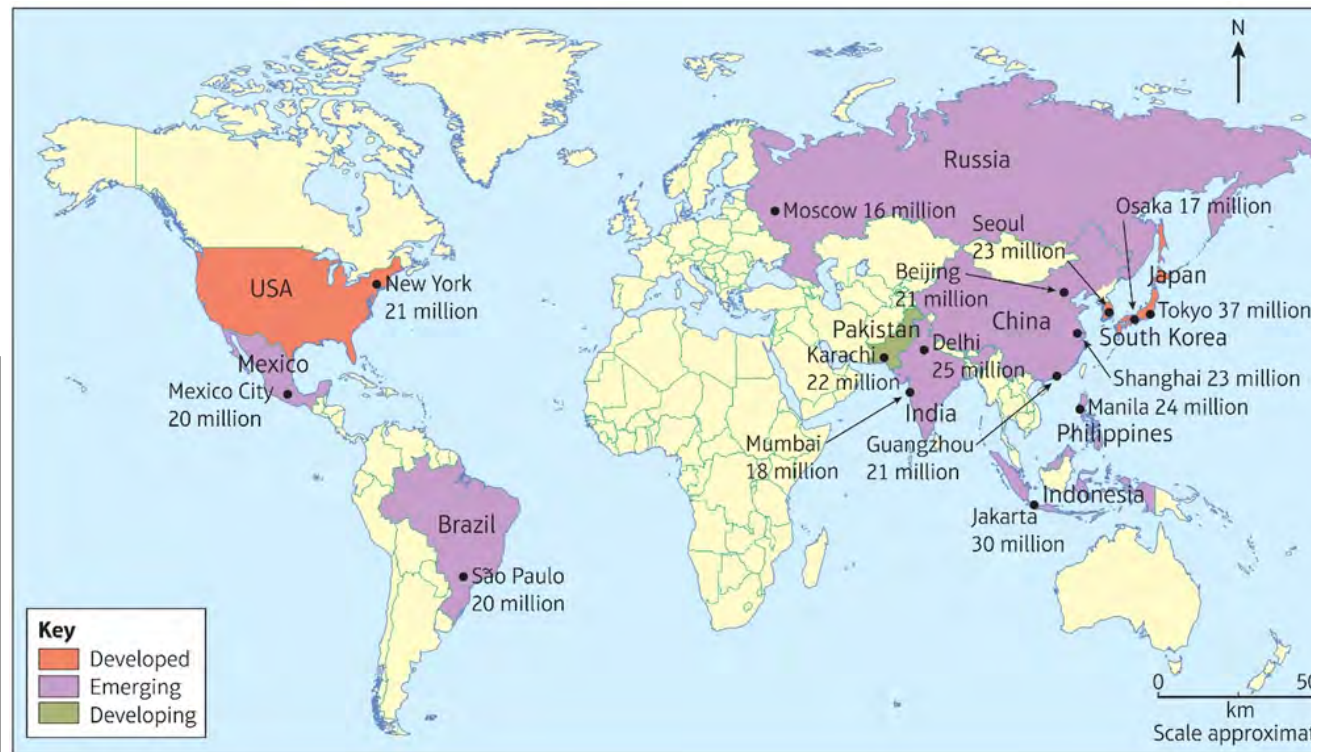
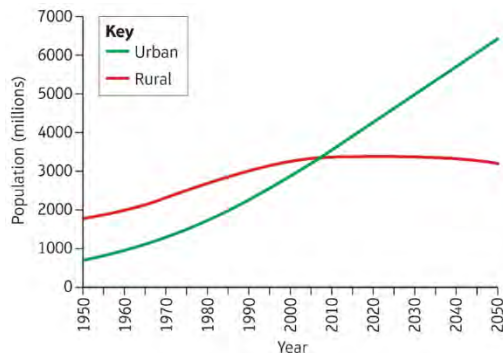


## The World is becoming increasingly urbanised

(Past and current trends in urbanisation, variations between regions and projections, patterns of megacities and disproportionate economic and political influence)

- Urbanisation is the process by which an increasing percentage of people live in towns and cities. It is mainly caused due to migration from rural areas. Urbanisation is more prominent in emerging and developing countries. By contrast the urban population in developed countries will grow less. Demographers make projections of what they think will happen in the future. Most agree that urban areas will increase and rural areas will decrease.
- Urbanisation in developed countries—The growth of urban areas in developed countries was a result of the industrial and agricultural revolutions in the 18th and 19th centuries. At this time people moved from rural areas to the urban areas to gain work in factories. Urbanisation has been slow and over a long period of time. It has remained steady in developed countries since the 1980s.
- Urbanisation in emerging and developing countries—The growth of towns and cities in emerging and developing countries has been rapid and has taken place over the last 50 years. More people are moving in than the city can accommodate for. This is due to rapid population growth and lack of jobs in rural areas. The reason for the differences is that in developed countries most people already live in urban areas. Another reason is that developed countries have a low natural increase rate. Developing countries have a high rural-urban migration rate and natural increase rate.
- Megacities—These have a population of 10 million people or more. Major cities have populations of 200,000 or more. The 1st megacities were in developed countries such as New York, Tokyo, London and Paris. Today, the fastest growing megacities are in developing or emerging countries. They are often poor cities with a young population, attracted from the rural areas.
- Primate cities— Cities that dominate a country's economic, financial and political systems. Large numbers of people want to work in these cities due to the opportunities they offer. They tend to have the best infrastructure but suffer from traffic congestion, pollution, housing shortages, unemployment and crime.



