Topic 3 Contemporary urban environments

Urbanisation

Urban growth and change are global processes that increasingly pose environmental and social challenges for humanity. Whether places are experiencing urbanisation, suburbanisation, counter-urbanisation, or urban resurgence, issues in urban areas and environmental sustainability and social cohesion will become increasingly important in the twenty-first century. Contrasting urban settings illustrate the diversity of humanity and highlight global differences in opportunity, equity and sustainability experienced in different places.

Practice questions ?

1 Define the term urbanisation.

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2 Analyse the levels of urbanisation in different parts of the world as shown in Table 3.1.

Table 3.1 Levels of urbanisation around the world, 2019

Region	Percentage of people living in urban areas
Africa	43%
Asia	51%
Europe	75%
Latin America and Caribbean	81%
North America	82%
Oceania	68%
World average	56%

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3 What are the main causes of urbanisation around the world?

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4   Figure 3.1 shows the processes of suburbanisation, counter-urbanisation and urban resurgence. For each process, identify the main causes, characteristics and effects.
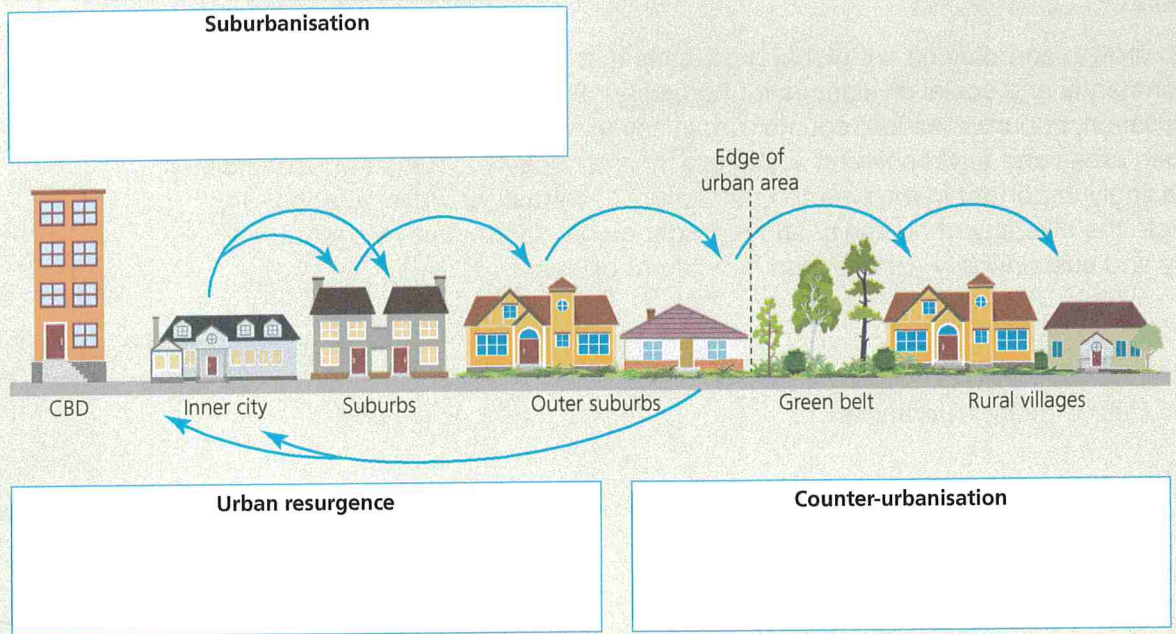
Suburbanisation

Edge of urban area

CBD   Inner city   Suburbs   Outer suburbs   Green belt   Rural villages

Urban resurgence

Counter-urbanisation

Figure 3.1 Diagram showing urban processes: movements of people, housing and infrastructure in and around urban settlements

5   What is a megacity?

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6   Assess the role of megacities and world cities in global and regional economies.

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7   Explain what is meant by decentralisation.

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8 Figure 3.2 shows information about the changing employment in the UK, 1920 to 2016.

Key
- Primary sector
- Manufacturing
- Construction
- Transport, storage information and communication
- Retail and wholesale distribution
- Insurance, banking and finance
- Public administration and defence
- Professional scientific and technical services (including education and health)
- Miscellaneous services including hotels and catering
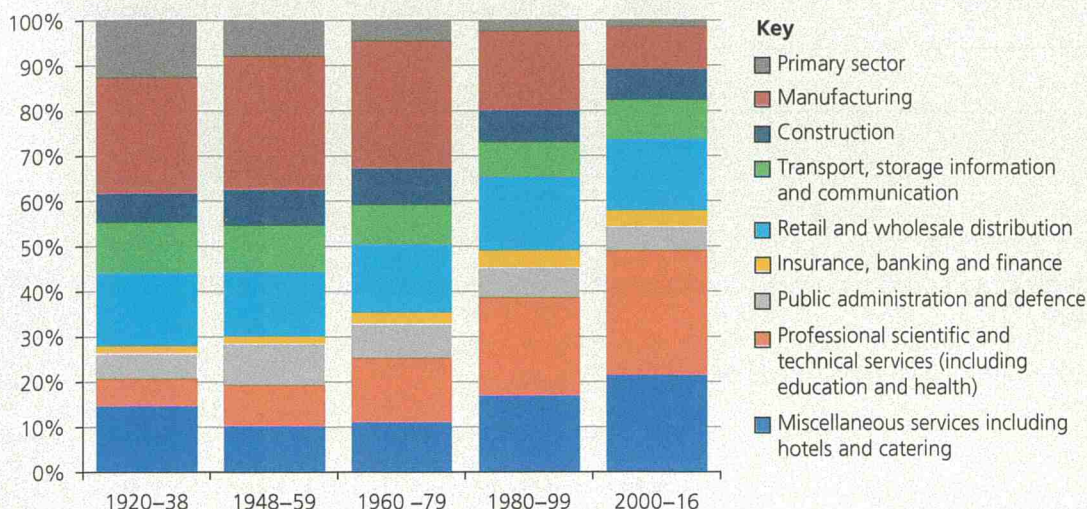
Figure 3.2 Changing employment structure in the UK, 1920 to 2016

Analyse the information shown in Figure 3.2.

