesses
- Supported by politicians sympathetic to the needs of the homeless and immigrants
- Not endorsed by the people from small towns and rural areas
 - The portion of the population that they take among the country's population will decrease once the population of the minorities is added to the entirety
- Distribution of the world's peoples
 - Humans are not distributed uniformly across the Earth
 - Geographers understand the distribution of population by examining two basic properties
 - Concentration
 - It can be displayed by dividing the Earth's land area into seven portions (each containing 1 billion people)



- Can be displayed on a cartogram
 - Cartogram: depicts the sizes of countries according to population rather than land area
 - Displays major population clusters as much larger



- Density

- Help geographers explain the relationship between the number of people and available resources
- Geographers identify regions of Earth's surface where population is clustered and regions where it is sparse

C) Population Concentrations

- Four clusters
 - East Asia
 - $\frac{1}{4}$ of the world's population
 - Includes eastern China, Japan, and the Korean Peninsula
 - China
 - The world's most populous country
 - 4th largest country in land area
 - The population is clustered near the Pacific Coast and in several fertile river valleys that extend inland
 - Much of China's interior is sparsely inhabited mountains and deserts
 - $\frac{1}{2}$ of the population lives in rural areas and are farmers
 - South Korea
 - 80% of the population is clustered in urban areas and works at industrial or service jobs
 - Urbanisation rate > 75%
 - Japan
 - 93% of the population is clustered in urban areas and works at industrial or service jobs
 - Urbanisation rate > 75%

- The Tokaido Corridor



- South Asia

- $\frac{1}{4}$ of the world's population
- Includes India, Pakistan, Bangladesh, and Sri Lanka
- The population is concentrated along the plains of the Indus and Ganges rivers
- Heavily concentrated near India's two long coastlines
- Most people are farmers living in rural areas

- Europe

- 48 countries
- $\frac{3}{4}$ of inhabitants live in cities
- Less than 5% are farmers
- Highly concentrated
 - Near the major rivers
 - Coalfields of Germany and Belgium
 - Historic capital cities (e.g. London, Paris)

- Southeast Asia

- Approximately 600 million people
- Indonesia
 - 13,677 islands
 - The world's 4th most populous country
 - The population is highly concentrated in Java
 - Jakarta is located in Java → people cluster around Jakarta for job opportunities
- Philippines
 - The population is clustered along several river valleys and deltas at the southeastern tip of the Asian mainland
- A high percentage of people work as farmers in rural areas

- Other clusters
 - Africa
 - Two large population clusters
 - Along the west coast between Senegal and Nigeria
 - Along the east coast between Eritrea and South Africa
 - Most Africans work in agriculture
 - Northeastern United States and southeastern Canada
 - Largest population concentration in the Western hemisphere
 - Boswash Corridor: Boston → Washington D.C. megalopolis, most heavily urbanised region of the U.S.
- Cities & population
 - City → tens of thousands
 - Metropolis → over 1 million
 - Megalopolis → a chain of metropolis, over 10 million
 - Megacity → over 10 million
 - Metacity → over 20 million
- Sparsely Populated Regions
 - Human beings avoid clustering in certain physical environments
 - The areas of Earth that humans consider too harsh for occupancy have diminished over time
 - Ecumene increased over time
 - Ecumene: the portion of Earth's surface occupied by permanent human settlement
 - Some regions are non-ecumene: five “too”
 - Too cold
 - Too hot
 - Too wet
 - Too dry
 - Too hilly
 - Dry lands
 - Areas too dry for farming cover about 20% of Earth's land surface
 - Deserts lack sufficient water to grow crops → can't feed a large population
 - People survive there by raising animals that have adapted to the climate
 - Contain natural resources useful to people (e.g. petroleum)

- Wetlands
 - Lands that receive very high levels of precipitation
 - Located primarily near the equator
 - Often inhospitable for human occupation
 - Rain and heat deplete nutrients from the soil → hard for agriculture
- Cold lands
 - Covered with ice
 - The ground is permanently frozen (permafrost)
 - Unsuitable for planting crops
 - Few animals and humans can live there
- High lands
 - Steep, snow-covered, and sparsely settled
 - Some high-altitude plateaus and mountain regions are densely populated
 - Agriculture is possible at low latitudes