### Key Terms

Urbanisation  
Emerging countries  
Developing countries  
Developed countries  
Projection  
Megacities  
Major cities  
Primate cities  
Socio-economic processes  
Natural increase

### Questions

1. What is a megacity (1)
2. Explain what primate cities are and why they have grown so big (4)
3. Explain the distribution of emerging and developing cities (4)
4. Explain why people are moving from rural to urban areas (4)

### Key Terms

Formal employment  
 Informal employment  
 Urban economies  
 Pre-industrial  
 Post-industrial  
 Industrial  
 Clark-Fisher model  
 Pull factors  
 Push factors  
 Rural-urban migration  
 Working conditions

### Formal and informal employment

People who work in formal employment usually receive a regular wage and may pay tax on their income. In some countries they may have certain employment rights, such as sick leave or holiday pay. The formal employment sector includes factory workers, office workers, shop keepers and governments. Informal employment activities are not officially recognised by the government. They generally work for themselves e.g. hairdressers. They don't always pay taxes and have no protection.

### Questions

1. Explain two differences between formal and informal employment (4)
2. Describe the main differences between the economies of cities in developing and emerging countries and economies in developed countries (4)
3. Explain why the informal sector creates issues for governments (4)
4. Explain why international and national migration have contributed to the decline of a major city in the developed world (4)
5. Explain two of the pull factors that attract people from other countries to migrate to London. (4)

### The impact of migration on urbanisation—

National migration—This is migration that occurs within a country. In 1990, Chongqing in China had a population of 2 million. By 2014, the population was 12.9 million due to large scale internal migration. This was caused by: economic reform in China, the rapid growth of industries after 2000, loss of farmland due to urbanisation. Migrants were attracted to the cities due to more opportunities and better services such as healthcare and education.

International migration—This is migration between 2 different countries. In 2001, London had a population of just over 7 million people. In 2011, the population had increased by 14% to 8.1 million. This is largely due to migrants from India, Poland, Ireland, Nigeria and Pakistan. The pull factors that attracted the migrants to London were employment, entertainment and culture, services and UK international transport network. Push factors also encouraged the people to migrate from their country of origin such as lack of jobs, healthcare, standard of living and potentially war.

### Urbanisation is a result of socio-economic processes and change. (migration, national, international, urban economies, type of employment)

Features	Formal Employment (E.g. Industry—car manufacturer)	Informal Employment (E.g. street seller)
Scale of activity	Large scale—Usually in a factory	Small scale— maybe on a street corner
Level of skill	High level skilled work	Low level skills
Ease of entry	Needs a lot of funding and equipment to get started.	Needs little funding or equipment to start
Need of capital	Needs a lot of capital to get started and is often funded by governments	Needs little capital to start
Number of workers	Often more than 100 workers	Usually a few workers who are generally unemployed
Working conditions	Workers have protection to ensure the environment is safe e.g. accident prevention policies. Usually there are set working hours and some have trade unions to ensure good working conditions.	No protection for workers. No set working hours, may have to pay protection to gangs. There are no trade unions to support workers.
Location	Factories	Home or on the street
Taxes	Pay tax to the government	Pay no taxes

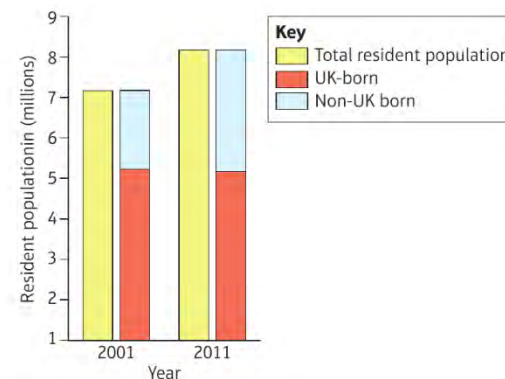
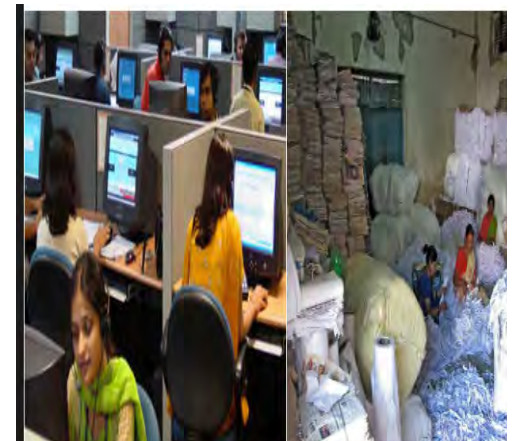