Worked example

Figure 3.2 shows that there has been significant change in employment in the UK. In 1920 the primary and manufacturing sectors dominated, accounting for almost two-fifths of the workforce, while in 2016 professional and technical services and other services dominated, accounting for almost half of workers. Financial services still account for the smallest sector of the workforce, however the proportion of workers in the sector has more than doubled. The proportion in professional services is now about five times larger than it was. The sectors that have had the smallest changes to their proportions of workers are construction, transport and communication, and retail. Together they accounted for just over one-third of the workforce in 1920 and just under one-third in 2016. The sector that has shrunk the most as a proportion of the workforce is the primary sector, with its contribution now about the one-tenth of what it was. There is some fluctuation between the sectors before and after the Second World War. For example, miscellaneous services and retail had a larger share pre-war; this decreased immediately post-war, then both increased as a share of jobs for the rest of the time period.

> AO3: This starts well and identifies the most significant change in the data, supported with clear use and manipulation of the data.

> AO3: Again, clear changes and patterns are recognised. There is good understanding of the nature of the data and that it deals with percentages and proportions and not whole numbers. Points are supported with clear manipulation of the data.

> AO3: Again, there is quite sophisticated use of the graph and understanding of the complexity of it. Points are supported with clear use of data. The temptation to explain the data in this skills question is resisted.

9 Analyse the relationship between deindustrialisation and the rise of the service economy and assess the impact of these two processes on urban areas.

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10 With reference to specific policies, evaluate urban regeneration strategies in Britain since 1979.

Write your answer on a separate sheet of paper.

Urban forms
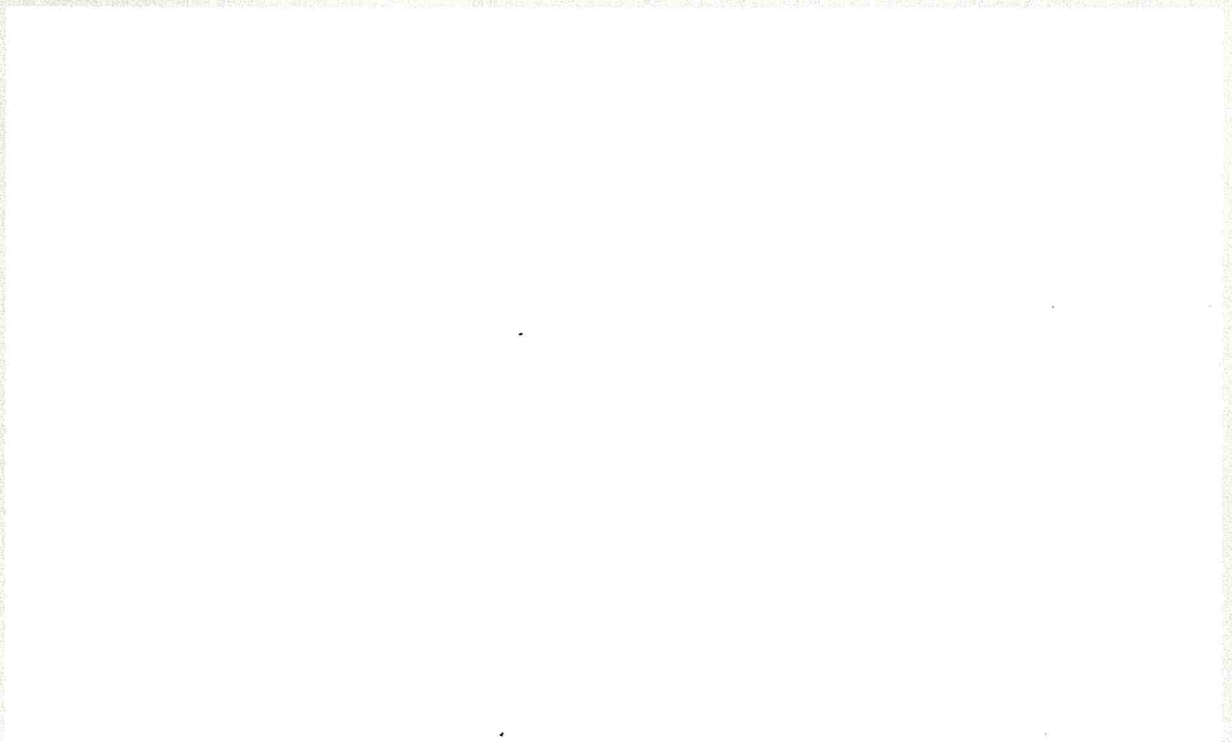
Urban form refers to the physical features that characterise built-up areas, including the shape, size, density and configuration of land use in urban settlements.

New urban landscapes have developed over the last 50 years.