D) Population Density

- Density: the number of people occupying an area of land
- Arithmetic Density
 - $\frac{\text{The total number of people}}{\text{Total land area}}$
 - Enables geographers to compare the number of people trying to live on a given piece of land in different regions of the world
 - Can't explain why people are not uniformly distributed across the Earth
- Physiological Density
 - The number of people supported by a unit area of arable land
 - Arable land: land suited for agriculture
 - Provides insights into the relationship between the size of a population and the availability of resources in a region
 - Comparing physiological and agricultural densities helps geographers understand the capacity of the land to yield enough food for the needs of the people
- Agricultural Density
 - $\frac{\text{Number of farmers}}{\text{Amount of arable land}}$
 - Two countries can have similar physiological densities but produce significantly different amounts of food because of different economic conditions
 - Helps account for economic differences

- Developed countries: lower agricultural densities because technology and finance allow a few people to farm extensive land areas and feed many people

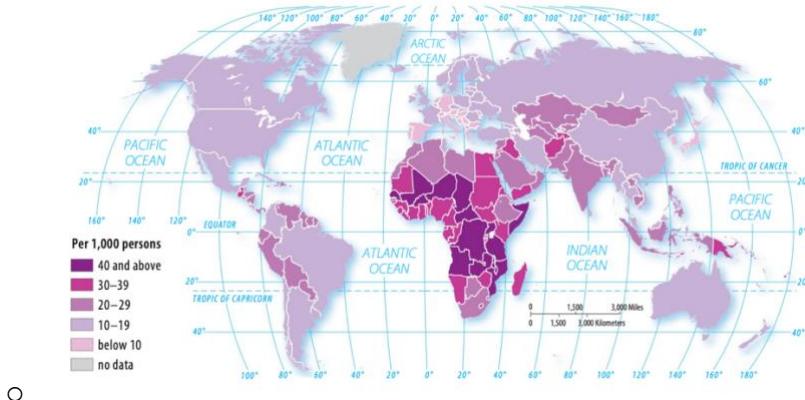
2.2 Why is the World Population Increasing?

A) Natural Increase

- Natural increase rate (NIR): the percentage by which a population grows in a year
- Natural: a country's growth rate excluding migration
- Population growth in history
 - The natural increase rate affects the doubling time
 - Doubling time: the number of years needed to double a population, assuming a constant rate of natural increase
 - Life expectancy: the average number of years an individual can be expected to live, given current social, economic, and medical conditions
 - Life expectancy at birth: the average number of years a newborn infant can expect to live
- Regional variations in NIR
 - More than 95% of the natural increase is clustered in developing countries
 - The NIR is negative in Europe → population is declining due to the absence of immigrants
 - Regional differences in NIRs mean that most of the world's additional people live in the countries that are least able to maintain them

B) Births and Deaths

- The population increases rapidly in places where more people are born than die
- Fertility
 - Crude birth rate (CBR): the total number of live births in a year for every 1,000 people alive in the society



- - The highest CBRs are in sub-Saharan Africa
 - Lowest in Europe
- Mortality
 - Crude death rate (CDR): the total number of deaths in a year for every 1,000 people alive in the society
 - Expressed as the annual number of deaths per 1,000 population
 - The combined CDR for all developing countries is lower than the combined rate for all developed countries
 - Infant mortality rate (IMR): the number of deaths of infants under one year of age per 1,000 live births in a year
 - A country can have high CDR and low IMR at the same time if they have an ageing society and a great healthcare system
 - Maternal mortality ratio: The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes / 100,000 live births

C) The Future Population of the World

- Demography: the scientific study of population characteristics
- Demographers look statistically at how people are distributed spatially by age, gender, occupation, fertility, health, and so on
- Demographers can tell us with some precision the current population of the world and of places
- Geographers use the total fertility rate to measure the number of births in a society
 - Total fertility rate (TFR): the average number of children a woman will have throughout her childbearing years (roughly around 14-49)

- TFR of 2.1 to 2.5 children per woman is considered “replacement level or replacement fertility”
- Fertility vs. Fecundity
 - Fecundity: the natural ability to produce live offspring. Commonly refers to the frequency and healthiness of women
 - Fertility: the actual reproduction of offspring. It depends upon the way of life, intake of drugs and emotions
- Age-specific fertility rate (ASFR) per 1000

- $$\frac{\text{Number of live births to women in specified age group}}{\text{Number of women in same age group}} \times 1000$$