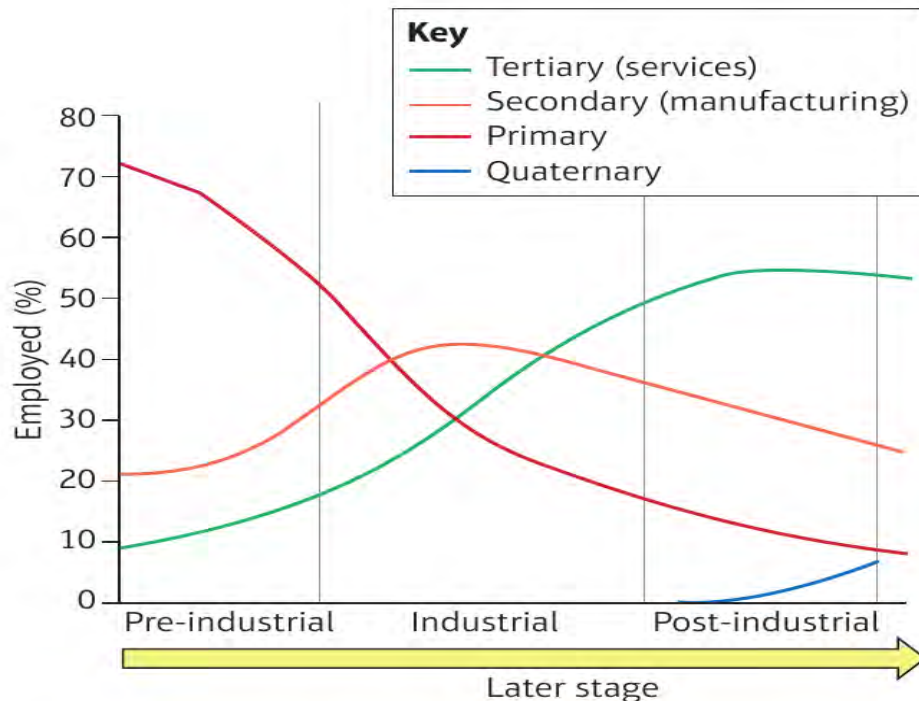
Figure 4 Population of London, 2001 and 2011



### Impact of economic change on urbanisation—

**Growth of cities**—Economic change can lead to urbanisation. For example, Sao Paulo in Brazil. In 1960 it had a population of 6 million, this rose to 12 million in 1991. In 2014 the population was 20 million. The reasons for this were: the modernisation of agriculture, decline of primary industry to rise in tertiary, the closure of secondary industries. Socially the city had a high birth rate and low death rate so the population had a positive natural increase. As well as this Sao Paulo offered good services such as health and education.

**Decline of Cities**—When a city is dependent on one major industry for its economic prosperity, it becomes vulnerable to changes. In the USA, Detroit was home to a successful car industry. At its peak in 1950, 1.8million people lived in Detroit. But by 2013 this fell to 700,000. Competition from car makers in Japan, Germany and South Korea outsourced the industries in Detroit. Sales of US-made cars and trucks declined, costs rose and the industry failed to introduce new technology quick enough. The factories couldn't compete so factories closed, people lost their jobs and the population migrated.



**Figure 6** The Clark-Fisher model

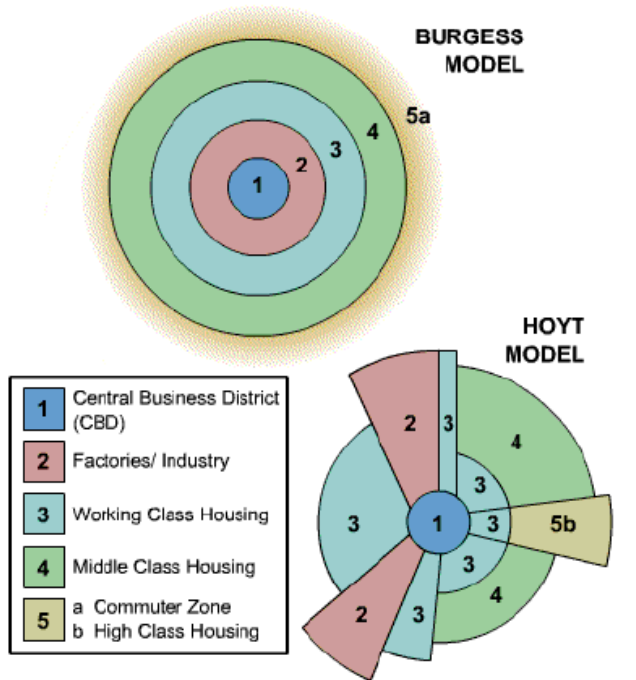
### Differences in Urban Economies

The developed, emerging and developing countries are at different stages of economic development, which is reflected in their urban economies. The Clark-Fisher model of changing employment helps us determine the stage of economic development of a country. These stages are:

- Pre –industrial—most jobs are in farming, mining and fishing.
- Industrial—manufacturing industry and towns grow rapidly. Some tertiary employment provides services such as transport, water and electricity.
- Post-industrial—tertiary sector becomes most important. Demand for services, especially in towns, fuels and increase in health and financial services.
- Later stage—quaternary sector develops, especially research and development.

