# 6 Settlement dynamics

## 6.1 Changes in rural settlements

Rural settlements form an essential part of the human landscape (Figure 6.1). However, such settlements in HICs, MICs and LICs have undergone considerable changes in recent decades. This has happened for a number of reasons, which include:

- rural–urban migration
- urban–rural migration
- the consequences of urban growth
- technological change
- rural planning policies
- the balance of government funding between urban and rural areas.

Figure 6.1 Rural settlement in Nepal

### Changing rural environments in the UK

In the past, rural society was perceived to be distinctly different from urban society. The characteristics upon which this idea was based are shown in Figure 6.2. However, rapid rural change over the last 50 years or so in the UK and other HICs has seen the idea of a rural–urban divide superseded by the notion of a rural–urban continuum. The latter is a wide spectrum that runs from the most remote type of rural settlement to the most highly urbanised. A number of the intermediate positions exhibit both rural and urban characteristics. Paul Cloke (1979) used 16 variables, including population density, land use and remoteness, to produce an 'index of rurality' for England and Wales (Figure 6.3). Urban areas now make substantial demands on the countryside, the evidence of which can be found in even the most remote areas.

Rural areas are dynamic spatial entities. They constantly change in response to a range of economic, social, political and environmental factors. In recent years, the pace of change has been more rapid than ever before. The UK reflects many of the changes occurring in rural areas in other HICs.

1 Close-knit community with everybody knowing and interacting with everyone else.

2 Considerable homogeneity in social traits: language, beliefs, opinions, mores, and patterns of behaviour.

3 Family ties, particularly those of the extended family, are much stronger than in urban society.

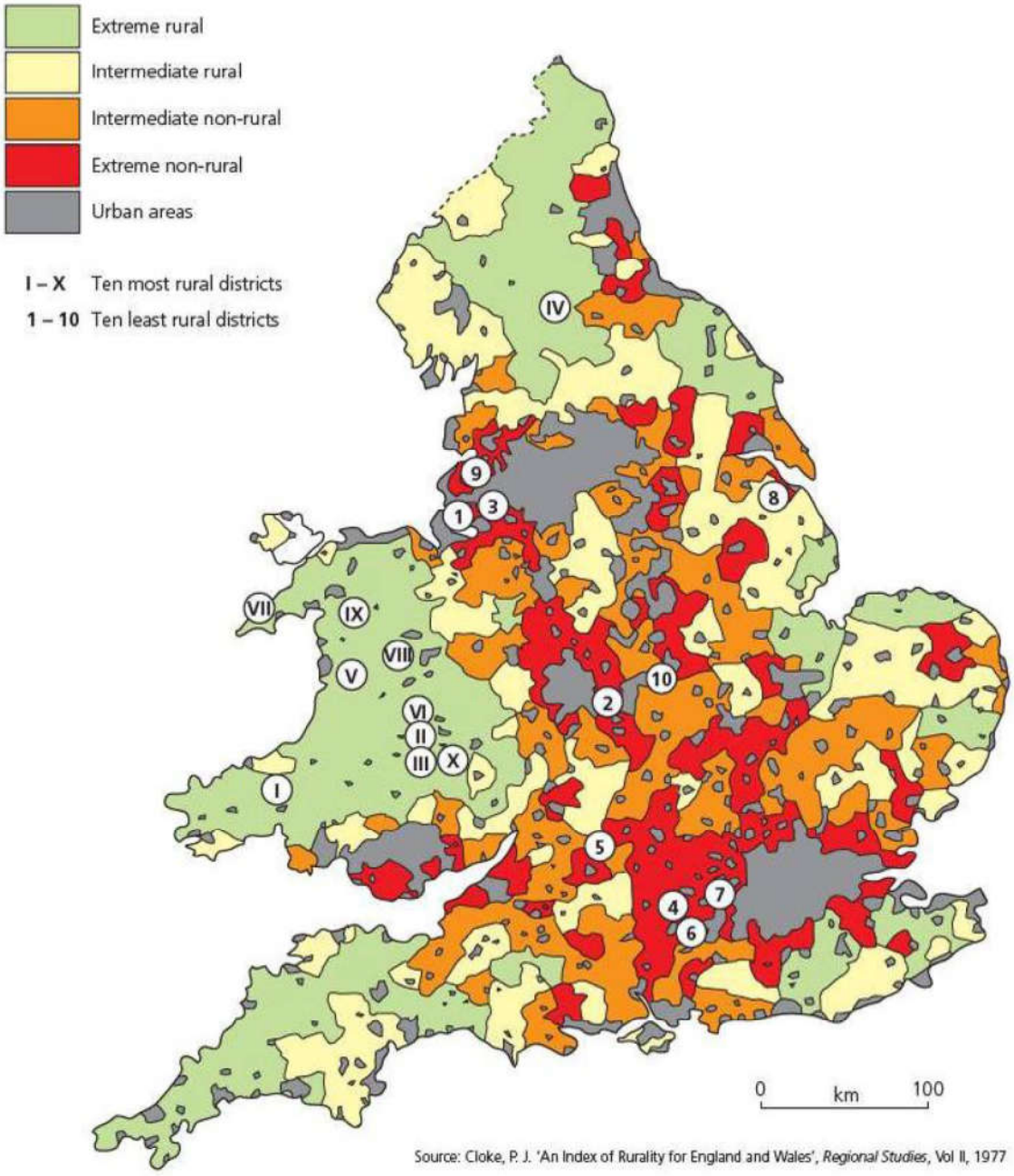
4 Religion is given more importance than in urban society.

5 Class differences are less pronounced than in urban society. Although occupational differentiation does exist, it is not as pronounced as in towns and cities. Also the small settlement size results in much greater mixing which in turn weakens the effects of social differentiation.

6 There is less mobility than in urban society, both in a spatial sense (people do not move house so frequently) and in a social sense (it is more difficult for a farm labourer to become a farmer or farm manager than for a factory worker to become a manager).

Source: *The Geography of Rural Resources* by C. Bull, P. Daniel and M. Hopkinson, Oliver & Boyd, 1984

Figure 6.2 Principal characteristics of traditional rural society




Source: Cloke, P. J. 'An Index of Rurality for England and Wales', *Regional Studies*, Vol II, 1977

**Figure 6.3** An index of rurality for England and Wales

The economy of rural areas is no longer dominated by farmers and landowners. As agricultural jobs have been lost, new employers have actively sought to locate in the countryside. Manufacturing, high technology and the service sector have led this trend. Most of these firms are classed as SMEs – small and medium-sized enterprises. In fact, in recent decades employment has been growing faster in rural than in urban areas. Other significant new users of rural space are recreation, tourism and environmental conservation. The **rural landscape** has evolved into a complex multiple-use resource and as this has happened the **rural population** has changed in character.

These economic changes have fuelled social change in the countryside with the in-migration of particular groups of people. To quote Brian Ilbery, a leading authority on rural geography, 'The countryside has been repopulated, especially by middle-class groups ... who took advantage of relatively cheap housing in the 1960s and 1970s to colonize the countryside'. Once they are significant in number, the affluent newcomers exert a strong influence over the social and physical nature of

rural space. In many areas, newcomers have dominated the housing market, to the detriment of the established population in the locality. Increased demand has pushed up house prices to a level beyond the means of many original families who then have no option but to move elsewhere.

**Gentrification** is every bit as evident in the countryside as it is in selected inner-city areas. However, the increasing mobility of people, goods and information has eroded local communities. A transformation that has been good for newcomers has been deeply resented by much of the established population.

In the post-war period, the government attempted to contain expansion into the countryside by creating **green belts** and by the allocation of housing to urban areas or to large **key villages**. Rural England has witnessed rising owner-occupation and low levels of local-authority housing. The low level of new housing development in smaller rural communities has been reflected in higher house prices and greater social exclusivity.

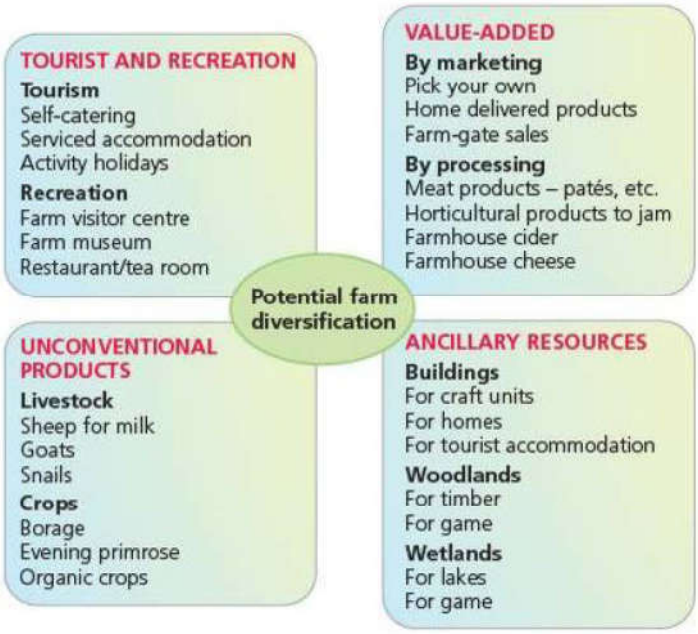
Such social and economic changes have increased the pressure on rural resources so that government has had to re-evaluate policies for the countryside. Regulation has become an important element in some areas, notably in relation to sustainability and environmental conservation.