- Afghanistan has a high TFR because Islamic people forbid abortion
- Central Africa has a high TFR because it needs farmers & lives in poverty & no family planning
- China has a relatively low TFR because of the one-child policy
- Geographers assume that a woman reaching a particular age in the future will be just as likely to have a child as women of that age today
- Attempts to predict the future behaviour of individual women in a world of rapid cultural change
- Gender ratio at birth
 - $$\frac{\text{number of male births}}{\text{number of female births}} \times 100$$
- Age dependency ratio: the sum of the young population (under age 15) and elderly population (age 65 and above) relative to the working age population (ages 15 to 64)

D) The Demographic Transition

- Demographic transition: a process of change in a society’s population from high crude birth and death rates and low rate of natural increase to a condition of low crude birth and death rates, low rate of natural growth and higher total population

- Stage 1: low growth
 - Very high CBR (40-50/1000)
 - Lack of family planning
 - High IMR
 - Need for workers in agriculture (the 1st agricultural revolution)
 - Religious beliefs
 - Very high CDR (40-50/1000)
 - High level of disease
 - Famine
 - Lack of health care
 - War
 - E.g. Britain prior to the 1750s
 - Very low NIR
 - No country remains in stage 1 today
 - Common when people still depended on hunting and gathering food
 - The population increased when food was easily obtained
 - The population declines when food is not accessible
- Stage 2: high growth
 - High CBR(40+/1000)
 - Rapidly declining CDR (15/1000)
 - Improved sanitation
 - Improved food production and storage
 - Improved transport for food
 - Improved health care & decreased IMR
 - Very high NIR (25+/1000) – shows most growth
 - Industrial revolution
 - Involved major improvements in manufacturing goods and delivering them to the market
 - Resulted in unprecedented levels of wealth → make communities healthier places to live
 - Medical revolution
 - Medical technology invented in Europe and North America has diffused to developing countries

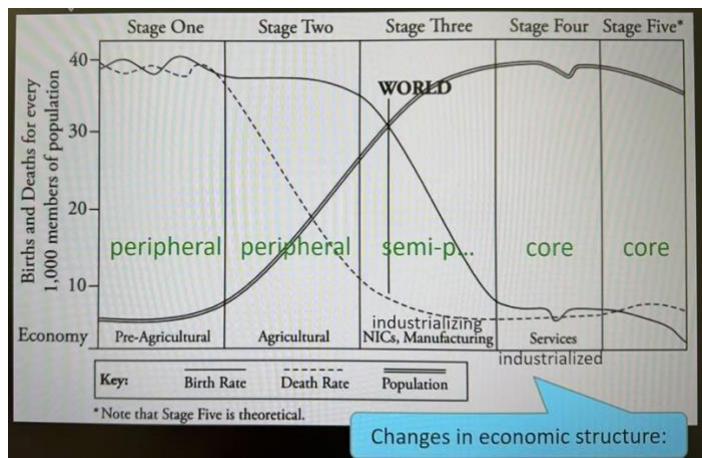
- Eliminated many traditional causes of death in developing countries and enabled more people to experience longer and healthier lives
 - E.g. smallpox vaccine
 - E.g. Bangladesh & Nigeria (periphery)
- Stage 3: moderate growth
 - Rapidly declining CBR (20/1000)
 - Better healthcare → IMR is lower → less risk of dying children among all of them
 - Women's education
 - Increased standard of living
 - Family planning & contraception available
 - Increased mechanisation reduces the need for workers
 - Pension nursing home
 - Moderately declining CDR (10/1000)
 - Moderate NIR
 - When people have fewer children
 - Economic changes in stage 3 induce people to have fewer offspring
 - People are more likely to live in cities than in the countryside and to work in offices, shops, or factories rather than on farms → farmers often consider a large family to be an asset because children can do some of the chores → Fewer children
 - E.g. Britain in the late 19th century, China, and Brazil today
- Stage 4: low growth
 - Very low CBR
 - Low or slightly increasing CDR
 - Zero or negative NIR
 - The economy is settled
 - Political stability
 - E.g. USA, Japan, Sweden
 - Zero population growth (ZPG): a term often applied to stage 4 countries used to describe a condition when the CBR declines to the point where it equals the CDR and the NIR approaches zero
 - Social customs