Developed—e.g. London and Paris	Emerging—e.g. Mexico City and Mumbai	Developing e.g. Lagos
<ul style="list-style-type: none"> <li>• Usually have a broad range of jobs and industries:</li> <li>• Little if any primary industry</li> <li>• Secondary industries such as engineering and printing</li> <li>• Many tertiary industries such as tourism, education, finance, health and other services.</li> <li>• Quaternary industries such as ICT, media, consultation and culture, as well as top-level decision making.</li> </ul>	<ul style="list-style-type: none"> <li>• Little primary industry</li> <li>• Manufacturing that processes primary products, such as sugar refinery or heavy industry such as engineering.</li> <li>• Very large tertiary industries, including government administration, and service industries such as tourism, transport and entertainment.</li> <li>• Smaller quaternary sector, which is growing rapidly.</li> </ul>	<ul style="list-style-type: none"> <li>• Little primary industry</li> <li>• Secondary industry that often processes primary products, such as textiles, sugar refining and flour milling.</li> <li>• Very large tertiary industries, including government administration, and service industries such as tourism, transport and entertainment.</li> <li>• Small initial quaternary sector which is growing rapidly.</li> </ul>

<p><b>Key Terms</b></p> <p>Urbanisation Suburbanisation De-industrialisation Counter-urbanisation Regeneration CBD Accessibility Availability Planning Regulations</p>	<p><b>Cities change overtime and this is reflected in changing land use</b> (How population, distribution changes overtime, characteristics of urban areas)</p>	<p><u>Similarities and differences between developed, developing and emerging countries:</u></p> <ul style="list-style-type: none"> <li>• Similarities: Most cities have a CBD, have areas with industrial zones and are spread over a wide area. They have extensive suburbs They have issues with pollution and traffic congestion.</li> <li>• Differences: The zones of industry and housing are more distinct and separate in developed countries. In developing and emerging countries affluent areas are close to industrial zones or areas of squatter settlements. Most cities in developed countries do not have squatter settlements. Cities in emerging and developing countries have not experienced counter-urbanisation.</li> </ul>
<p><b>Questions</b></p> <ol style="list-style-type: none"> <li>1. Define urbanisation (2)</li> <li>2. Define regeneration (2)</li> <li>3. Explain how accessibility and cost influence urban land use (4)</li> <li>4. Explain some of the main factors that influence land use in a city (4)</li> </ol>	<p>The number of people living in a city, where they live within the city and how the city shapes itself all change over time. A city may go through each of the following stages:</p> <ul style="list-style-type: none"> <li>• Urbanisation—In the most developed countries, such as the UK and USA, urbanisation was linked to industrialisation. The industrial revolution and services such as railways, roads and a safe water supply attracted workers to the growing towns. As cities become urbanised, more factories were built and growing numbers of rural migrants arrived to fill the jobs that were created.</li> <li>• Suburbanisation—By the early 20th Century in developed countries, city centres had become noisy, crowded, polluted places. People who could afford to, moved out of the city centre to the new ‘suburbs’ on the edge of the city where land was cheaper and the air was cleaner.</li> <li>• De-industrialisation— The industry in the city begins to decline. Often this is the result of technological change, failure to invest or competition from other countries (outsourcing).</li> <li>• Counter-urbanisation—In the 1970s - 1980s, people in the UK, Europe, USA and Japan chose to leave larger towns and cities to move to more rural areas. This led to a pattern of population decline in inner city areas and population growth in small towns and villages. Counter-urbanisation was possible due to increased car ownership and motorway construction, this allowed people to commute to work. Progress in telecommunications and information technology also meant that people could work from home in remote villages.</li> <li>• Regeneration— Some older cities have started to redevelop their run-down inner-city areas in order to attract people to live close to the amenities of the city centre. New shopping centres, flats, houses and leisure facilities are built to give the city centre a facelift and attract businesses.</li> </ul>	<p><u>Why functional zones form in cities?</u></p> <p>The centre of a city is the most accessible part of the city. Most land uses that need access to lots of people, such as shops and offices, must locate near the most accessible part. So there is competition between land uses. This means the rent charges for the city centre are higher, therefore only those who can pay the high rents can afford to locate there. Shops and offices can afford this, other land uses like manufacturing and industry are found further away from the city centre where there is cheaper land.</p> <p><u>Land use zones</u></p> <p>The CBD has a range of high-end shops and tall office blocks, together with multi-storey car parks. Close to the CBD are usually the rail and bus terminals, as well as markets (wholesale and retail) and public buildings (town hall). These zones are recognised by the area’s warehouses. Industrial areas are usually further away from the CBD and are recognised by low factory buildings together with old canals and newer dual carriageways. Residential areas have extensive zones of houses with gardens and blocks of flats are away from the CBD.</p>
<p><u>Factors influencing land use:</u></p> <ul style="list-style-type: none"> <li>• Accessibility—Shops &amp; offices need to be accessible to as many people as possible and so are usually found in city centres, which have good transport links. Sometimes, the edge of the city is most accessible, often by motorway and this has led to the growth of out-of-town shopping centres, which are multi-use.</li> <li>• Availability— City centres tend to be heavily built up. The availability of land may also affect how land is used. When factories close, the brownfield site may be used for housing, shops and offices.</li> <li>• Cost— Land in the city centre is often very expensive due to a lack of availability. Some land-uses such as shops and offices, can afford to pay high rents.</li> <li>• Planning Regulation— Planning also affects land use patterns. Planners try to balance different, often competing for land. The city's authorities often decide how they want a city to look and develop and plan on what type of land use is permitted in certain areas.</li> </ul>		



**CASE STUDY—The location and context of Mumbai Megacity –influences, structure, growth & function**  
(Site, situation, connectivity, structure, functions)

Mumbai is India’s biggest city. It has a population of 12.5 million people living within the city limits, which makes it a megacity.