Urban morphology and land use have changed significantly as a result of economic and social forces and political intervention. This is typified in the UK where many city centres have experienced decline because of the decentralisation of residential and business areas and the growth of out-of-town retail, business and industrial parks. Strategies have been introduced by central and local government to reverse this decline.

11 In the space below draw two models of urban morphology, one representing more developed cities and one more typical of less developed cities.

12 Compare the characteristics of cities in high income countries with those in developing parts of the world.

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13 With reference to examples, analyse the physical and human factors that have shaped the spatial patterns of land use, segregation and diversity in contrasting urban areas.

Write your answer on a separate sheet of paper.

14 For each of the **new urban landscapes** complete Table 3.2 to describe their characteristics and give reasons for their development.

Table 3.2

	Characteristics	Reasons for development
Town centre mixed developments	....	....
Cultural and heritage quarters	....	....
Fortress developments	....	....
Gentrified areas	....	....
Edge cities	....	....

15 Identify some of the key features expected to be seen in a post-modern Western city.

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16 Assess the role globalisation has played in the deindustrialisation of some urban areas.

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Social and economic issues associated with urbanisation

Urbanisation has given rise to a wide range of issues in different settings. The key social and economic issues associated with urbanisation are poverty and **economic inequality** leading to deprivation, **social segregation** and **cultural diversity**. In most countries urban areas attract newcomers as they generally provide the most skilled, highest-paid jobs and access to the widest range of public services, including education and healthcare. However, the vast majority of employment is often unskilled, unregulated and very poorly paid, with workers then only able to afford the worst quality of housing.

Practice questions ?

17 Explain why economic inequality exists as a key issue in many different urban areas.

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18 Analyse either social segregation **or** cultural diversity as an issue in contrasting urban areas.

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19 Table 3.3 has data on life expectancy and unemployment for each of the wards in Cambridge and Oxford from the 2011 census. Standard deviation has been calculated for both variables in both cities.

Table 3.3 Data on life expectancy and unemployment from the 2011 census

Oxford wards	Life expectancy (years)	Unemployed (%)
Barton and Sandhills	76.0	8.0
Blackbird Leys	75.9	11.9
Carfax	71.6	9.7
Churchill	75.9	12.1
Cowley	76.4	6.0
Cowley Marsh	80.0	7.3
Headington	76.5	5.0
Headington Hill and Northway	81.0	9.7
Hinksey Park	78.9	6.1
Holywell/St Mary's	76.1	7.3
Iffley Fields	77.4	7.2
Jericho and Osney	79.4	4.5
Littlemore	77.6	6.5
Lye Valley	81.3	6.3
Marston	82.5	4.3
North	87.0	4.9
Northfield Brook	75.2	10.4
Quarry & Risinghurst	80.1	4.5
Rose Hill and Iffley	79.6	8.1
St Clement's	80.8	7.8
St Margaret's	85.2	3.6
Summertown	81.0	4.9
Wolvercote	82.0	4.7

Cambridge wards	Life expectancy (years)	Unemployed (%)
Abbey	79.8	3.8
Arbury	79.6	4.4
Castle	83.0	0.9
Cherry Hinton	80.8	3.3
Coleridge	77.4	2.4
East Chesterton	76.9	3.7
King's Hedges	76.4	4.8
Market	81.3	1.2
Newnham	84.1	0.9
Petersfield	84.6	2.3
Queen Edith's	83.9	1.7
Romsey	78.7	2.2
Trumpington	80.8	3.2
West Chesterton	80.6	3.2

Cambridge	Life expectancy	Unemployed
Mean	80.6	2.7
Standard deviation	2.6	1.2

Oxford	Life expectancy	Unemployed
Mean	79.0	7.0
Standard deviation	3.4	2.4

a   Analyse the information about life expectancy and unemployment in the two cities.

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b   Assess the extent to which any of the data highlight issues of inequality.

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20 Summarise a range of strategies that can be used to manage economic inequality and social segregation in urban areas.

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Urban climate

Urban areas create their own weather patterns and a distinct localised climate known as an urban microclimate. The most well-known feature is the urban heat island effect, but urban areas also affect the nature of local precipitation, visibility and wind. Air quality is also often poor in many towns and cities. Particulate matter and photochemical smog are particular problems associated with urban environments.

21 Define what is meant by microclimate.

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22 Describe the impact that the urban area has on temperatures compared to surrounding rural areas.

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23 Figure 3.3 is an **isotherm** map showing data collected during an investigation into the urban heat island effect in London during the summer of 2000.
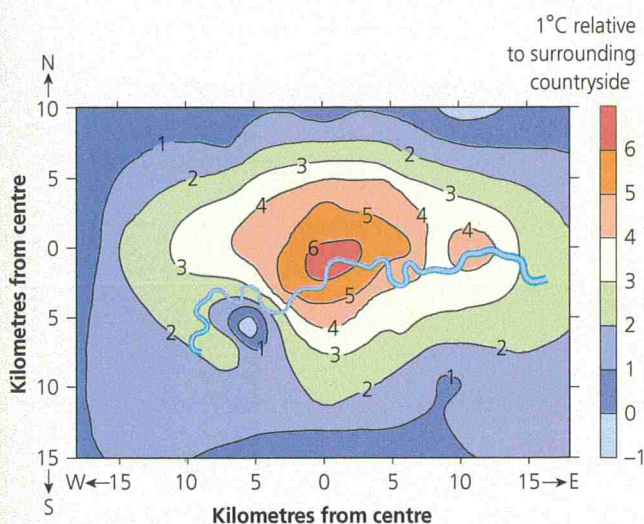
Analyse the information shown in Figure 3.3.