## Changing agriculture

The countryside in the UK and other HICs has been affected by major structural changes in agricultural production. Although agricultural land forms 73 per cent of the total land area of the UK, less than 2 per cent of the total workforce are now employed in agriculture. This is down from 6.1 per cent in 1950 and 2.9 per cent in 1970. Even in the most rural of areas, agriculture and related industries rarely account for more than 15 per cent of the employed population.

At the same time, the size of farms has steadily increased (Figure 6.4). Such changes have resulted in a significant loss of hedgerows, which provide important ecological networks. Agricultural wages are significantly below the national average and as a result farmers are among the poorest of the working poor. As many farmers have struggled to make a living from traditional agricultural practices, a growing number have sought to diversify both within and outside agriculture (Figure 6.5). However, while diversification may initially halt job losses, if too many farmers in an area opt for the same type of diversification, a situation of over-supply can result in a further round of rural decline.

Figure 6.4 Large-scale cereal farming in the Paris Basin, France

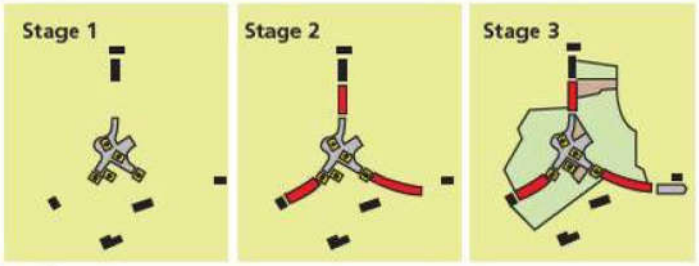



Source: Slee, 1987

Figure 6.5 Areas of potential farm diversification

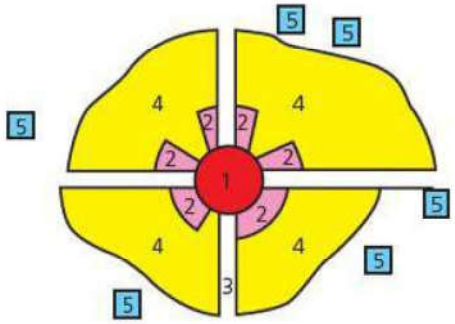
## Section 6.1 Activities

1. With reference to Figure 6.2, outline the principal characteristics of traditional rural society.
2. Briefly describe the pattern of rural areas shown in Figure 6.3.
3. What impact has agricultural change had on the rural landscape?
4. Why does the potential for farm diversification vary from region to region?




Original village core
Isolates
Early infills, modifications and accretions
Early ribbons
Adjuncts
Recent infills, modifications, accretions and ribbons

**a** Possible stages of morphological evolution of a suburbanised village




1 Original village core
2 Infills, modifications and accretions
3 Ribbon development
4 Adjuncts
5 Isolates

Note: This model diagram indicates all the morphological elements likely to be present in a metropolitan village. The arrangement of these elements is likely to vary considerably between villages.

**b** Metropolitan village: morphological features

Source: *Advanced Geography: Concepts & Cases*, P. Guinness & G. Nagle (Hodder Education, 1999), p.75

Figure 6.6 Morphology of metropolitan villages

## Counterurbanisation and the rural landscape

In recent decades, **counterurbanisation** has replaced urbanisation as the dominant force shaping settlement patterns. It is a complex and multifaceted process that has resulted in a 'rural population turnaround' in many areas where depopulation had been in progress. Green-belt restrictions have limited the impact of counterurbanisation in many areas adjacent to cities. But, not surprisingly, the greatest impact of counterurbanisation has been just beyond green belts where commuting is clearly viable. Here, rural settlements have grown substantially and been altered in character considerably.

Figure 6.6 shows the changing morphology of **metropolitan villages** identified by Hudson (1977). Stage 1 is characterised by the conversion of working buildings into houses with new building mainly in the form of infill. However, some new building might occur at the edge of the village. The major morphological change in stage 2 is ribbon development along roads leading out of the village. Stage 3 of the model shows planned additions on a much larger scale of either council or private housing estates at the edge of villages. Clearly, not all metropolitan villages will have evolved in the same way as the model, particularly those where green-belt restrictions are in place. Nevertheless, the model provides a useful framework for reference.

## Rural depopulation

Because of the geographical spread of counterurbanisation since the 1960s or so, the areas affected by **rural depopulation** have diminished. Depopulation is now generally confined to the most isolated areas of the country, but exceptions can be found in other areas where economic conditions are particularly dire. Figure 6.7 is a simple model of the depopulation process.


Source: *Advanced Geography: Concepts & Cases*, P. Guinness & G. Nagle (Hodder Education, 1999), p.76

Figure 6.7 Model of rural depopulation

## The issue of rural services

Services – access to shops and post offices, healthcare, activities – are the basis for any community, creating and enhancing a feeling of belonging and a sustainable future for the area. However, rural services have been in decline for a number of decades, with a significant impact on the quality of life of many people, particularly those without a car. A major report published in 2008 revealed that nearly half of communities have seen the loss of key local services in the previous four years. The Oxford University study warned that poorer people in the countryside 'form a forgotten city of disadvantage'. It found that residents of the village of Bridestowe on Dartmoor had the fewest amenities, while the village of Wrotham, in Kent, had suffered the greatest loss of services since 2004 and was the most excluded community in the south-east of the UK.

Critics accused the government of masterminding the 'near certain death of the village post office' with its plans to close 2500 branches by the end of the year. One in 13 rural primary schools has closed since 1997, and more are under threat as new Whitehall rules mean schools could lose funding by failing to fill their places. Existing village GP surgeries are also at risk as the government promotes its new 'polyclinics'.

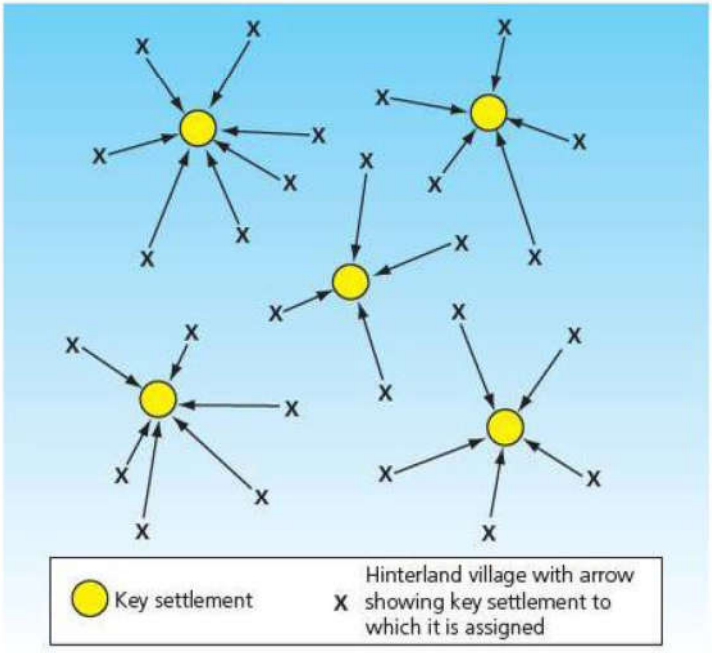
The Commission for Rural Committees warned that 233000 people are living in 'financial service deserts' – areas with no post office within 1.25 miles, or no bank, building society or cashpoint for 2.5 miles.

ACRE (Action with Communities in Rural England) highlights the following reasons for rural service decline:

- the effect of market forces and, in some cases, the arrival of supermarkets in local areas, making local services no longer competitive
- the changing pattern of rural population, with more mobile residents with different shopping and consumer patterns becoming a greater part of the rural pattern of life
- a change in expectations of rural residents themselves, no longer prepared to make do with relatively poor and expensive services and, in many cases, with the means and opportunity to access better services.