Mumbai’s site explains why people first settled here on a number of islands next to a safe harbour. Its situation explains why a small fishing village surrounded by mangrove swamps developed into a port city and an industrial city. It has a naturally deep harbour, accessible for container ships and it is located on the west coast of India, facing important regional markets such as the Middle East and international markets in Europe. The docks in Mumbai account for 25% of all India’s international trade. Mumbai is also well connected to the rest of India through extensive road and railway networks. This means people can easily travel to and from Mumbai across India.

Industrial history—Britain was important to Mumbai’s industrial development. In the 19th Century Britain imported cotton from India. This helped develop rail networks to Mumbai’s port. Britain then developed textile industries in Mumbai this led to population growth as people come from across the region to work in the factories. By the late 20th Century, Mumbai’s textile industries started to decline as did the port. However, other industries started to take its place such as banking. Banking has always been important in Mumbai and is one of the world’s most important financial centres as globalisation connected economies around the world. Many of India’s biggest companies moved their headquarters to Mumbai. Engineering, healthcare, pharmaceutical and IT industries grew fast. ‘Bollywood’, the Hindu-language film industry, also developed in Mumbai. Its importance as an entertainment and media centre makes Mumbai culturally significant in India today.

Site Problems– By the end of the 20th century, Mumbai’s population was growing very rapidly, fuelled by rural-urban migration. Mumbai could only expand North up its long narrow peninsula making it very crowded and unsanitary. In 1970 a proposal was made to develop a new suburb of Mumbai on the mainland. In 1980-90 the population of the island city of Mumbai declined slightly as New Mumbai expanded rapidly.



**Questions**

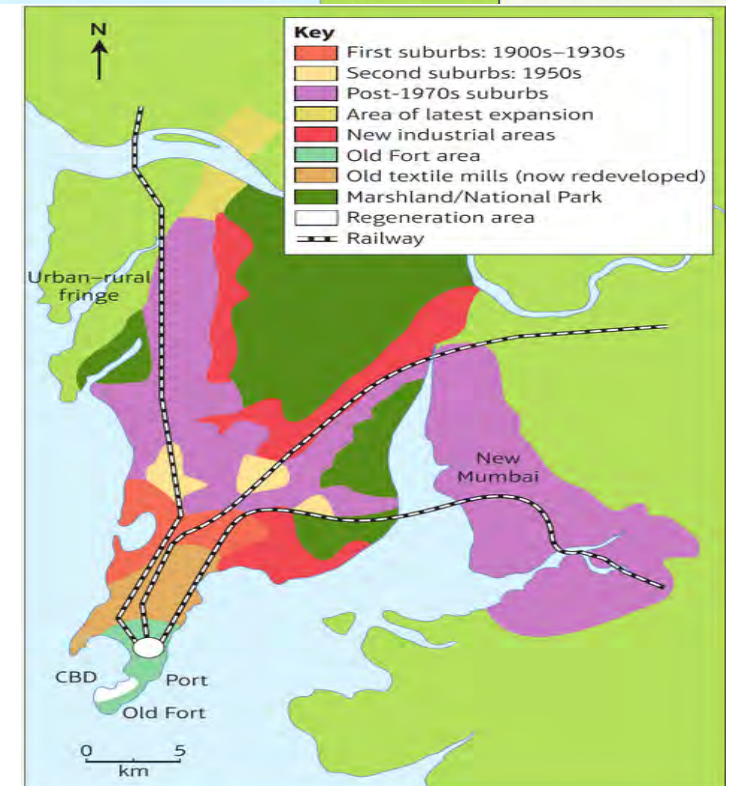
1. What are the two main factors that cause megacity growth in an emerging country like India? (2)
2. Explain the distribution of the slums across the city (4)
3. For a named megacity in a developing or emerging country, explain one way in which its location has affected its growth, function or structure (2)
4. Explain how Mumbai’s connectivity has fuelled the growth of its economy and population (4)
5. Explain the difference between Mumbai’s site and situation (4)

<b>Key Terms</b>
Site
Situation
Environmental factors
Structure
Function
Conurbation

**Environmental factors:**  
In the north of Mumbai’s peninsula is the Sanjay Gandhi National Park. This is the world’s largest park in a city (100km<sup>2</sup> forest) which attracts 2 million visitors a year. The park has a small population of tigers. It is located on high steep ground preventing urbanisation. Locals believe that it improves the air quality of the city.

