Demography

- Demography is the study of human population.
- Population is a dynamic open systems with inputs, processes and outputs.
  - This means that change constantly occurs in population numbers, population distribution, population structures, etc.
  - Natural increase = births
  - Natural decrease = deaths/emigration
Population Distribution

The way in which people are spread out across the Earth's surface.

Population distributions are uneven and change considerably over time.

They are most often shown using ‘Dot Maps’.
Population Density

- The number of people living in a given area, usually in a square kilometre (km²).

- Population density is often shown using a choropleth map.

- Population density is calculated by dividing the total population of a country/region by the total area of that country/region.

- Choropleth maps are easy to read however they only show generalisations of the population because they tend to hide concentrations of people.
Factors affecting population density

- On global and continental scales, patterns of population distribution and density and mainly affected by **physical factors**.

**Physical factors:**
- Relief (shape of land)
- Climate
- Vegetation
- Soils
- Natural resources
- Water supply

*Where would you build a city?*
Factors affecting population density

- At regional and more local scales, patterns of population distribution and density are more likely to be influenced by HUMAN FACTORS.

- Human factors:
  - Economic
  - Political
  - Social
Population Growth

- Change in population depends mainly on the birth rate and death rate. On a smaller scale, it also depends on migration.

- **Birth rate**: the average number of live births in a year per 1000 people in the total population.

- **Death rate**: the average number of deaths per 1000 people in the total population.
  - If the birth rate > the death rate = natural increase in population.
  - If the birth rate < the death rate = natural decrease in population.

- Throughout history, the world’s population has shown a natural increase apart from some exceptions due to diseases (Bubonic Plague in the Middle Ages/ AIDS in present-day South Africa) and wars (western Europe during the 2 World Wars and in present-day Afghanistan).
The Demographic Transition Model

- It describes a sequence of changes over a period of time in the relationship between birth and death rates and overall population change.

- It suggests that all countries pass through similar demographic transition stages/population cycles over time.
The Demographic Transition Model explained

**Stage 1: High Fluctuating**

- High birth rates and high death rates = small population growth.

- High birth rates = lack of family planning/ education/ high infant mortality rates (the parents would make more babies hoping that they will survive).

- Many children are needed to work in the farms.

- The mentality of having a lot of children is important to gain prestige in society.

- High death rate = increase in diseases due to poor hygiene, lack of sewage/ waste disposal systems.

- Low life expectancy.

- Lack of hospitals, medicine, doctors

Ex: tribal communities in rainforests are in stage 1.
The Demographic Transition Model explained

- **Stage 2: Early Expanding**

  - Birth rate remains high but the death rate falls rapidly.
  
  - This leads to a rapid population growth.
  
  - Life expectancy becomes longer.
  
  - Fall in death rates = improved medical care, hospitals, medicine, doctors, improved water supply, improved quantity and quality of food.
  
  - Birth rates remain high due to the same reasons mentioned in Stage 1. This is because the mentality of the population takes long to change.
  
  - Ex: Ethiopia, Bangladesh, Kenya and Peru.
The Demographic Transition Model explained

- **Stage 3: Late Expanding**
  - Birth rate falls rapidly while the death rate continues to fall slightly leading to a slow population growth.
  - Longer life expectancy than in Stage 2.
  - Ex: Brazil, India, China and Australia.
  - Fall in birth rate = improved family planning, use of contraceptives, better education, low infant mortality rate, less need to have many children and abortion.
  - Increase in the number of women going to work/studying.
  - Late marriages = increased desire in material possession ex: cars and large houses = cannot afford to have a large family.
  - Death rates continue to fall slightly due to improvement in health care, water supply and food.
The Demographic Transition Model explained

- **Stage 4: Low Fluctuating**
  
  - Low birth rates and death rates leading to a steady population growth.
  
  - Life expectancy is longer than in Stage 3.
  
  - The standard of living is much higher than in earlier stages of the DTM.
  
  - Ex: most European countries (including Malta), USA and Japan.
Stage 5: Prediction

- Birth rates fall below death rates leading to a decline in population.

- Several western European countries will pass from this stage in 2025.

- Italy and Sweden are already in Stage 5.
Population Structures

- The population structure of a country is affected by:
  - Rate of natural increase/ decrease
  - Birth rate
  - Death rate
  - Life expectancy

- Population structures can be shown using ‘POPULATION PYRAMIDS’.

- Population pyramids show fast changes and help in predicting short and long-term future changes in population.

- The effects of migration, diseases and wars are also evident.

- A population pyramid shows:
  - The total population divided into five-year age groups (ex: 0-4, 5-9, 10-14, etc.)
  - Population divided into males (left side) and females (right side).
Population Structures

- **Pyramids can be divided into 3:**
  A. Young age group (aka: pre-reproductive group / non-economically active group).
  B. Working age group (aka: reproductive group / economically active group).
  C. Elderly age group (aka: post reproductive group / non-economically active group).