1°C relative to surrounding countryside

Figure 3.3 Isotherm map

Worked example

Figure 3.3 shows that there was a significant difference between the temperature in the centre of the city compared to the surrounding countryside. The centre of the city reached 6–7°C higher. There is a generally concentric pattern of temperature difference with temperature decrease radiating out from the centre. However, this pattern is more elliptical than round, as the impact of the city extends further east to west than it does north to south. The impact of the city extends over 30 km east to west, but only about 25 km north to south. The temperature difference extends furthest eastwards, with temperatures still 2°C higher at almost 20 km from the centre. The east to west axis seems to follow the course of the river. There are two anomalies to the pattern above: the 1 to 2 km diameter area about 5 km southwest of the centre that is up to 1°C cooler than the surroundings, and a larger area about 10 km east of the centre that is over 4°C warmer than its surroundings.

AO3: A good start giving a clear statement that is obviously using the figure. The support shows understanding of how the key and isoline map works, i.e. the city centre cannot be more than 7°C higher or there would be another isoline.

AO3: Sophisticated language is used to identify the general pattern.

AO3: Again, recognised pattern of spatial distribution, but evidences map skills, with clear use of scale, direction and the key. As this is a skills question it avoids the temptation to provide any explanation.

AO3: The final statement identifies obvious anomalies supported with clear reference to the map. It avoids the temptation to explain in this skills question.

24 In Table 3.4 outline the reasons for increased frequency and intensity of precipitation, thunderstorms and fogs in urban environments.

Table 3.4 Increased frequency and intensity of weather phenomena in urban areas

Weather type	Reasons for increased frequency and intensity in urban areas
Precipitation	
Thunderstorms	
Fog	

25 Examine the effects of urban structures on wind speed, direction and frequency.

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Urban drainage

Urban areas have very different patterns of precipitation, land surfaces and catchment characteristics to *natural* drainage basins. Therefore, urban areas have significant impact on drainage basin stores and other elements of the urban water cycle. Many issues arise from managing urban catchments; these have led to the development of sustainable urban drainage systems (SUDS). Historically, rivers in urban areas have been managed poorly and many damaged urban catchments are now receiving river restoration and conservation.

Practice questions ❓

26 a Contrast the surface and catchment characteristics of an urban drainage area with those of a rural area.

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b Explain the effects of the catchment characteristics and water usage in urban areas on the urban water cycle.

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27 Explain the meaning of 'sustainable urban drainage systems' (SUDS) and suggest methods using SUDS to manage urban catchment areas.

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28 a Explain what is meant by river restoration.

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b Summarise the reasons for and aims of a river restoration project you have studied.

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Urban waste and its disposal

Waste generation and its disposal causes problems for local authorities. The problems are predicted to intensify as global waste levels will continue to increase.

The relationship between levels of waste and economic development is very important. Individual lifestyles and consumer attitudes are key factors in determining levels of waste. Rapid population growth in low income countries will increase waste generation. However, the waste produced per person in high income countries is much higher. The amount of waste produced by society is more a function of its wealth and level of consumerism than of its population size. There are alternative approaches to waste management.

Practice questions ?

29 Figure 3.4 shows levels of waste generation related to countries in different income groups.

Urban population/millions	207	359	710	1,196	1,688	2,524	1,693	2,069	2,304	961	1,020	1,139
Waste/kg per capita per day	0.40	0.43	0.56	0.53	0.83	0.79	0.69	0.83	0.99	1.58	1.71	1.87
Country income group	Lower income			Lower middle income			Upper middle income			High income		

Key
- 2016
- Projected 2030
- Projected 2050
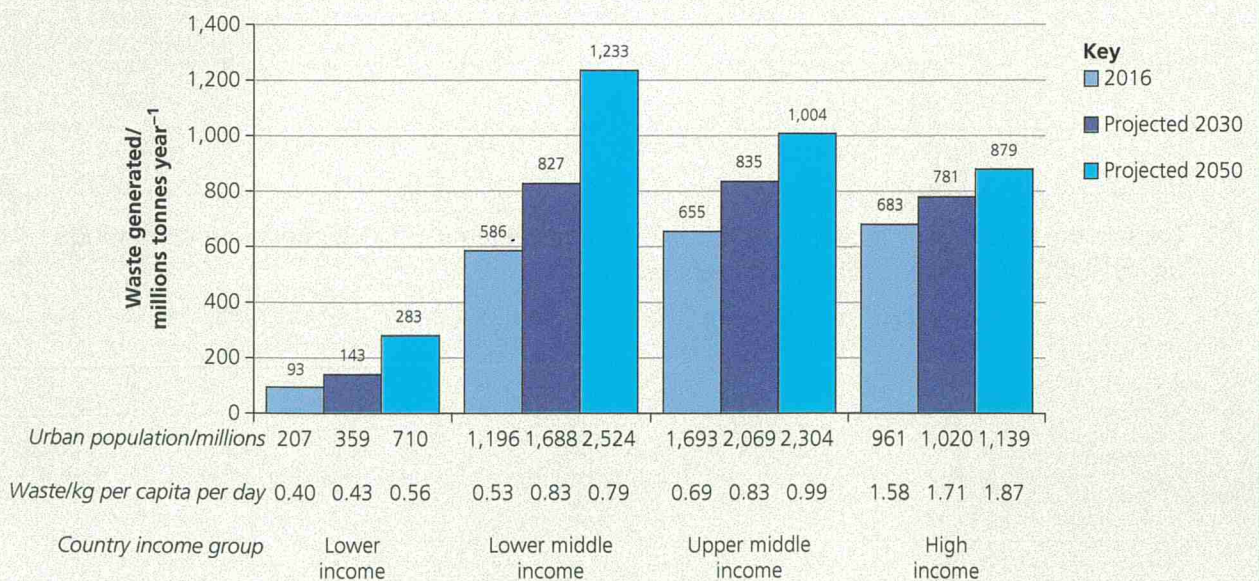
Figure 3.4 Trends in income and waste generation