## How has Mumbai's structure developed?

1. **Urban-rural fringe**— Mumbai's urban-rural fringe is hard to locate because it has spread out into a vast conurbation merging into other towns on the mainland with a population of 22 million people. Rural areas are generally found where the environmental factors around Mumbai mean the land is not suitable for building. For example: Marsh land, the National park area and floodplains.
2. **Outer suburbs**— This second area of suburbs was developed post-1970s as the settlement developed along the railway lines. This allowed commuters to travel into and out of the city every day. New industrial sectors have now developed along the railway networks as well. New Mumbai was planned as a low density suburb where lower land prices could create a better quality of life, with less congestion for the commuters. Due to the cheap land prices, more space to expand and availability of skilled worker's industries relocated to New Mumbai from the peninsula.
3. **City-Centre**—The oldest parts of Mumbai are at the Southern tip of the peninsula. The CBD is located here, centred on the old banking sector of the city. The headquarters of important companies are located here such as Bank of India, Bank of America, Cadbury India, Microsoft India, Tata, Volkswagen and Walt Disney. The old textile mills area has been redeveloped. The housing located here is extremely expensive due to its proximity to the CBD. Retail developments such as shopping malls are also found here. The port is still very economically active, as thousands of people work here and live in slum housing.
4. **Inner suburbs**— This area was developed to house workers in the old textile mill area. Most of this area is now characterised by squatter settlements and slums such as Dharavi, Asia's largest slum.



## DID YOU KNOW:

- Mumbai is India's economic powerhouse and a city that is important on a global scale.
- Mumbai generates more than 1/6 of India's GDP.
- 10% of all India's industrial jobs are located in Mumbai in a wide range of different industries.
- 40% of India's exports come from Mumbai and is India's top location for FDI.
- Mumbai has India's busiest international airport and India's 2 largest stock exchanges.
- There are 10 universities and many research centres specialising in IT and engineering.

### CASE STUDY—Mumbai is rapidly growing

(Reasons for population growth and how it has affected the pattern of spatial growth and changing urban functions and land use)

Mumbai's population has increased by more than 12 times in the last 100 years. After 1970 most of the growth was not in the old island city of Mumbai as this was already too congested. Instead the suburbs grew the most. Population density for the city is 20,962 people per Km<sup>2</sup> (one of the highest in the world). This makes living space very expensive and the city very congested. This means people and businesses try to relocate to less congested areas. They generally move along railways and road networks. Some rural-urban migrants have almost nothing, they can't afford to travel to work or afford rent. This leads to the development of slums, here the population density is very high, however the slums are close places where people can work and accommodation is cheap. Generally, slums are located next to expensive accommodation.

Megacity growth in an emerging country such as India is due to two main factors:

- National/ international migration - The boom in Mumbai's population growth from the 1970s onwards was fuelled by migration (mostly rural-urban migration) from the region and around Mumbai.
- Rates of natural increase - From 2001-2011 the population increased by 3.4 million in the conurbation as a whole, around half of this increase was due to migration into Mumbai and half due to natural increase. In the old city centre, natural increase added 750,000 to the population, however 250,000 moved out during this time. The suburban district population increased by over 1 million people, mostly due to internal migration.

#### Push Factors

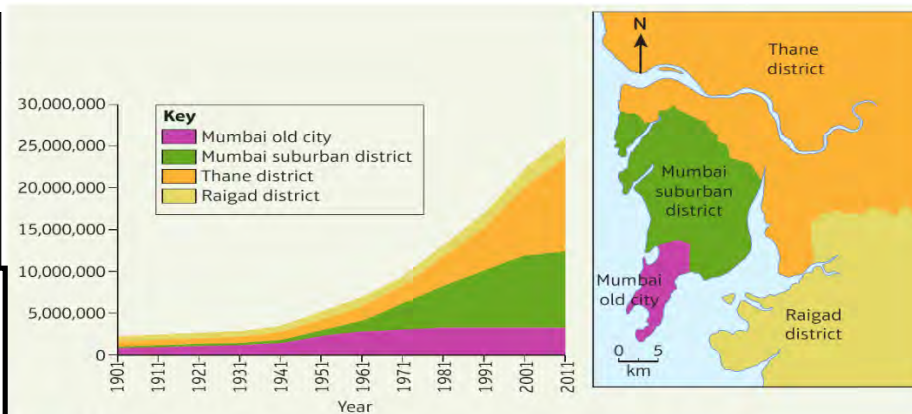
Difficult rural conditions  
Few services in rural India  
Lack of education and healthcare  
New farming techniques meaning fewer jobs

#### Pull factors

Huge range of jobs  
Education opportunities  
Range of healthcare options  
Wages are much higher

### CASE STUDY—Mumbai's population growth creates opportunities and challenges

(Opportunities, Challenges, Reasons for differing qualities of life)



#### Key Terms

Population density  
Natural increase  
Push and pull factors  
Economic growth

#### Questions

1. Identify one industry that has been important in Mumbai's development a megacity (1)
2. Explain the reasons for rural-urban migration (2)
3. Explain the reason for the population decline of Mumbai's old city in the last 10 years (4)
4. Explain the relationship between Mumbai's economic growth and its population growth (4)
5. Explain the push and pull factors affecting Mumbai's population growth (4)

#### Opportunities

The rise of the service sector— Jobs in manufacturing such as cotton manufacturing and car production is what encouraged rural-urban migration throughout the 20th century. By the 1980s these industries declined and Mumbai's economy switched to the service sector. Finance and IT services employed the most Mumbaikars. Foreign direct investment due to globalisation meant that IT and finance industries brought in more international migrants to live and work in Mumbai. Other service sector industries developed as well such as taxi driver services, cleaners, hairdressers, mechanics, waiters and street vendors. The main opportunity brought by urban growth is employment, especially for those living in rural regions. Even if the living standards are poor, the opportunities for work are so high it encourages many to move.