- **Dependency ratio:**
  - The young age group (A) and the elderly age group (C) are dependent on the working age group (B).
  - Disadvantage: dependency ratios do not take into account those people who are unemployed.
  
  - To calculate the dependency ratio of a country:

\[
\frac{A+C}{B} \times 100
\]
Stages of the DTM shown using population pyramids

- **Stage 1 - expanding**
  - Males (%)
  - Females (%)
  - High birth rate; rapid fall in each upward age group due to high death rates; short life expectancy.

- **Stage 2 - expanding**
  - Males (%)
  - Females (%)
  - High birth rate; fall in death rate as more living in middle age; slightly longer life expectancy.

- **Stage 3 - stationary**
  - Males (%)
  - Females (%)
  - Declining birth rate; low death rate; more people living to old age.

- **Stage 4 - contracting**
  - Males (%)
  - Females (%)
  - Low birth rate; low death rate; higher dependency ratio; longer life expectancy.
World Population Growth

• The annual growth rate of the world’s population rose slowly but steadily until the beginning of the 19th century.

• For the next century and a half, the population grew at an increasingly faster rate (aka: population explosion).

• During 1960’s and 1970’s, the average population growth was 2% per year. This growth rate was even higher in the less economically developed countries. This caused a lot of concern.

• Population is still growing by ~140 people per minute, which is 78 million each year.

So why is the annual growth rate slowing down if people across the world have started to live longer?
The annual growth rate of the world population is slowing down due to several factors:

- **Faster than predicted decline in birth rates across the world**
- **Improvements in family planning, basic education and family literacy (leading families to become smaller in size)**
- **The one-child policy in China (a country with over 20% of the world’s total population)**
- **Diseases ex: AIDS and Malaria which reduce life expectancy, especially in sub-Saharan countries in Africa (at present, world’s highest birth rates).**
Population change in developed and developing countries

- Many of the less economically developed countries (LEDCs) still fit into Stage 2 or 3 of DTM.

- The more economically developed countries (MEDCs) have long reached Stage 4 of the DTM.

- Studies have shown that there is an uneven growth and uneven distribution of the world’s population between the continents.
  - Africa, Asia and Latin America = fastest growth in population. (LEDCs)
  - Europe, North America and Australasia (Oceania) = slowest growth rate. (MEDCs)
Case study: Brazil

- In 2000, the average population density was 20.3 per km².
- The population density over the country is very uneven.
- > 90% of Brazilians live near the coast (south-east of the country).
- Further inland and towards the North, the population density decreases rapidly. Some areas are even uninhabited.
- The highest population densities occur along the coasts or around the cities of Sao Paolo, Belo Horizonte, Salvador and Rio de Janeiro.
- These regions have a reliable water supply and a vast range of natural resources, good natural harbours which encouraged industry and tourism.
Case study: Brazil

- The north-west of Brazil is more sparsely populated and it is drained by the Amazon River.

- The area is covered by tropical rainforest. It is hot, wet and unhealthy. The soils are poor and the area generally lacks natural resources.

- Transport through the forest is difficult.

- The region lacks basic amenities such as health care, education and electricity.

- Birth rates, death rates and infant mortality rates are high when compared to south-east Brazil. The life expectancy is also low.

- Lack of government investment throughout the years.
Case study: Brazil

- Although the figures for Brazil show that it is in Stage 3 of the DTM, parts of the interior of the country still show characteristics of Stage 1 and Stage 2.

- Brazil’s population pyramids show that although the birth rates and infant mortality rates are still high, they are falling.

- This shows that more people are reaching the child-bearing age (20-24 year age group).

- The death rates are still high but falling and life expectancy is slowly increasing.
Case study: Italy

- Italy has been undergoing the effects of an ageing population.
- Life expectancy in Italy has increased.
- There is currently a large portion of the population that is in the Elderly Age Group (aged over 65).
- An increase in the Elderly Age Group = an increase in the dependency on the Working Age Group.
- In the year 2000, 19% of Italy’s gross national product (GNP) was spent looking after the Elderly Age Group (ex: pensions, health care, etc.)
Case study: China

• China is currently being more concerned with its ageing population rather than with population growth or the number of children being born.
• Life expectancy has increased.
• The proportion of China’s population that is in the Elderly Age Group is increasing rapidly, and expected to continue increasing.
• In 1998, there were 10.5 million Chinese people aged over 80 years.
• By 2050, it is expected to have over 100 million Chinese people over the age of 80.
• These changes will have a massive impact on the Chinese society. This will require urgent reforms in pensions, health care and in other benefits.
• The increase in life-expectancy and the one-child policy have led to significant changes in China’s population structure.
Case study: Maltese Islands

- **Population Patterns**
  - According to projections, by 2020, ¼ of the population will be aged over 60 → experiencing an ageing population.
  - Decline in fertility rate throughout the years (fewer children being born) = more pressure on the Working Age Group.
  - The total pop. is expected to decrease from 413,000 in 2009, to 380,000 in 2050.
  - Longer life expectancy (men – 78 yrs, women – 82 yrs).