## Key villages

Between the 1950s and 1970s, the concept of key settlements was central to rural settlement policy in many parts of Britain, particularly where depopulation was occurring (Figure 6.8). The concept relates to central place theory and assumes that focusing services, facilities and employment in one selected settlement will satisfy the essential needs of the surrounding villages and hamlets. The argument was that with falling demand, dispersed services would decline rapidly in vulnerable areas. The only way to maintain a reasonable level of service provision in such an area was to focus on those locations with the greatest accessibility and the best combination of other advantages. In this way, threshold populations could be assured and hopefully the downward spiral of service decline would be halted.




Source: *Advanced Geography: Concepts & Cases*, P. Guinness & G. Nagle (Hodder Education, 1999), p.79

**Figure 6.8** Key settlement concept

Devon introduced a key settlement policy in 1964 to counter the impact of:

- rural depopulation
- the changing function of the village in relation to urban centres
- the decline in agricultural employment
- the contraction of public transport.

The selection of key settlements in Devon was part of a wider settlement policy involving sub-regional centres, suburban towns and coastal resorts. The criteria used for selecting key settlements were as follows:

- existing services
- existing employment other than agriculture in or near the village
- accessibility by road
- location in relation to current bus (and possibly rail) services
- location in relation to other villages that would rely on them for some services
- the availability of public utilities capable of extension for new development
- the availability and agricultural value of land capable of development
- proximity to urban centres (key settlements would not flourish too close to competing urban areas).

Sixty-eight key settlements were selected initially, reduced to 65 in 1970. Although it has been difficult to measure the effectiveness of the policy with precision, depopulation in north and mid-Devon did fall considerably after the introduction of the policy, and in many areas the decline in service provision was slower than the predictions before the policy was implemented.

### The rural transport problem

The considerable increase in car ownership in recent decades has had a devastating effect on public transport (Figures 6.9 and 6.10). While this has not disadvantaged rural car owners very much, it has considerably increased the isolation of the poor, elderly and young people who live there. The lack of public transport puts intense pressure on low-income households to own a car, a large additional expense that many could do without. Recent increases in the price of fuel have exacerbated this problem.

There has been continuing concern that the UK's remaining rural railway lines are under threat in a repeat of the 'Beeching cuts' of the 1960s. The new fears about government intentions towards rural rail closures were first awakened in 1998 when the transport minister said branch lines in sparsely populated areas might be replaced by buses. It would be possible to convert track beds into guided busways, and then for buses to divert into towns and villages. However, one study of replacing trains with buses found that, at most, only half of former rail passengers used the bus replacements. With one in five rural households lacking a car and a low level of bus service in many country areas, the train is essential for many.

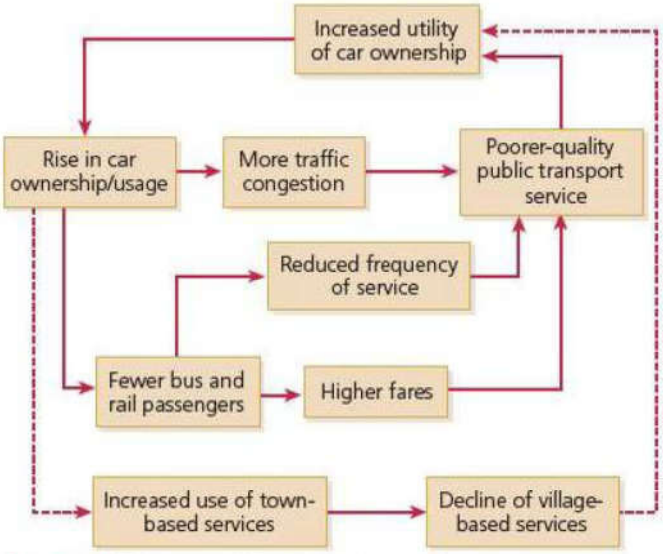



Figure 6.9 Car ownership and public transport

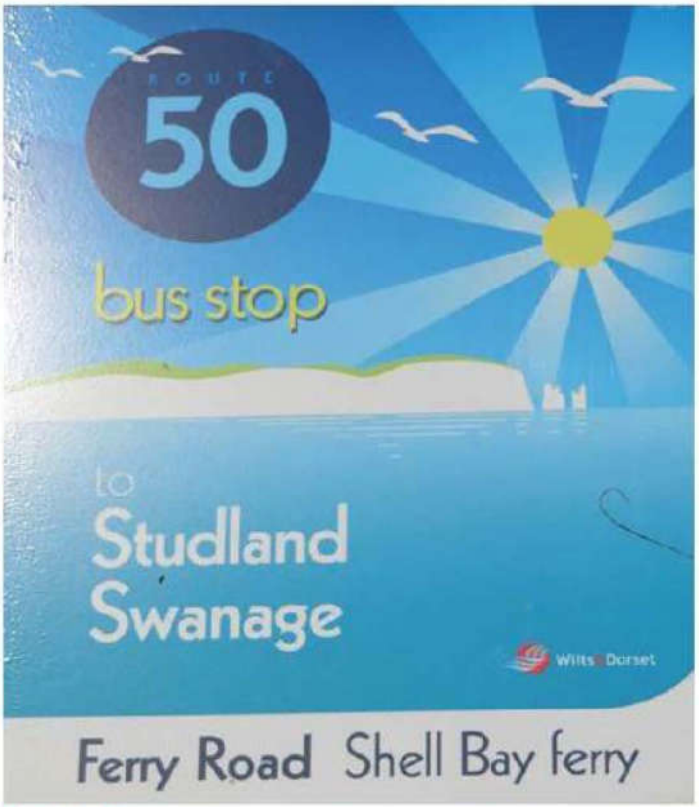



Figure 6.10 Rural bus service in southern England

### The rural housing problem

The lack of affordable housing in village communities has resulted in a large number of young people having to move to market towns or larger urban centres. Only 12 per cent of rural housing is subsidised, compared with 25 per cent in urban areas. The 1995 White Paper on Rural Development sought to improve the rural housing situation by exempting villages with fewer than 3000 inhabitants from the right-to-buy for housing-association tenants. This is to prevent such housing moving onto the open market and being bought up at prices local people cannot afford. The government also announced plans to speed up the disposal of Ministry of Defence (MoD) housing. It estimated that there were 13 000 empty MoD homes in the UK, many of them in rural areas. Rural households would also be encouraged to take in lodgers through the rent-a-room scheme.

The issue of second homes has become increasingly contentious. Figure 6.11 indicates that some advantages might accrue from second-home development. However, recent debate on the issue has centred firmly on the problems created.

**Advantages**

1 Bring new employment opportunities to areas previously dependent upon a contracting agricultural economy (e.g. building trade, gardening and domestic staff).
2 Local restaurants, shops and garages derive new business and additional profits (which may be essential to year-round economic survival).
3 Specialised shops opened to cater for second-home owners also benefit local residents.
4 Property taxes imposed on second homes increase the finances of the local community.
5 Second-home owners make fewer demands on local services since education and other community facilities are not required.
6 Renovation of old buildings improves the appearance of the rural area.
7 Rural residents have the opportunity to sell-off surplus land and buildings at a high price.
8 Contacts with urban-based second-home owners can benefit local residents by exposing them to national values and information, broadening outlooks or stimulating self-advancement via migration.

**Disadvantages**

1 Concentrations of second homes may require installation of costly sewerage schemes, extension of water and electricity lines to meet peak season demand, and more frequent maintenance of rural roads, with the costs being partly borne by local people.
2 Demand for second homes by urbanites pushes up house prices to the disadvantage of local people.
3 Future schemes for farm enlargement or agricultural restructuring may be hindered by inflated land prices.
4 Fragmentation of agricultural land.
5 Destruction of the 'natural' environment (e.g. soil erosion and stream pollution).
6 Visual degradation may result from poorly constructed or inappropriately located second homes.
7 Second-home construction may distract the local workforce from ordinary house building and maintenance.
8 The different values and attitudes of second-home families disrupt local community life.

Source: *Advanced Geography: Concepts & Cases*, P. Guinness & G. Nagle (Hodder Education, 1999), pp.80–1

**Figure 6.11** The second homes debate

## Section 6.1 Activities

1 Explain the morphological changes in metropolitan villages illustrated by Figure 6.6
2 Examine the causes and consequences of rural depopulation.
3 Explain the logic of the key settlement concept.
4 a Outline two reasons for the decline of rural services.
b Which sections of the rural population see their quality of life decline the most when rural services are lost?
5 Write a brief explanation of Figure 6.9.
6 Discuss the main issues relating to rural housing.

## Contemporary issues in rural settlements in LICs

The main process affecting rural settlements in LICs has been rural–urban migration. The impact of such migration has varied considerably across rural communities in LICs (Figure 6.12). In some areas, it has been considered advantageous by providing a safety valve in:

- reducing rural population growth and pressure on food, water and other resources
- helping to limit unemployment and underemployment
- providing a valuable source of income through the remittances of migrants.