Dharavi industries—Dharavi is located between two major railway lines. It has a population of 1 million people in 1.5km<sup>2</sup> and is home to 5000 small-scale businesses and 15,000 single-room factories. These businesses provide £350 million per year. This is a result of poor people creating their own opportunities as they cannot afford Mumbai rent outside the slums.

Infrastructure benefits—Even when people live in slums like Dharavi, megacities provide many services and resources that cannot be found in rural regions. Such as electricity, schools and hospitals. 6million people live in slums in Mumbai (40% of the population). More than 1 million Mumbaikars earn less than £10 a month. However, media companies realise they can still earn profits from poorer people by charging them £1-2 a month for TV access.

## Challenges

- **Rapid expansion**—Population growth has occurred faster than services can develop. This has created challenges such as reliable electricity supplies and adequate water supplies. As well as this it has created huge pollution issues as the government struggles to organise waste disposal. There are an estimated 800 million tonnes of untreated sewage in the river.
- **Traffic congestion**— There are over 1.8 million cars in Mumbai due to a rapid rise in private cars. Roads are often gridlocked. 90% locals travel by rail rather than car; however, this has strained the railways (8 million travel on the suburban lines each day).
- **Housing**—Finding affordable housing is extremely hard due to limited space. As the city spreads so does the population and density. There are 2 main types of housing in Mumbai. One type is Chawls (old tenement buildings over 100 years old) They are very overcrowded and aren't maintained. The second type is Squatter settlements: this is when people put up market huts on land owned by other people or the government. The poorest people live on the streets, under bridges and on sidewalks. Sometimes it is temporary but for others it's a way of life. Some business owners try and charge people for sleeping on their pavement. Over 20,000 live this way.
- **Living with slums**—People live in slum conditions as they can get to work easily and rent is cheaper. However as squatter settlements are not official government or council locations the government doesn't have to provide them with infrastructure or services. This provides many problems such as: lack of adequate water (generally there are stand pipes which only give out water from 5.30am to 7.30am), sanitation issues (there are no sewage systems so people defecate in the streets, streams and rivers that run through the settlement. When there is a latrine more than 500 people could share the same toilet at a price). Another issue with a lack of fresh clean water is that families have to clean in the rivers and streams they pollute. A big issue for Mumbaikars is the value of the land as the government and businesses have started clearing squatter settlements for property developments and new businesses. The government wants to provide better services, infrastructure and facilities for locals and businesses. However, when the homes are cleared families are made homeless.
- **Working conditions**—Most employment is in the informal sector, this means there is no protection for workers. The working conditions are generally very poor with limited light, workspace, breaks, ventilation. Toxic fumes can fill factories; work can be dangerous for little pay.

Quality of life (QOL)—is measured according to different factors such as wages, how people feel, services. There is no standard way to measure quality of life which can make it difficult to compare cities and countries quality of life. QOL in megacities is generally measured according to: level of air and water pollution, transport congestion rates, access to healthcare and education, crime levels, access to affordable housing, sanitation, quality of government services and income.

QOL in Mumbai— Although this city is globally important it lacks a good QOL. Other emerging Asian countries have much better QOL in terms of housing, pollution, healthcare and sanitation. Given Mumbai's great wealth and FDI its quality of life makes it a difficult place to live and work. There are 3 main problems for Mumbai. Problem 1 is the government is inefficient and bureaucratic which means it takes a long time for infrastructure improvements to be approved. Problem 2 is most of Mumbai's properties are rent-controlled, meaning there is a limit to how high rents can be. This discourages property owners from improving their residencies and redeveloping. The 3rd problem is corruption. The areas that were meant to be redeveloped into affordable housing such as the old textile mills were sold to property developers who built expensive apartments that only the rich can afford.

**Mumbai differences in QOL**— Approximately 40% of Mumbai's population live in squatter settlements, 20% live in Chawls, 10% on the streets and 30% or less who live in apartment buildings, flats or bungalows. Over 60% of the population work in the informal sector, meaning they can only afford to live in Chawls or squatter settlements. Generally, the slums are located next to areas with good QOL.

**Reasons for differences in QOL**—The main reason is due to rapid expansion. Other reasons are that to improve access to affordable housing, more houses will need to be built, however more money can be made by building expensive apartments. A second reason is to improve working conditions in the informal economy new laws and regulations will need to be put into place. Thirdly to improve access to services, the city government would need to incentivise more companies to provide services in poorer areas.

**Political and economic challenges of managing Mumbai**—To improve QOL difficult economic and political decisions have to be made such as whether to clear slums for development, traffic congestion is a huge issue, however it is too expensive to improve and the government gets no taxes from the informal sector, which the government could use to improve QOL however it would be hard to change as locals would feel they are losing money.



Key Terms	Questions
Service sector	Explain how population growth has created opportunities for the majority of Mumbai's residents (4)
Globalisation	For a named megacity in a developing/ emerging country, explain two reasons why rapid population growth has led to problems with traffic congestion
Quality of life	Explain how population growth has led to challenges for Mumbai's residents (4)
Congestion	Explain the relationship between rapid urban growth and urban inequality (4)

**CASE STUDY—Quality of life can be improved through different strategies**

(Sustainable, Bottom-up, Top-down)

What are sustainable cities?