Analyse the trends in waste generation shown in Figure 3.4.

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30 Figure 3.5 shows a a hierarchy of different approaches to waste management. In the space on the right, outline what each approach involves and why some waste management methods are preferred and encouraged while others are discouraged.

Figure 3.5 Waste management hierarchy

31 With reference to a specific urban area, compare the advantages and disadvantages of waste incineration with those of using landfill to dispose of waste.

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Other contemporary urban environmental issues

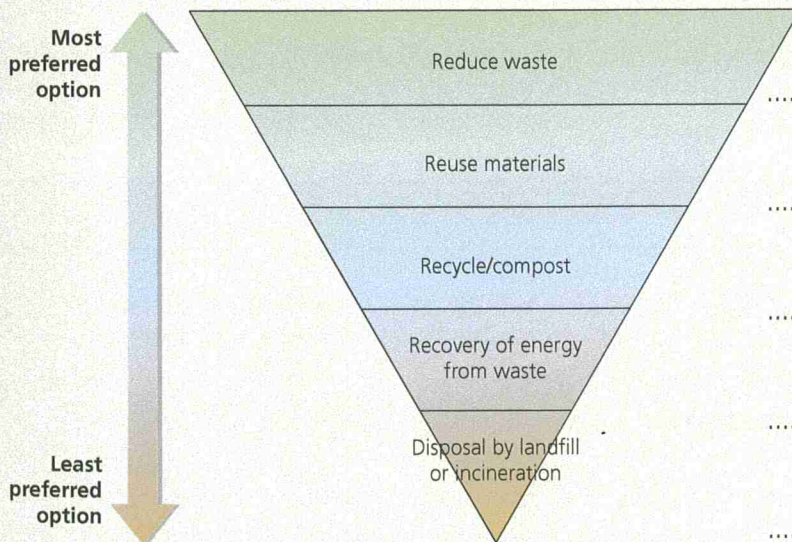As the majority of the world's population lives in urban areas, with the proportion set to increase further, urban areas are likely to experience increasing environmental problems. As all urban areas are unique, the nature of the atmospheric pollution, water pollution and dereliction experienced will differ city by city. Each urban area will have to develop strategies to manage these problems if people are to be able to continue living there successfully.

32 Explain why dereliction is an issue in some urban areas.

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33 Examine the causes and consequences of water pollution.

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34 Figure 3.6 shows information about the number of times nitrogen dioxide levels exceeded legal limits at monitoring sites in each region of the UK and the percentage of the UK's cars that are registered in that region in 2018.
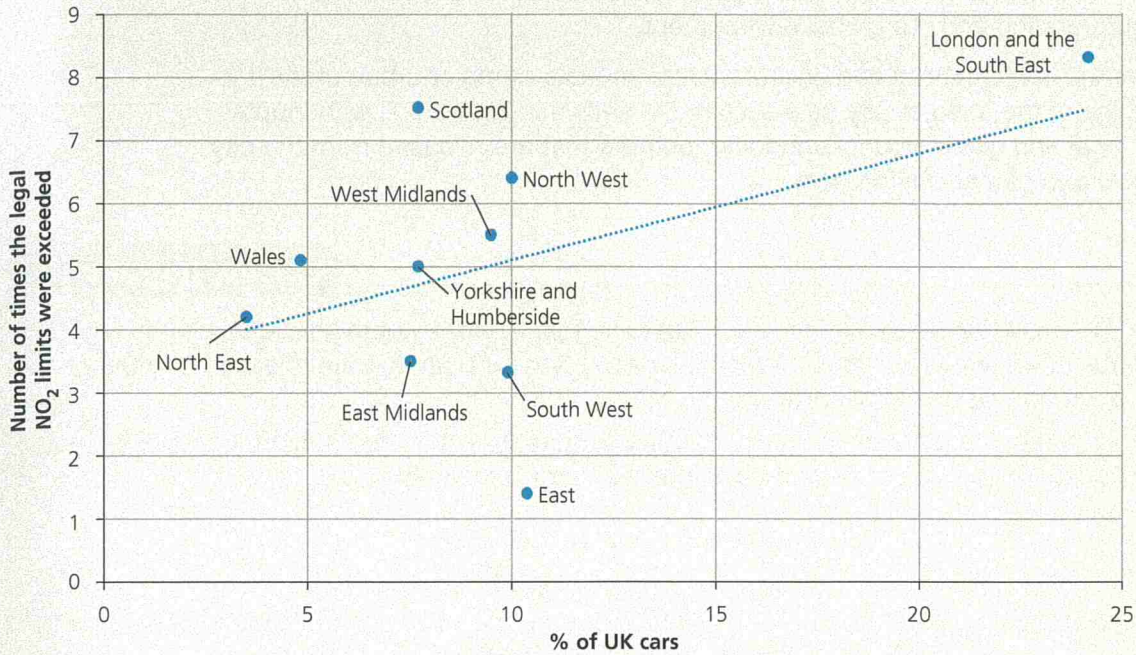
Figure 3.6 The number of times nitrogen dioxide levels exceeded legal limits at monitoring sites in each region of the UK and the percentage of the UK's cars registered in that region in 2018

Analyse the information shown in Figure 3.6.