However, in some rural communities the scale of rural–urban migration has been so great that it has resulted in:

**Figure 6.12** Hilltop rural settlement in Morocco

- rural depopulation and an ageing population
- the closure of services, both public and private, as population declines
- insufficient labour to maintain agricultural production at its former levels.

In southern African countries such as Botswana and Lesotho, the devastating impact of AIDS has resulted in rural depopulation in many areas.

Rural poverty accounts for over 60 per cent of poverty worldwide, reaching 90 per cent in some LICs like Bangladesh. In the countries of Sub-Saharan Africa, rural poverty makes up between 65 and 90 per cent of national totals. In almost all countries, the conditions in terms of personal consumption and access to education, healthcare, potable water and sanitation, housing, transport and communication faced by the rural poor are far worse than those faced by the urban poor. Much urban poverty is created by the rural poor's efforts to get out of poverty by moving to cities.

An analysis of rural poverty in LICs by the International Monetary Fund highlighted the following factors in creating and perpetuating rural poverty:

- political instability and civil strife
- systemic discrimination on the basis of gender, race, ethnicity, religion or caste
- ill-defined property rights or unfair enforcement of rights to agricultural land and other natural resources
- a high concentration of land ownership and asymmetrical tenancy arrangements

- corrupt politicians and rent-seeking public bureaucracies
- economic policies that discriminate against or exclude the rural poor from the development process and accentuate the effects of other poverty-creating processes
- large and rapidly growing families with high dependency ratios
- market imperfections owing to high concentration of land and other assets and distortionary public policies
- external shocks owing to changes in the state of nature (for example, climatic changes) and conditions in the international economy.

## Case Study: Rural Mongolia

There are very few parts of the world that remain completely untouched by interactions with the outside world, but there are a number where such interaction has been very limited. The people living in such areas can be considered to be non-globalised societies. An example of such a non-globalised society is the majority of rural Mongolia (apart from areas close to the capital Ulaanbaatar and a few other urban areas), which is characterised by:

- traditional family structures with a strong emphasis on the extended family
- the importance of local customs and hospitality
- populations living at extremely low densities, equalling the lowest in the world
- a heavy reliance on agricultural activities, particularly herding (Figure 6.13)
- difficult environmental conditions in both summer and winter
- traditional housing in the form of *gers*, often involving changes of location as herds are moved in search of fodder
- relative inaccessibility, with most parts of the country lacking paved roads; movement by horseback is common and only 4×4 vehicles can make progress in many areas
- low incomes and limited material possessions – repair and re-use have long been important strategies to make possessions last
- very limited service provision (Figure 6.14), reflected in lower health and education standards in many provinces compared with the capital city
- low levels of personal contact with other countries.

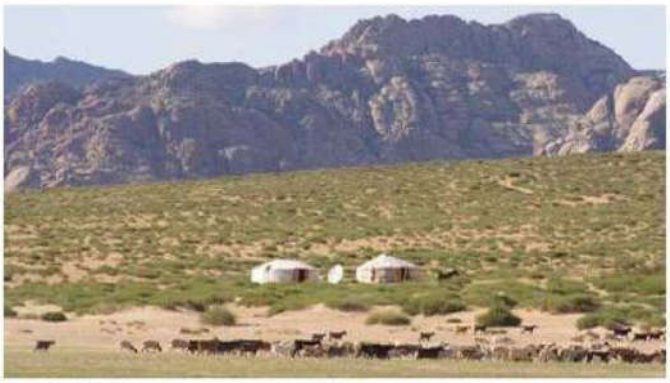


**Figure 6.13** *Gers* and cattle with rock outcrop background in rural Mongolia

**Figure 6.14** A bank in a rural settlement in the Gobi region of southern Mongolia

About a third of the population live as nomadic herders on sparsely populated grasslands. Most live in very isolated locations. This is a major factor in their non-globalised status. In recent years, droughts and unusually cold and snowy winters have devastated livestock, destroying the livelihoods of hundreds of thousands of households. Many have moved to Ulaanbaatar, where they live in impoverished conditions mainly on the periphery of the city. This exemplifies the concept of the **urbanisation of poverty**.

According to 2006 census data, there are 170 700 herding households in Mongolia, of which 40 per cent live below the poverty line. Since 1996, the poverty of herding households has not decreased. A more detailed survey examined the livelihood conditions of rural herding households and found over 60 per cent in the lowest of four income categories (Table 6.1).

Government programmes that have been set up to improve the lives of herders have focused on:

- livestock insurance to protect herders from losses incurred in the extreme winters that occur every few years
- expansion of cell-phone coverage throughout the countryside
- the expansion of rural education.

**Table 6.1** Livelihood conditions of rural herding households

| % poor | % low-middle income | % middle income | % upper-middle income |
|---|---|---|---|
| 60.7 | 33.7 | 5.4 | 0 |

## Section 6.1 Activities

1 Why has rural–urban migration benefited some rural areas in LICs, but caused problems in other rural areas?

2 Describe the main characteristics of the rural landscape in Mongolia.

## Case Study: The Isle of Purbeck – issues in rural settlement

### Location and historical development

The Isle of Purbeck forms the south-eastern part of Purbeck District in Dorset (Figure 6.15). It is an area of about 200 km², bounded by the sea to the south and east and by the River Frome and Poole Harbour to the north.

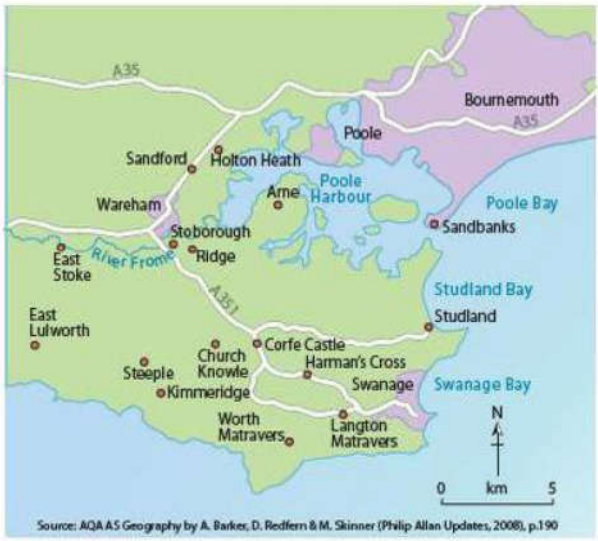


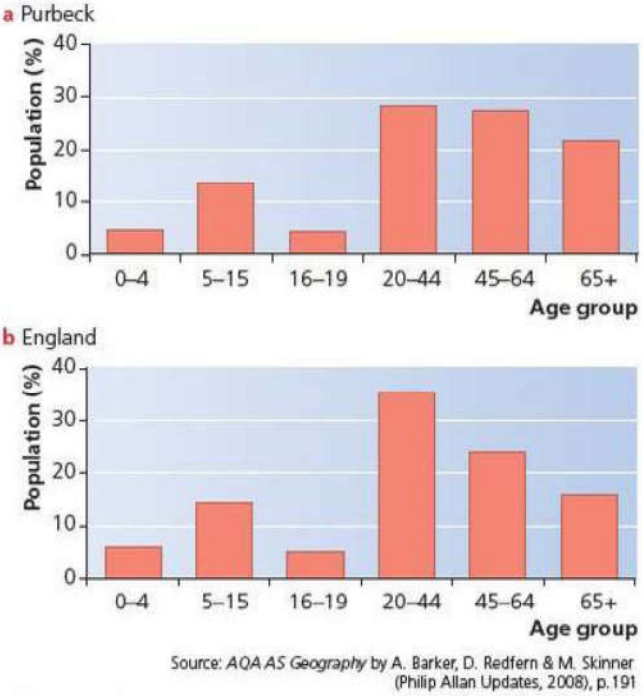

Figure 6.15 The Isle of Purbeck

The Isle of Purbeck is classed as a remote rural district. Here, the rural settlement is concentrated in clustered villages, with Corfe Castle being the largest (Figure 6.16). Although these villages are set in a network of isolated farms and houses, there are relatively few hamlets in the region. Lower order urban services are provided by the towns of Swanage and Wareham, with higher order urban services being found in the Bournemouth–Poole conurbation, as it has increasingly become known in the region. The growth of the Bournemouth–Poole conurbation, with a population now approaching half a million people, has had an increasing influence on the rural settlement of the Isle of Purbeck, with the region developing an important dormitory function. The resulting commuter traffic at peak periods presents particular problems in the peninsula.