A city that provides a good quality of life for all its residents without using up resources in a way which would mean future generations would have a lower quality of life. In a sustainable city there would be good public transport systems to reduce congestion and improve air quality, waste would be recycled, the residents would be energy efficient so less pollution is made. Everyone would have access to good services such as healthcare and education as well as affordable housing.

Top down strategies to improve quality of life

These are big, expensive infrastructure projects generally developed and managed by governments. There would be multi-billion dollar funds city governments can access to pay for the projects. They are known as top down as they are generally imposed on the people by the government.

The Mumbai Monorail

The government decided in 2005 that a mono-rail would be a good solution to traffic congestion.

Advantages

- Reduces the amount of traffic on the roads making them safer
- Constructed over built up areas without having to clear any roads/land.
- Carries passengers quickly and easily moves around the landscape
- Government created a public-private partnership by 2008 with foreign engineering companies who provided their expertise.
- Tickets are cheap (11 rupees per person –10p),

Disadvantages:

- Construction began in 2009 with a deadline of 2011 - only opened in 2014.
- The cost of the 1st section was £310 million.
- Number of passengers has been lower than expected - Only 15,000 each day
- Mainly used by tourists due to its location away from the main city.

The Gorai Garbage Site Closure Project

From 1972-2007 over 1200 tonnes of Mumbai's solid waste was deposited at the Gorai landfill site every day. It was a 20-hectare site in the north of the peninsula which is close to residential areas. By 2007 the waste was 27m deep and emitting methane. Toxic runoff was leaching into the nearby lake and polluting the local water supply. In 2007 the supreme court ruled that it must be improved for residents. The government made a plan and implemented it within 2 years. The site was reshaped into a hill, lined with material to prevent leaching and planted with grasses to create a 19-hectare park. Methane capture technology has also been used to generate electricity cheaply for local residents. In 2014, the site was awarded a prize for sustainable urban development. It was a very expensive project.



## Bottom-up strategies

Organisations work with local residents to create community based projects to improve the quality of life for residents. Most of the organisations are non-governmental

### SPARC and community toilet blocks

Government toilet blocks that were provided charged individuals for each use, meaning they were too expensive for most families. The design of the toilets was also very poor, without running water and no employees cleaning them. An Indian NGO called SPARC works with communities to build new toilet blocks that are connected to city sewers and water supplies. Locals help to construct the toilet block and families from the community can purchase monthly permits for 25 rupees (25p) which is much cheaper than the government owned. Once they have a permit they can use the toilets as much as they want. The toilets have electric lights making them safer and separate toilets for children. In 5 years, 800 toilet blocks each with 8 toilets have been created. Although some argue it should be the government's responsibility to provide toilets not NGOs.

### Hamara foundation

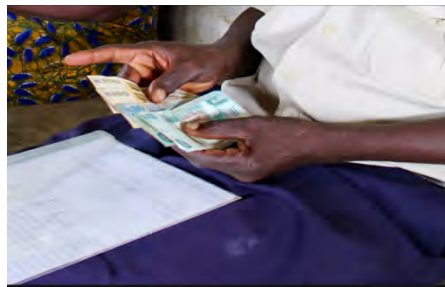
There is over 200,000 street children in Mumbai that have dropped out of school. Police force them to move from any shelters they have created as some street children steal and take drugs. The Hamara foundation creates social-work services for these children to help them get an education, improve their health and give them job skills. Between 2013-2014 327 children were supported by the foundation. This foundation also provides vocational training for 16-18 year olds in computing, mechanics and hospitality. The issue is not many children are being helped.

### Agora Microfinance India

Squatter settlement residents usually struggle to have a bank account or get loans as they don't earn enough money. Microfinance is a banking service that helps provide microfinance (small loans—mainly for women) to slum residents to start businesses, improve their homes. There are also education loans available for people who want to take classes. Group loans allow people to take a loan together. Individuals can get a loan of up to £300 with an interest rate of 25%, paid in weekly instalments. Before a loan is given, a guarantor has to agree to pay the company £150 if the loan is not repaid.

## Improving Dharavi's QOL

The location of Dharavi is said to be worth US\$10 billion as it is close to the Bandra-Kurla Complex (a new business district), two railway networks and the main airport. The city government is eager to use top-down strategies by selling the land to developers on the understanding that free housing is provided for the slum dwellers whose houses have to be cleared. The catch is that they have to have proof that they have lived in Dharavi since 2000. The redevelopment scheme aims to build 1.1million low cost, affordable housing, provide water and sanitation services for residents and provide education and healthcare services as well as retail and leisure services. However, the residents are extremely opposed to the plans. They are concerned that it would not be possible for them to run their small-scale businesses and micro-industries such as pottery and mechanics in apartment blocks. As well as this the new housing blocks would destroy the strong community bonds creating social issues and more crime.



## Questions

1. For a named megacity in a developing or emerging country, evaluate whether bottom-up solutions can improve the quality of life for residents (8)
2. Explain one top-down method in your chosen megacity to improve quality of life (4)
3. Explain the difference between a top-down and bottom-up strategy (4)
4. Assess which is more appropriate to improve water supply, transport services and air quality—top down or bottom-up and why? (8)

## **Key Terms**

Sustainable  
Top-down  
Bottom-up  
Microfinance  
Advantages  
Disadvantages