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35 Discuss the strategies used to manage the problems of air pollution **or** water pollution **or** dereliction in urban environments.

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Sustainable urban development

A **sustainable urban environment** is one providing employment, a high quality of life, a clean, healthy environment and fair governance for all its citizens both now and in the future. It will have a low **ecological footprint** and reduced impact on both the surrounding and the global environment.

To consider the sustainability and environmental impacts of major urban areas it is useful to think of the town or city as a system (as shown in Figure 3.7) with inputs from both local and global sources and with outputs that are released from the city into the local and global environment.

36 a Annotate the diagram in Figure 3.7(a) to suggest inputs that might be taken into the urban area from local or global sources and outputs that are released into the surrounding or global environment.

  b Annotate the diagram in Figure 3.7(b) to suggest how the inputs might be adjusted and to outline the loops out and back into the more sustainable city.

(a) Unsustainable city/urban environment

Inputs → Urban area/ megacity → Outputs

(b) More sustainable city/urban environment

Inputs → Green or eco-city → Outputs → Reduced outputs
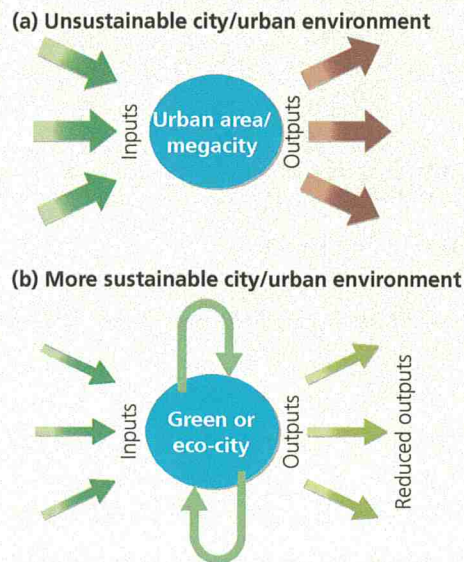
Figure 3.7 The urban area as a system

37 Explain what is meant by the concept of liveability.

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38 Explain what is meant by the term ecological footprint.

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39 With reference to examples, assess the strategies that are used to develop more sustainable cities.

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40 Suggest how urban areas could have an increasingly negative impact on the water and carbon cycles in the future.

Write your answer on a separate sheet of paper.

Exam-style questions ?

Exam-style set 1

1 Outline reasons for urban resurgence. (AO1)   **4 marks** ⏱ **5**

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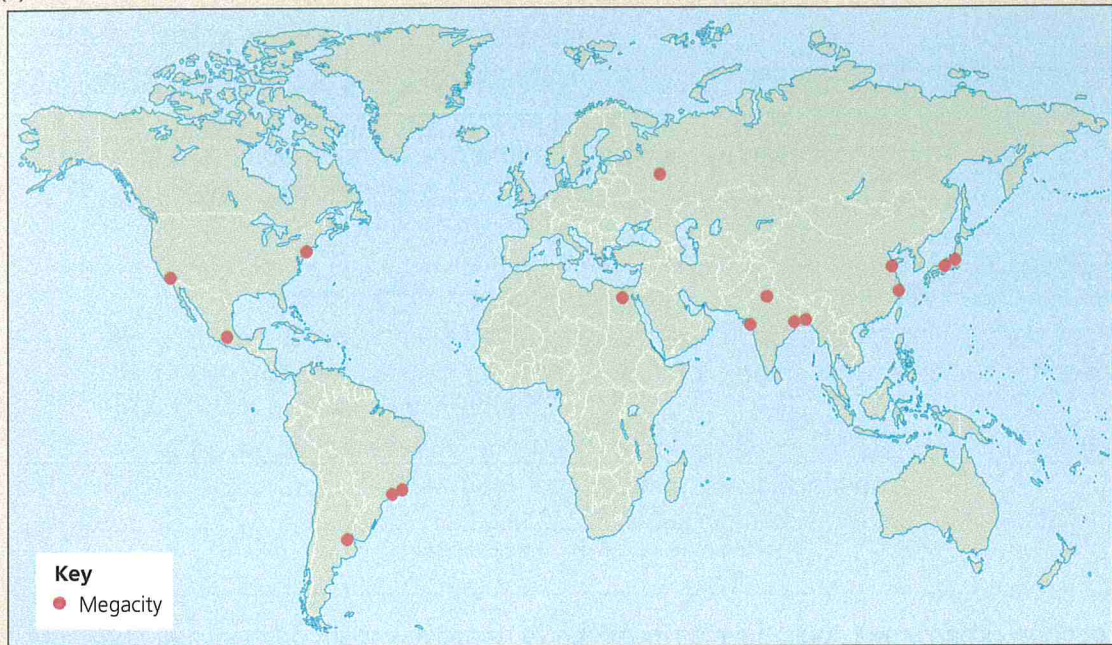
2 Figure 3.8 shows information about the distribution of megacities in 2000 and 2035 (predicted).