- **Population Density/ Distribution**
  - High pop. Density (1307 people per km²) = high competition for land = high land values.
    Large houses being replaced by blocks of apartments.
  - Population density varies from one place to another.
    - *Ex:* Paceville in weekends has a high pop. density.
    - *Ex:* Qawra/ Bugibba/ St. Paul’s Bay/ Ghadira in summer have a high pop density were most of the summer residences and hotels are occupied.
**Migration**

- **Migration**: the movement of people from one place to another.
- **Migration balance**: the difference between the number of emigrants and immigrants.

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**Emigration**
- Emigrants are people who leave a country/village due to "PUSH FACTORS"
  - Lack of jobs
  - Pollution
  - Natural disasters
  - War

**Immigration**
- Immigrants are people who arrive in a country/village due to "PULL FACTORS"
  - Jobs
  - Better standard of living
  - Better environment

- Countries with a net migration gain = countries which experience a lot of immigration
  - (ex: Australia and Canada in 1960s)

- Countries with a net migration loss = countries which experience a lot of emigration
  - (ex: Malta in 1960s)
Different types of migration

1. **Internal migration**: migration within a country. *Ex*: from one village to another.

1. **External migration**: migration between countries. *Ex*: refugees from Africa to Europe.

1. **Permanent migration**: migration to another country/village forever. *Ex*: Maltese emigrating to Australia forever (external migration).

1. **Semi-permanent migration**: migrating for several years and returning back to their home country. *Ex*: Maltese who emigrated to Australia and returned back.

1. **Seasonal migration**: migrating for several months/weeks. *Ex*: Maltese working in Libya for a no. of weeks/months and return. *Ex*: Maltese migrate to another residence for the summer months.

1. **Daily migration**: travelling from one village/country to another on a daily basis. *Ex*: Gozitans migrate to Malta to work (internal migration).
Voluntary Migration

The free movement of migrants looking for an improved quality of life.

Examples:
- Employments
- Holidays/ vacations
- Better health care facilities, education, better standard of living

Forced Migration

When migrants have no personal choice to move to another area.

Examples:
- Natural disasters (flooding, earthquakes, volcanic eruptions, etc)
- Religious persecution, wars, racial discrimination and famine.
Rural – Urban Migration
(why do people leave rural areas to go to urban areas?)

In developing countries, there are many people who migrate from rural to urban areas. Since 1950’s, developing countries experienced rapid urbanisation. In fact between by 1990, the urban pop. of developing countries doubled. Why?

**PUSH FACTORS in rural areas:**
1. Lack of government investment. Ex: Brazil
2. Farming: involves a lot of hard work with little pay.

**PULL FACTORS in urban areas:**
1. Better paid jobs
2. Better housing quality
3. Recreational areas
4. Reliable resources
5. Better health care and education
6. Religious and political activities carried out more safely.

![0.3 billion expected decline in the global rural population 2014 - 2050](image)
Counter-Urbanisation (why do people leave urban areas to go to rural areas?)

‘COUNTER-URBANISATION’: The process by which people and employment started moving away from the inner cities to smaller settlements present in the outskirts of major cities.

1. Industries
   1. There is no space in the inner cities to build large industries therefore high-tech industries started moving to the outskirts. The location of the industries does not reduce the cost of the products, therefore it was better for them to move outwards.

2. Social Factors
   1. Low class people + ethnic groups started to inhabit the inner parts of the cities, and this led for the middle/ high class people to migrate to the outskirts because they could afford transport to travel daily to the inner city.

3. Environmental factors
   1. Inner cities → noise, air and visual pollution, lack of open spaces.
   2. Outskirts → quieter, less polluted, open spaces.

4. Housing
   1. Inner cities → old, dilapidated, high density small flats.
   2. Outskirts → larger modern houses with more open space.
# Impacts of Migration

## Positive Impacts

- Better job opportunities.
- Improving quality of life.
- Improve people’s social life.
- Migration of skilled workers = greater economic growth of the region.
- Better education.
- Reduction in population density and birth rates.

## Negative Impacts

- Migration out of rural areas = reduction in level of output and development
- Increase in competition for jobs, houses, schools, etc. in urban areas.
- Increase in pressure on natural resources, amenities and services.
- Uneven distribution between urban and rural populations.