- Women in stage 4 societies enter the labour force rather than remain at home as full-time homemakers
- Countries that reached stage 4 of the demographic transition have, in some ways, completed a cycle – from little or no NIR in stage 1 to little to no NIR in stage 4
- Changes from stage 1 to stage 4
 - Total population - higher
 - CBR and CDR – both low

E) An Ageing Population (ESPN)

- Economics
 - Increased funding is needed for the care of Senior Citizens
 - Cuts to other programs
 - Shrinking tax/worker base
 - Markets for goods and services for seniors
- Social
 - Family dynamics – who's taking care of grandparents?
 - Social services for seniors
 - Medical specialisations
 - “Senior agglomerations” or the “snowbird effect”
 - Senior agglomeration: seniors gather
 - Snowbird effect: move to great places for senior age
- Political
 - Nataлист policies to address the fall in births
 - Military needs
 - Seniors as a voting bloc
- Environment

F) Changes in Economic Structure



- Four sectors of the economy
 - Primary
 - Extraction of raw materials from the natural environment
 - Key industries: agriculture, fishing, forestry, mining, etc.
 - Basic inputs for all other sectors
 - Dominant in pre-industrial and developing countries
 - Secondary
 - Processing and manufacturing of raw materials into finished goods
 - Key industries: manufacturing, construction, processing, etc.
 - Grows during industrialisation
 - Tertiary
 - Provision of services to businesses and final consumers
 - Key industries: retail, transportation, hospitality, healthcare, education, etc.
 - Dominant in developed, post-industrial economies
 - E.g. Germany manufactures cars
 - Quaternary
 - Knowledge-based and intellectual activities focused on information and technology
 - Key industries: IT, consulting, financial planning, scientific discovery, etc.
 - In most advanced global economies
- Three Categories of “World System”
 - Core countries
 - Industrialised capitalist centres
 - High standards of living
 - Manufacture raw materials from peripheral and semi-peripheral countries to make a profit

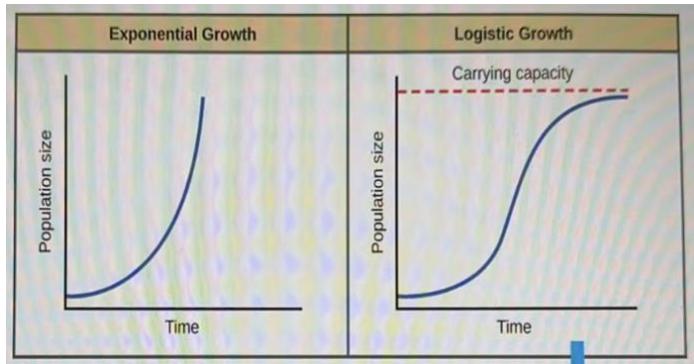
- Periphery countries
 - Least developed & economically powerful
 - Low wages, poor working conditions
 - Provide raw materials
- Semi-periphery countries
 - Buffer zone between core and periphery
 - Cheaper labour
 - Significant economic inequality
- Assumption: Industrialisation, modernisation, economic development, and urbanisation first cause death rates to fall and later lead to a decline in birth rates, until both rates converge at low levels

G) Evaluating the DTM

- How the DTM can be used to predict changes in a country's population
 - CDR drops due to
 - Sanitation, public health provision, and fresh water supply
 - Personal income
 - New medicine advances
 - CBR drops due to
 - Agricultural labour
 - Value of children
 - Cost of raising children
 - Women's social status (well educated, financially independent, cultural attitudes)
- How the DTM can't be used for prediction
 - Population policy – forced family planning
 - E.g. China's one-child policy
 - Rural-urban migration (single men and women)
 - International aid
 - E.g. red cross
 - Child labour, informal economy
 - Religion

H) Malthus's Population Theory

- The idea that population growth outpaces food production, leading to inevitable crises like famine, disease, and war



- If a country is below carrying capacity → population < resources
- If a country is above carrying capacity → population > resources
- If a country is at carrying capacity → population = resources
- States that population growth is exponential, while food production growth is linear
- General kinds of checks to limit population growth
 - Positive
 - Natural disasters
 - Increased death rate
 - War, famine, etc.
 - Negative
 - Measures people can take to decrease population growth
 - Delay marriage and celibate until one can afford and sustain a family financially
- Didn't consider that food production would far surpass population growth