(a) 2000

Key
● Megacity

(b) 2035

Key
● Megacity
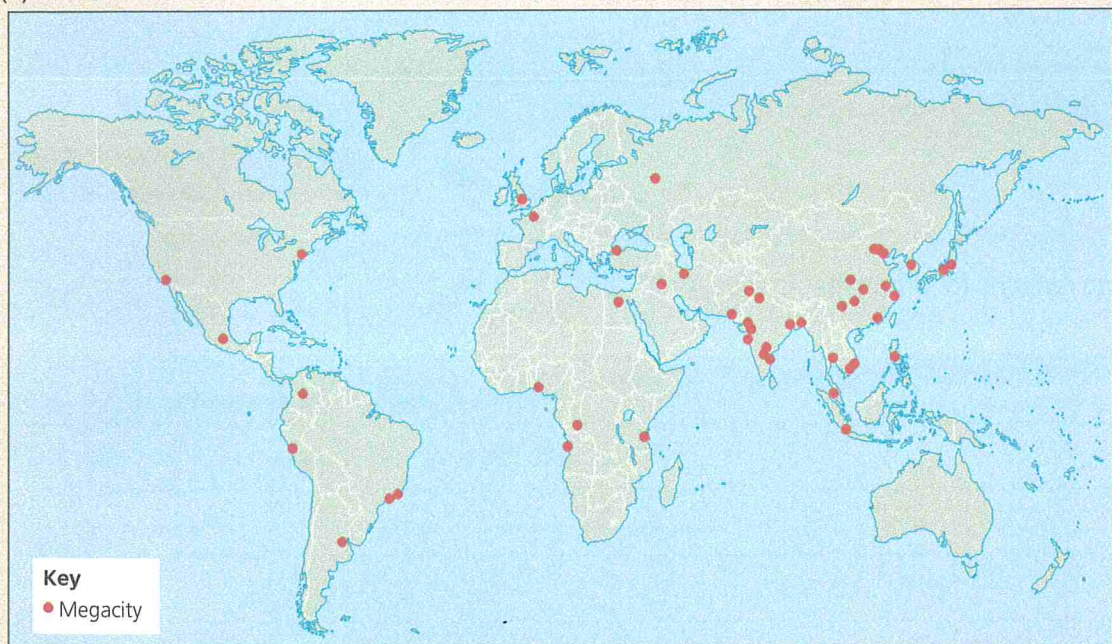
Figure 3.8 Distribution of megacities in 2000 and 2035 (predicted)

Analyse the data shown in Figure 3.8. (AO3)

6 marks

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3 Figure 3.9 shows information about the waste disposal methods used in countries at different levels of economic development.
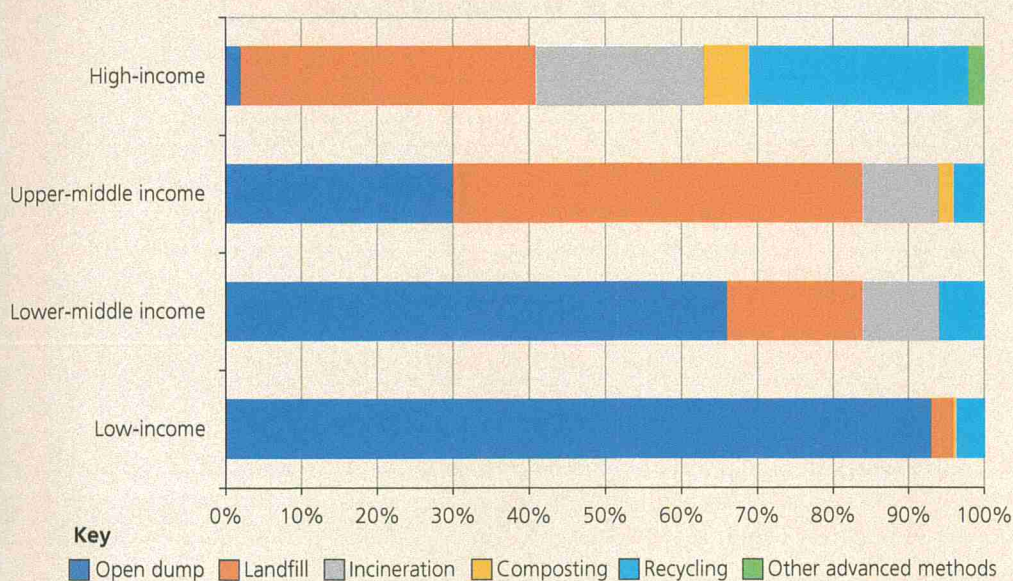

Figure 3.9 Waste disposal methods used in countries at different levels of economic development

Using Figure 3.9 and your own knowledge assess the extent to which economic development affects waste management. (AO1, AO2)

9 marks

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4 Assess the impacts of deindustrialisation on urban areas. (AO1, AO2)

⏱ 11

9 marks

5 'River restoration and conservation in damaged urban catchments will enhance environmental quality as well as improve urban drainage.'

With reference to a project you have studied how much do you agree with this view? (AO1, AO2)

20 marks

Write your answer on a separate sheet of paper.