Figure 6.16 Village pub at Corfe Castle

### Population change

The population of Purbeck District as a whole has risen consistently over the last 40 years, although the rate of growth has varied by parish. Figure 6.17 compares the population structure of Purbeck District with the UK average. The population of Purbeck District is considerably older than that of the country as a whole, mainly because of the popularity of the area for retirement. However, the out-migration of young adults in search of wider economic opportunities and lower-cost accommodation is also a factor. In 2001, the birth rate for the district was 10.1/1000 and the death rate 11.9/1000, leaving a significant natural decrease in the population. In some rural settlements such as Corfe Castle and Studland, the natural decrease was considerably higher.




Source: *AQA AS Geography* by A. Barker, D. Redfern & M. Skinner (Philip Allan Updates, 2008), p.191

Figure 6.17 Bar graphs comparing the age of the Purbeck population with the average for England, 2001

### The rural housing problem

House prices in the area have risen at a rate above the national average over the last decade or so. This has been due largely to competition from a number of different groups of people:

- out-of-area commuters
- retirees
- second-home owners
- in-migrants.

This high level of competition for a limited number of available properties has pushed the cost of housing to a level well beyond the reach of most local people. The problem is compounded by limited local employment opportunities and low wages. The right-to-buy local authority housing has reduced the potential stock of

moderately priced rented properties. This, combined with the inability of many in the established population to compete with newcomers, has led to significant fragmentation of some local communities.

## Rural service decline

Dorset County Council sees access to services as a key issue in the county. Service decline can have a huge impact on rural populations. This is an issue that has affected virtually all rural areas in Britain in recent decades. The Dorset Rural Facilities Survey 2002 found a continuing decline in rural services in the Isle of Purbeck and throughout Dorset. Some services had declined more than others in the previous decade. The survey noted a 'dramatic decline in the number of shops selling general produce, whether they are incorporated within a post office, garage or as a stand-alone general store'. In particular, the Survey noted that for Dorset as a whole:

- 3 out of 4 villages had no general store
- 38 rural post offices had closed since 1991
- 8 villages had lost their only pub over the previous decade
- 35 rural petrol stations had closed since 1991
- 4 villages with a population of over 500 had no general store.

However, the Survey also noted some service gains. Six village doctors' surgeries had opened since 1991 and there had been no rural school closures in the previous decade. The village church or chapel continued to be the facility most available in rural Dorset.

Rural settlements are constantly in fear of losing services such as a post office or the one remaining pub. Privately owned services are lost more quickly than public services because for the latter the decision to remain open is not purely an economic one – social and political considerations are also important. Service decline makes people more reliant on transport, both public and private, to gain access to basic services.

Table 6.2 shows the services located in each rural settlement in 2004. Corfe Castle had by far the best level of service provision, partly due to its tourist function and partly due to its location on the A351 halfway between Swanage and Wareham. Although Langton Matravers has a similar population to Corfe Castle, it is very close to Swanage and suffers from a 'service shadow' effect.

**Table 6.2** Rural facilities in the Isle of Purbeck, 2004

| District | Population | Public buildings | | | Facilities | | | | | | | | | | | | | Public transport | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Church/chapel | Village hall | Village school | Post office & shop | Post office | General store | Food shop | Other shop | Petrol station & shop | Petrol station | Bank | GP surgery | Public house | Library | Recreation area | Cash point | Mobile library | Bus service* |
| Arne | 20 | Yes | | | | | | | | | | | | | | | | | |
| Church Knowle | 120 | Yes | 1 | | | | | | | | | | | 1 | | | | 1 | W |
| Coombe Keynes | 60 | | 1 | | | | | | | | | | | | | | | 1 | D |
| Corfe Castle | 980 | Yes | 1 | 1 | | 1 | 1 | 2 | 13 | | 1 | | 1 | 4 | 1 | 1 | 1 | | D |
| East Holme | 30 | Yes | | | | | | | | | | | | | | | | | W |
| East Lulworth | 170 | Yes | | | | | | | | | | | | 1 | | 1 | | 1 | D |
| East Stoke | 60 | | | | | | | | | | | | | | | | | | W |
| Furzebrook | 60 | | 1 | | | | | | | | | | | | | | | | W |
| Harmans Cross | 340 | Yes | 1 | | | 1 | | | | | 1 | | | | | | 1 | 1 | D |
| Kimmeridge | 70 | Yes | 1 | | | | | | | | | | | | | | | 1 | W |
| Kingston | 100 | Yes | | | | | | | | | | | | 1 | | | | | D |
| Langton Matravers | 910 | Yes | 1 | 1 | 1 | | | | | | | | | 2 | | 1 | | 1 | D |
| Ridge | 290 | | | | | | | | | | | | | | | | | 1 | W |
| Steeple | 30 | Yes | | | | | | | | | | | | | | | | | W |
| Stoborough | 800 | | 1 | 1 | 1 | | | | | | 1 | | | 1 | | 1 | | | D |
| Stokeford | 180 | | 1 | | | | | | | | | | | 1 | | | | | D |
| Studland | 540 | Yes | 1 | | 1 | | | | | | | | | 1 | | 1 | | 1 | D |
| West Lulworth | 770 | Yes | 1 | 1 | 1 | | | | | | | | | 2 | | 1 | 1 | 1 | D |
| Wool | 1970 | Yes | | 2 | 1 | | | 2 | 9 | 2 | | | 1 | 2 | 1 | 1 | 1 | | D |
| Worth Matravers | 240 | Yes | 1 | | 1 | | | | | | | | | 1 | | | | | D |

*W = weekly, D = daily

*Source: Dorset County Council, 2004*

In terms of causal factors for rural service decline, the Dorset Rural Facilities Survey pointed in particular to:

- the increased competition from urban supermarkets that can undercut the prices and provide a greater range of produce than small rural retail outlets (Figure 6.18)
- the increasing personal mobility of most of the rural population as the proportion of people who have access to a private vehicle has risen over the years – this enables most of the rural population to shop weekly and in bulk.


Figure 6.18 Post office and general store in Studland

It is now the policy of Dorset's District Councils not to permit the change of use of public houses in rural settlements unless it can be demonstrated that:

- there is no local need for the facility
- the retention is not economically viable and that there is no reasonable likelihood of an alternative facility being economically viable.

There have been some high-profile cases over the last decade or so where the local community has fought to save their village pub, sometimes, but not always, with success.

## The decline of public transport

Public transport in the Isle of Purbeck is limited. It exists in the form of the 150 bus from Poole to Swanage via the Sandbanks/Studland ferry, and the 142/143/144 via Holton Heath, Sandford, Wareham, Corfe and variously Kingston, Langton Matravers, Worth Matravers and Harman's Cross to Swanage. There is extra minibus coverage through volunteer schemes but this is also limited in extent. The decline in public transport in rural areas usually becomes a vicious cycle.

In terms of rail transport, Wareham Station is on the London Waterloo to Weymouth line. The line between Wareham and Swanage was cut in 1972, along with many other rural railway lines around the country. A connection from Wareham to Furzebrook was however maintained to serve the railhead for the oil-well at Wytch Farm. Swanage does boast a steam railway but this is basically a tourist facility. The Swanage Railway currently operates on 10 kilometres of track between Swanage and Norden, passing the ruins of Corfe Castle. However, a prime objective of the Swanage Railway Trust is to restore the rail link between Swanage and Wareham, re-establishing a daily service to connect with mainline trains.

## Rural deprivation

Deprivation in terms of housing is particularly acute in high-priced housing counties such as Dorset.

Opportunity deprivation – the lack of opportunity in health and social services, education and retail facilities – also affects disadvantaged people, particularly those living in the most isolated rural areas.

Mobility deprivation is also evident, as public transport is very limited on the Isle of Purbeck. As a result, many low-income households have no choice but to spend a high proportion of their income on running a car, which means that even less money is available for other needs. In the Isle of Purbeck, hospital access is often dependent on voluntary organisations. Deprivation is concentrated in the long-established population. Those who have migrated into the area generally have a significantly higher level of income.

## Fieldwork: Case Study of a rural settlement

For this section, 'Changes in rural settlements', the syllabus states: 'A case study of a rural settlement (village or hamlet) or a rural area showing some of the issues of its development and growth (or decline) and evaluating the responses to these issues'. The confines of space prevent coverage of both options in this book, but the study of an individual rural settlement offers an excellent (and relatively straightforward) fieldwork opportunity.

Select a rural settlement within reasonable travelling distance and attempt the following:

- Find a map showing the location of the settlement.
- Gather census data illustrating population change.
- Draw a map showing the functions of the settlement (shop, place of worship, and so on) and their location.
- Find out how the number and nature of functions have changed over time. What have been the reasons for these changes?
- Is the settlement linked by public transport? If yes, how has public transport provision changed over time?
- How are people in the settlement employed? How has the nature of employment changed over time?
- How much employment is local to the settlement and how much involves commuting or other forms of movement?
- What have been the main problems facing the settlement in recent decades and what has been done to attempt to solve these problems?
- Any other relevant information.

