

Maths in Geography

Percent of Change

$$\% \text{ Change} = \frac{\text{New} - \text{Original}}{\text{Original}} \times 100 \%$$

Reasons for urbanisation

Example: The Caatinga to Brasilia, Brazil

Push factors (negative rural)

- Poor education
- No electricity or computer access
- Crop failure
- Poorly paid farming jobs
- Poor quality, thin soil

Pull factors (positive urban)

- Large and well equip hospitals
- Lots of schools, colleges and universities
- Higher paid jobs
- More variety of jobs

Year 8: Urban world

Key term	Definition
Urban	A built-up area with a high population density and infrastructure of the built human environment.
Rural	The countryside which is a geographic area that is located outside towns and cities
Urbanisation	The movement of population from rural to urban areas
Megacity	Urban area with a population of over 10 million
Squatter settlement	Slum or illegal and often unplanned settlement
Standards of living	An objective (factual) measure of the level of wealth, comfort and access to material goods.
Quality of life	A subjective (opinion) measure of freedom and equality.
Informal jobs	Part of any economy that is neither taxed nor monitored by any form of government
HIC	High income countries
LIC	Low income countries
NEE	Newly emerging economies
Urban forest	A forest or collection of trees that grow within a city
Urban greening	Increased amount and proportion of green spaces within a city
Counter urbanisation	The movement of people from urban to rural areas, normally experienced in HIC cities

Comparing Asia's megacities

Tokyo	BOTH	Mumbai
<ul style="list-style-type: none"> • HIC city • 37.5 million people • Experiencing population decrease • Low rates of air pollution, noise, traffic and crime • Good public transport • Lots of green space • Issues with ageing population • Expensive and small housing 	<ul style="list-style-type: none"> • Original population growth due to fertile soil • Urbanisation (push and pull factors) causes the cities to grow • Well connected port 	<ul style="list-style-type: none"> • NEE city • 20 million people • Rapid population growth • Strong manufacturing industry • Squatter settlements eg. Dharavi with a population of 1 million (1 sq mile) • Poor living standards in slums • Overstretched rail system is very dangerous

Can you locate the 10 biggest **megacities** on a world map?

City	Country	Population	Size (sq km)
1. Tokyo	Japan	37,239,000	8,547
2. Jakarta	Indonesia	26,746,000	2,784
3. Seoul	South Korea	22,868,000	2,163
4. Delhi	India	22,826,000	1,943
5. Shanghai	China	21,766,000	3,497
6. Manila	Philippines	21,241,000	1,437
7. Karachi	Pakistan	20,877,000	803
8. New York	USA	20,673,000	11,642
9. Sao Paulo	Brazil	20,568,000	3,173
10. Mexico City	Mexico	20,032,000	2,046

Dharavi, Mumbai

Opportunities:

- Low rents (£2.20 per month)
- Strong manufacturing industry with products being shipped around the world
- 5,000 businesses and 15,000 single room factories
- High business turnover- £350 million per year!
- 80% of waste is recycled
- Strong sense of community

Redevelopment proposal

Slum Rehabilitation Authority (SRA)-

\$2 billion whole demolition of the slum and replacement with high rise tower blocks

Advantages:

Legal homes, council can collect taxes, better access to clean water and education, sewage pipes

Disadvantages:

Very small accommodation, poor community spirit, poor people unable to pay taxes, loss of ancient fishing village

Challenges:

- High population density- 1 million people per square mile!
- 24% population have access to safe water
- Toxic levels are 3 times more than the safe limit
- Low wages- 80p per day
- 4,000 diseases reported daily

Local based projects (SPARC)-

NGO that supports local people design improvements to the sums

Advantages:

Involvement of locals, adding extra floors to existing buildings to create more space, toilets placed around the slum to improve sanitation, clean water access improved

Disadvantages:

Small scale projects will only help a small amount of people and take a long time

Lagos, a rapidly growing megacity

Location: Nigeria

Population: 14-21 million (estimates)

Olusosun Rubbish Dump

Opportunities

- Lots of facilities eg. Shops, restaurants, bar, cinema, mosque
- Rubbish can be turned into energy
- Lots of items are reused
- Employs 500 workers
- Workers live at the dump, building their homes from scrap material

Challenges:

- Toxic fumes are harmful to the environment and people's health
- Natural gasses build up and can be flammable causing fires
- Workers do not wear protective gear
- Informal workers do not pay tax or receive any employment rights

The future of megacities

6 new megacities by 2030:

- Chicago, USA
- Bogata, Columbia
- Luanda, Angola
- Chennai, India
- Baghdad, Iraq
- Dar es Salaam, Tanzania

Future patterns and trends:

Developed cities (HIC)

- GDP will be 4 times higher
- Disposable income will be 5 times higher
- Depopulation will occur due to low birth rates
- Ageing populations

Developing cities (NEEs and LICs)

- Cities in Africa will expand
- Cities will experience rapid population growth eg. Luanda will increase by 60% from 2017-2030
- Jakarta will overtake Tokyo as the biggest megacity

Sustainability of urban greening

- Reduce CO2 levels by storing it in trees → slow the rate of global warming
- Trees soak up rainwater → less chance of flooding
- Trees reduce noise pollution → improve people's quality of life
- Trees create animal habitats → increase urban biodiversity
- Trees provide shade → less need for air conditioning
- Trees provide food → reduce food miles and provide an income
- Trees reduce the heat island effect → less demand for energy to power expensive and environmentally damaging air conditioning

Urban change in the UK

Opportunities

- Creation of housing (UK have a shortage of homes)
- New businesses and shops
- Job creation
- Energy efficient homes

Challenges

- Loss of green open space
- Competition for local independent businesses
- Factories relocated overseas- job losses in manufacturing industries
- Building of flood plains increases the risk of flooding



Counter urbanisation in the UK

Push factors (negative urban)

- Poor quality housing
- Low environmental quality
- Noise and air pollution
- High levels of crime

Rural impacts

- Country villages grow and lose their character
- House prices increase, pricing out local people
- Traffic congestion increases
- People buy second homes and they stand empty for a large amount of time

Pull factors (positive rural)

- Clean and quiet
- More space
- Bigger gardens
- Less crime
- Increased car ownership so commuting to cities for work is possible
- Fast internet so working from home is possible

Urban impacts

- Derelict building
- Increased rates of crime
- House prices drop because people don't want to live there