Exam-style set 2

1 Summarise the features of counter-urbanisation. (AO1)

4 marks

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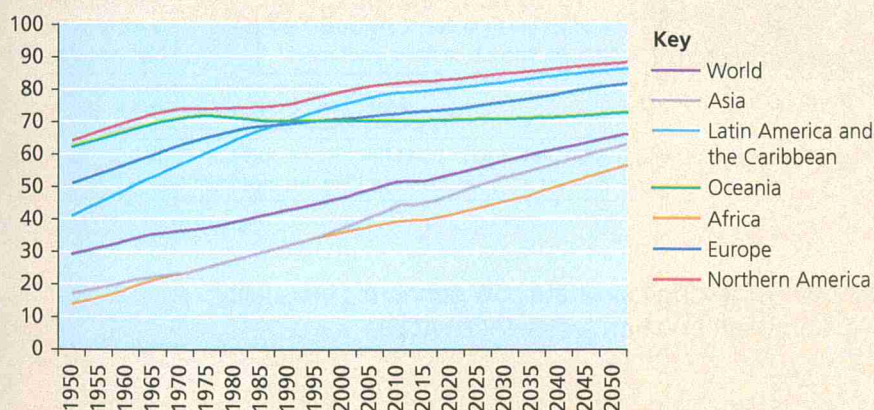**2** Figure 3.10 shows information about levels of urbanisation in different continents, 1950–2050 (predicted).

Key
— World
— Asia
— Latin America and the Caribbean
— Oceania
— Africa
— Europe
— Northern America

Figure 3.10 Levels of urbanisation in different continents, 1950–2050 (predicted)

Analyse the data shown in Figure 3.10. (AO3)

6 marks

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3 Figure 3.11 shows information about socioeconomic characteristics of different areas of London.

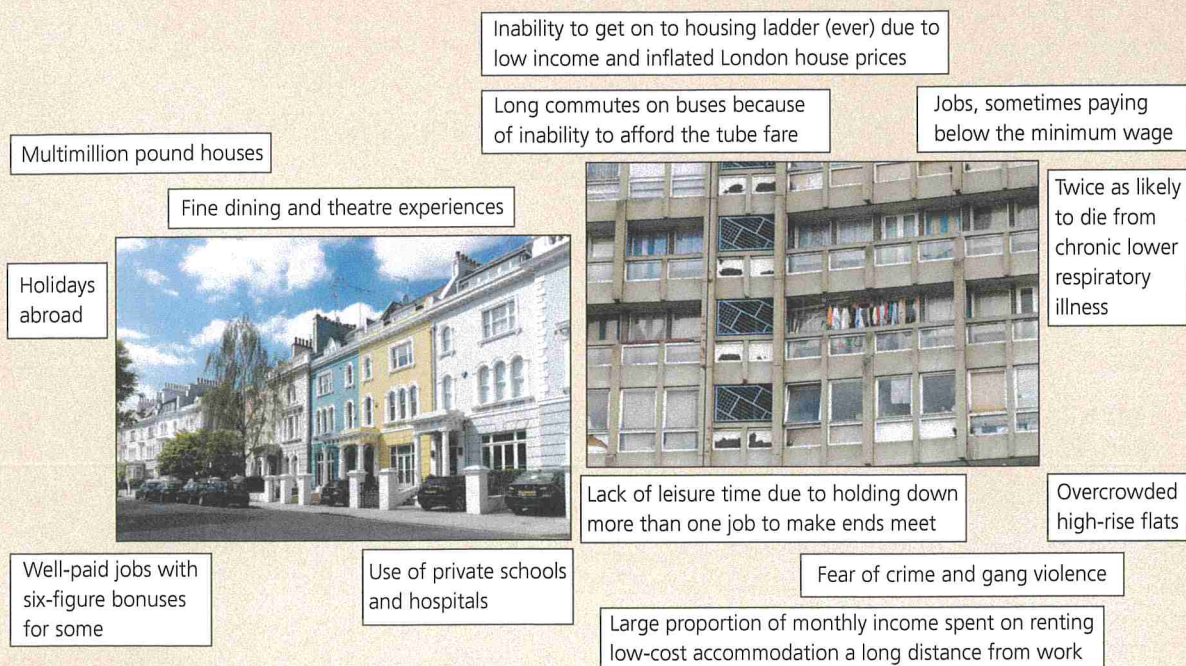| Inability to get on to housing ladder (ever) due to low income and inflated London house prices |
| Long commutes on buses because of inability to afford the tube fare |
| Jobs, sometimes paying below the minimum wage |
| Multimillion pound houses |
| Fine dining and theatre experiences |
| Twice as likely to die from chronic lower respiratory illness |
| Holidays abroad |
| Lack of leisure time due to holding down more than one job to make ends meet |
| Overcrowded high-rise flats |
| Well-paid jobs with six-figure bonuses for some |
| Use of private schools and hospitals |
| Fear of crime and gang violence |
| Large proportion of monthly income spent on renting low-cost accommodation a long distance from work |

Figure 3.11 A city of two halves

Using Figure 3.11 and your own knowledge evaluate how economic inequality and social segregation are a problem in urban areas. (AO1, AO2)

9 marks

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4 Assess the extent to which the urban heat island effect impacts on people's lived experience. (AO1, AO2)

9 marks

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5 'Some urban areas are more successful at dealing with environmental sustainability than with social and economic issues.'

With reference to two contrasting urban areas you have studied, how far do you agree with this view? (AO1, AO2)

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20 marks

Write your answer on a separate sheet of paper.

Additional essay question

'Areas that have been gentrified have increased their levels of social segregation.'

How far do you agree with this view? (AO1, AO2)

25

20 marks

Plan and write your answer on a separate sheet of paper.