Now write up your case study using the title 'A case study of [settlement name]: issues of its development, growth and management'. Limit yourself to 1000 words.

## Section 6.1 Activities

1 Describe the location of the Isle of Purbeck.
2 With reference to Figure 6.17, describe and explain the differences between the population structures of the Isle of Purbeck and England as a whole.
3 Discuss the main issues affecting the rural population on the Isle of Purbeck.

# 6.2 Urban trends and issues of urbanisation

## The development of the urban environment

### The first cities

Gordon Childe used the term **urban revolution** to describe the change in society marked by the emergence of the first cities some 5500 years ago. The areas that first witnessed this profound social-economic change were:

- Mesopotamia – the valleys of the Tigris and Euphrates rivers
- the lower Nile valley
- the plains of the river Indus.

Later, urban civilisations developed around the Mediterranean, in the Yellow River valley of China, in South East Asia and in the Americas. Thus the first cities mainly emerged in areas that are now considered to be LICs.

The catalyst for this period of rapid change was the Neolithic Revolution, which occurred about 8000 BCE. This was when sedentary agriculture, based on the domestication of animals and cereal farming, steadily replaced a nomadic way of life. As farming advanced, irrigation techniques were developed. Other major advances that followed were the ox-drawn plough, the wheeled cart, the sailing boat and metallurgy. However, arguably the most important development was the invention of writing in about 4000 BCE, for it was in the millennium after this that some of the villages on the alluvial plains between the Tigris and Euphrates rivers increased in size and changed in function so as to merit the classification of urban.

Considerably later than the first cities, trading centres began to develop. The Minoan civilisation cities of Knossos and Phaistos, which flourished in Crete during the first half of the second millennium BCE, derived their wealth from maritime trade. Next it was the turn of the Greeks and then the Romans to develop urban and trading systems on a scale larger than ever before. For example, the population of Athens in the fifth century BCE has been estimated at a minimum of 100 000. The fall of the Roman Empire in the fifth century CE (Figure 6.19) led to a major recession in urban life in Europe, which did not really revive until medieval times.

The medieval revival was the product of population growth and the resurgence of trade, with the main urban settlements of this period located at points of greatest accessibility. While there were many interesting developments in urban life during the medieval period, it required another major technological advance to set in train the next urban revolution.

### The urban industrial revolution

The second 'urban revolution', based on the introduction of mass production in factories, began in Britain in the late eighteenth century. This was the era of the Industrial Revolution when industrialisation and urbanisation proceeded hand in hand. The key invention, among many, was the steam engine, which in Britain was applied to industry first and only later to transport. The huge demand for labour in the rapidly growing coalfield towns and cities was satisfied by the freeing of labour in agriculture through a series of major advances. The so-called 'Agricultural Revolution' had in fact begun in the early seventeenth century.

By 1801, nearly one-tenth of the population of England and Wales was living in cities of over 100 000 people. This proportion doubled in 40 years and doubled again in another 60 years. The 1801 census recorded London's population at 1 million, the first city in the world to reach this figure. By 1851, London's population had doubled to 2 million. However, at the global scale less than 3 per cent of the population lived in urban places at the beginning of the nineteenth century.

As the processes of the Industrial Revolution spread to other countries, the pace of urbanisation quickened. The change from a population of 10–30 per cent living in urban areas of 100 000 people or more took about 80 years in England and Wales, 66 years in the USA, 48 years in Germany, 36 years in Japan and 26 years in Australia.

The initial urbanisation of many LICs was restricted to concentrations of population around points of supply of raw materials for the affluent HICs. For example, the growth of São Paulo was firmly based on coffee; Buenos Aires on mutton, wool and cereals; and Kolkata on jute.

By the beginning of the most recent stage of urban development in 1950, 27 per cent of people lived in towns and cities, with the vast majority of urbanites still living in HICs. In fact, in HICs the cycle of urbanisation was nearing completion.

Figure 6.19 Remains of the Roman city of Pompeii, with Mt Vesuvius in the background

## The post-1945 urban 'explosion' in LICs and MICs

Throughout history, **urbanisation** and significant economic progress have tended to occur together. In contrast, the rapid urban growth of LICs and MICs in the latter part of the twentieth century in general far outpaced economic development, creating huge problems for planners and politicians (Figure 6.20). Because urban areas in LICs and MICs have been growing much more quickly than did the cities of HICs in the nineteenth century, the term 'urban explosion' has been used to describe contemporary trends.

However, the clear distinction between urbanisation and urban growth should be kept in mind, as some of the least urbanised countries, such as China and India, contain many of the world's largest cities and are recording the fastest rates of growth.

An approach known as 'dependency theory' has been used by a number of writers to explain the urbanisation of LICs and MICs, particularly the most recent post-1950 phase. According to this approach, urbanisation in LICs and MICs has been a response to the absorption of countries and regions into the global economy. The capitalist global economy induces urbanisation by concentrating production and consumption in locations that:

- offer the best economies of scale and agglomeration
- provide the greatest opportunities for industrial linkage
- give maximum effectiveness and least cost in terms of control over sources of supply.

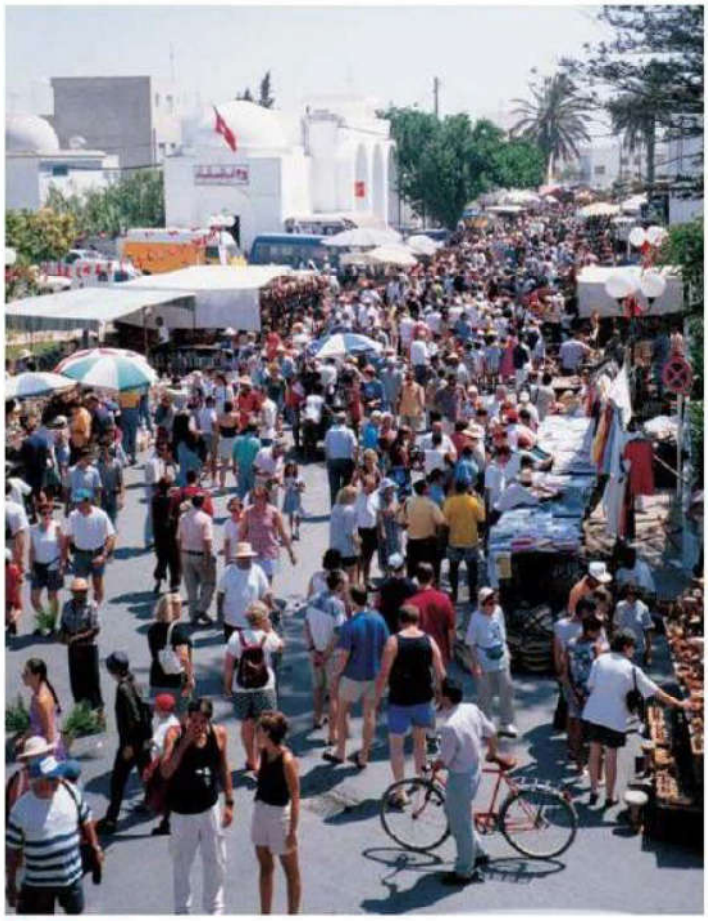


Figure 6.20 Street market in Nabul, Tunisia

Thus, urban development is one of the spatial outcomes of the capitalist system. TNCs are the major players in this economic process, which enables and encourages people to cluster in geographical space. The actions of TNCs encourage urbanisation directly in response to localised investment. However, TNCs also influence urbanisation indirectly through their impact on traditional patterns of production and employment. For example, the advance of export-oriented agriculture at the expense of traditional food production has reduced employment opportunities in the countryside and encouraged rural–urban migration.

Other factors that have encouraged urbanisation in LICs and MICs include:

- the investment policies of central governments, which have generally favoured urban over rural areas, often in an attempt to enhance their prestige on the international stage
- higher wage rates and better employment protection in cities
- greater access to healthcare and education
- the decline in the demand for locally produced food as consumers increasingly favour imported food.

The combined result of these factors has been 'backwash urbanisation', destroying the vitality of rural areas and placing enormous pressure on cities. In the longer term, the rate of urban growth should eventually slow as a result of falling fertility rates and a deceleration in the urbanisation process itself, as a growing share of the population becomes urbanised.

## Current patterns

Current levels of urbanisation, as in the past, vary considerably across the globe (Figure 6.21). The most urbanised regions are North America, Europe, Oceania and Latin America. The lowest levels of urbanisation are in Africa and Asia. In contrast, **urban growth** is highest in Asia and Africa, as these regions contain the fastest-growing urban areas. The urban population in 2014 accounted for 54 per cent of total world population, up from 34 per cent in 1960.

By 2025 (Figure 6.22), half of the populations of Asia and Africa will live in urban areas and 80 per cent of urban dwellers will live in LICs and MICs. In HICs, levels of urbanisation peaked in the 1970s and have declined since then due to the process of counterurbanisation.

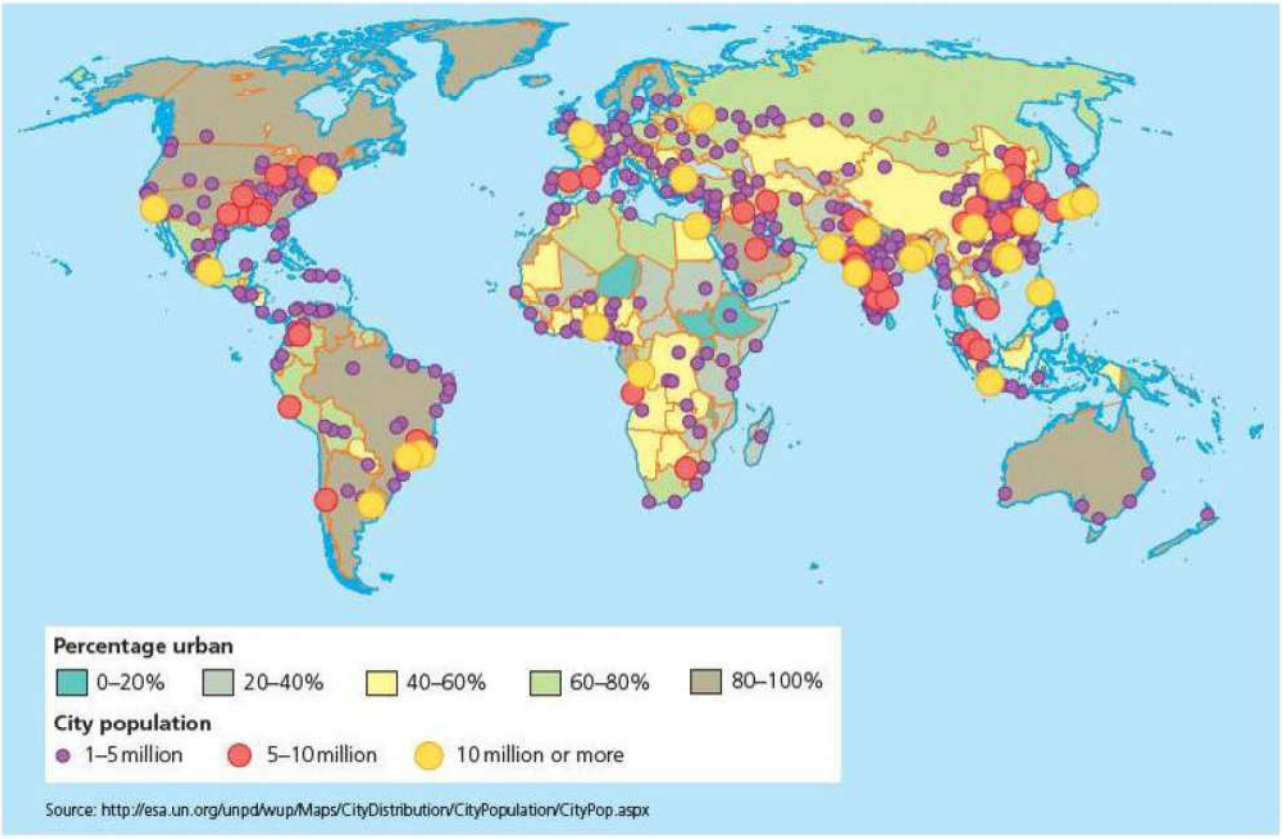
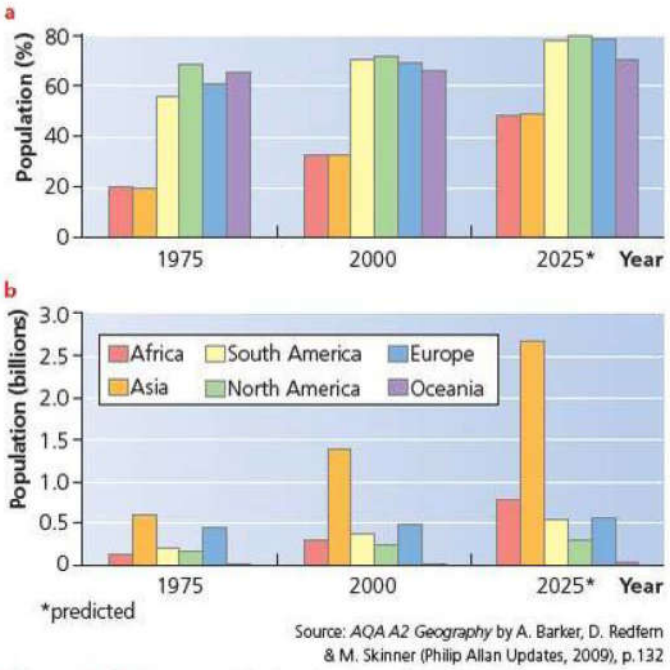



Figure 6.21 World urban population, 2014




Source: *AQA A2 Geography* by A. Barker, D. Redfern & M. Skinner (Philip Allan Updates, 2009), p.132

**Figure 6.22** Patterns of urbanisation, 1975–2025

Table 6.3 shows the 50 largest cities in the world in 2012. If you look on the internet you will see that the rank order can change according to the source of information. Different sources can use different criteria to define urban boundaries. Table 6.3 shows nine urban areas with populations over 20million.

## Section 6.2 Activities

1 a When did the first and second urban revolutions occur?
  b What were the reasons for each of these major changes in human settlement?
2 Distinguish between *urbanisation* and *urban growth*.
3 Describe and explain the variations shown in Figure 6.21.
4 Comment on the changes shown in Figure 6.22.
5 Compare the locations of the world's ten largest cities in 2014 (Table 6.3).

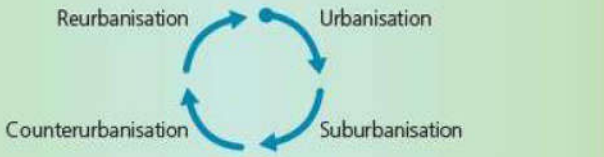
**Table 6.3** The world's 50 largest cities in 2012

| Position | City (country) | Population | Position | City (country) | Population |
|---|---|---|---|---|---|
| 1 | Tokyo (Japan) | 37126000 | 26 | Nagoya (Japan) | 10027000 |
| 2 | Jakarta (Indonesia) | 26063000 | 27 | Lima (Peru) | 9121600 |
| 3 | Seoul (South Korea) | 22547000 | 28 | Chicago (USA) | 9121000 |
| 4 | Delhi (India) | 22242000 | 29 | Kinshasa (Congo, DRC) | 9046000 |
| 5 | Shanghai (China) | 20860000 | 30 | Tianjin (China) | 8922000 |
| 6 | Manila (Philippines) | 20767000 | 31 | Chennai (India) | 8865000 |
| 7 | Karachi (Pakistan) | 20711000 | 32 | Bogotá (Colombia) | 8702000 |
| 8 | New York (USA) | 20464000 | 33 | Bengaluru (India) | 8670000 |
| 9 | São Paulo (Brazil) | 20186000 | 34 | London (UK) | 8586000 |
| 10 | Mexico City (Mexico) | 19463000 | 35 | Taipei (Taiwan) | 8338000 |
| 11 | Cairo (Egypt) | 17816000 | 36 | Ho Chi Minh City/ Saigon (Vietnam) | 8314000 |
| 12 | Beijing (China) | 17311000 | 37 | Dongguan (China) | 8278000 |
| 13 | Osaka (Japan) | 17011000 | 38 | Hyderabad (India) | 7903000 |
| 14 | Mumbai/Bombay (India) | 16910000 | 39 | Chengdu (China) | 7895000 |
| 15 | Guangzhou (China) | 16827000 | 40 | Lahore (Pakistan) | 7743000 |
| 16 | Moscow (Russia) | 15512000 | 41 | Johannesburg (South Africa) | 7618000 |
| 17 | Los Angeles (USA) | 14900000 | 42 | Tehran (Iran) | 7419000 |
| 18 | Kolkata (India) | 14374000 | 43 | Essen (Germany) | 7304000 |
| 19 | Dhaka (Bangladesh) | 14000000 | 44 | Bangkok (Thailand) | 7151000 |
| 20 | Buenos Aires (Argentina) | 13639000 | 45 | Hong Kong (Hong Kong) | 7106000 |
| 21 | Istanbul (Turkey) | 13576000 | 46 | Wuhan (China) | 6995000 |
| 22 | Rio de Janeiro (Brazil) | 12043000 | 47 | Ahmedabad (India) | 6482000 |
| 23 | Shenzhen (China) | 11885000 | 48 | Chongqung (China) | 6321000 |
| 24 | Lagos (Nigeria) | 11547000 | 49 | Baghdad (Iraq) | 6204000 |
| 25 | Paris (France) | 10755000 | 50 | Hangzhou (China) | 6178000 |

*Source: www.worldatlas.com/citypops.htm*

## The cycle of urbanisation

The development of urban settlement in the modern period can be seen as a sequence of processes known as the **cycle of urbanisation** (Figure 6.23). The key processes and their landscape implications are: **suburbanisation**, counterurbanisation and **reurbanisation**. In the UK, suburbanisation was the dominant process until the 1960s. From this decade, counterurbanisation increasingly had an impact on the landscape. Reurbanisation of some of the largest cities, beginning in the 1990s, is the most recent phenomenon.




Source: *Edexcel AS Geography* by S. Warn, C. Dunn, S. Oakes, B. Hordern et al. (Philip Allan Updates, 2008), p.147

**Figure 6.23** The cycle of urbanisation

### Suburbanisation

Although the urban Industrial Revolution in Britain began in the late eighteenth century, it was not really until the 1860s that urban areas began to spread out significantly. The main factor in this development was the construction of suburban railway lines. Each railway development spurred a rapid period of house building. Initially, the process of suburbanisation was an almost entirely middle-class phenomenon. It was not until after the First World War, with the growth of public housing, that working-class suburbs began to appear.

In the interwar period, about 4.3 million houses were built in the UK, mainly in the new suburbs. Just over 30 per cent were built by local authorities (councils). The reasons for such a rapid rate of suburban growth were:

- government support for house-building
- the willingness of local authorities to provide piped water and sewerage systems, and gas and electricity
- the expansion of building societies
- low interest rates
- development of public transport routes
- improvements to the road network.

Figure 6.24 describes the development of Stoneleigh, an outer suburb in south-west London (Figure 6.25). In the latter half of the twentieth century, suburbanisation was limited by the creation of Green Belts and the introduction of general planning controls.

## STONELEIGH: A RAILWAY SUBURB

By the end of the 1930s developments were taking place on the rural–urban fringe. Stoneleigh acquired a railway station in 1932 and witnessed spectacular growth thereafter. The Stoneleigh Estate consisted of three farms. These had been offered for building development in the early 1900s but by the end of the 1920s only a few dozen houses had been built. However, following the arrival of the railway, development intensified. By 1933 a 3500 acre site for 3000 homes existed, and the area had a complete set of drains and sewers. By 1937 all farmland and woodland within a 1 mile radius of the railway station had been destroyed.

The housing density at Stoneleigh was low at eight houses per acre. As well as the railway there was a good bus service to Epsom, Surbiton and Kingston. Further developments followed quickly:

- a block of 18 shops (by 1933)
- a sub-post office (1933) and a bank (1934)
- Stoneleigh's first public house (1934)
- a cinema (1937)
- a variety of churches (1935 onwards)
- schools (from 1934)
- recreational grounds at Nonsuch Park and Cuddington.

Stoneleigh benefited from a strong and dynamic residents' association. The residents were aggrieved that nearby working-class areas in Sutton and Cheam were reducing their own land values. They canvassed successfully for boundaries to be redrawn, raising the values of their properties. There were many social activities too, including dances, whist-drives, cricket, children's parties, choral societies, cycling and tennis. This went a long way to creating a sense of community. The chairman of the residents' association was also the editor of a local newspaper, which helped the residents in their aims.

By 1939 Stoneleigh was a model railway suburb. Over 3000 people used the railway each day for commuting to work and it was also useful for reaching the south coast. However, the railway also split the community in two. There were problems for buses and cars trying to move from one side of the town to the other. Socially, it also split the community.

The development of Stoneleigh shows many similarities with other suburbs:

- a variety of housing styles, reflecting the different building companies
- a somewhat chaotic road layout
- complete destruction of the former farming landscape
- ponderous shopping parades
- the claim by some that it is dull and soulless.

Yet because of its poor road layout, in particular the lack of railway crossings, and its housing developments right up to the railway line, it does not have the worst trappings of modern suburban development.

Source: *Geography Review*, September 1998, Philip Allan Updates

**Figure 6.24** Stoneleigh – a railway suburb

Figure 6.25 Stoneleigh – an outer suburb in south-west London

### Counterurbanisation

Urban deconcentration is the most consistent and dominant feature of population movement in most cities in HICs today, in which each level of the settlement hierarchy is gaining people from the more urban tiers above it but losing population to those below it. However, it must be remembered that the net figures hide the reasonable numbers of people moving in the opposite direction. There has been a consistent loss of population for metropolitan England in terms of net within-UK migration. It does not, however, mean an overall population decline of this magnitude, because population change is also affected by natural increase and international migration. London is the prime example of the counterbalancing effect of these last two processes.

Around London, where central rents are particularly high, much office employment has diffused very widely across south-east England. Between 20 and 30 decentralisation centres can be identified in the Outer Metropolitan Area, between 20 and 80 kilometres from central London, especially along the major road and rail corridors. Examples include Dorking, Guildford and Reigate.

### Reurbanisation

In very recent years, British cities have, to a limited extent so far, reversed the population decline that has dominated the post-war period. Central government finance, for example the millions of pounds of subsidies poured into London's Docklands, Manchester's Hulme wastelands and Sheffield's light railway, has been an important factor in the revival. New urban design is also playing a role. The rebuilding of part of Manchester's city centre after a massive IRA bomb has allowed the planners to add new pedestrian areas, green spaces and residential accommodation. A recent example is Birmingham's Big City Plan, set out in 2010, which plans for radical change in the city centre. The Big City Plan will co-ordinate the redevelopment of the area over the next 20 years.

The reduction in urban street crime due to the installation of automated closed-circuit surveillance cameras has significantly improved public perception of central areas (Figure 6.26). Rather than displacing crime to nearby areas, as some critics have claimed, a Home Office study found that, on the contrary, the installation of cameras had a halo effect, causing a reduction in crime in surrounding areas.

Is the recent reurbanisation just a short-term blip or the beginning of a significant trend, at least in the medium term? Perhaps the most important factor favouring the latter is the government's prediction in the late 1990s of the formation of 4.4 million extra households over the next two decades, 60 per cent of which will have to be housed in existing urban areas because there is such fierce opposition to the relaxation of planning restrictions in the countryside. Also, as many of the new households will be single-person units, the existing urban areas may well be where most of them would prefer to live.

Figure 6.26 Reurbanisation in the central area of Reading, UK

## Case Study: The rejuvenation of inner London

For the first time in about 30 years, London stopped losing population in the mid-1980s and has been gaining people ever since, due to net immigration from overseas and natural increase. Perhaps the most surprising aspect of this trend is the rejuvenation of inner London, where the population peaked at 5 million in 1900 but then steadily dropped to a low of 2.5 million by 1983. The 2011 census recorded a population of 3.23 million in inner London, the highest since the 1961 census (3.34 million). Inner London has benefited from a number of regeneration projects (Figure 6.27), some of them very large in scale. The overall effect has been to improve housing, services, employment and the environment. ⇨

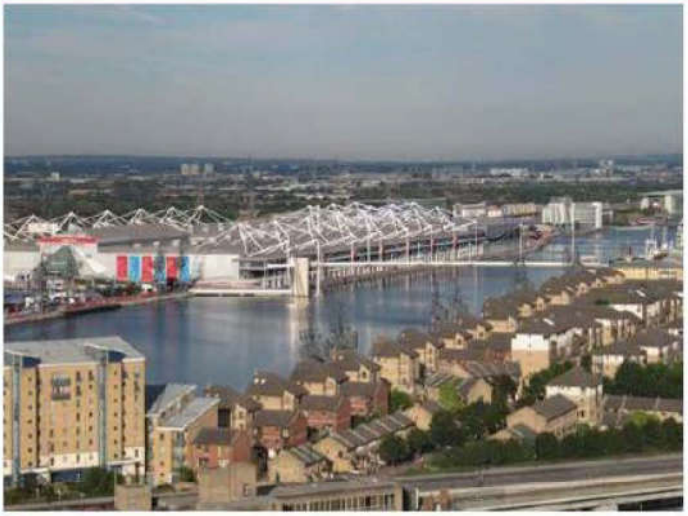


Figure 6.27 Regeneration in inner London

Young adults now form the predominant population group in inner London, whereas in the 1960s all the inner London boroughs exhibited a mature population structure. Inner London is seen as a vibrant and attractive destination by young migrants from both the UK and abroad.

Gentrification has been an important part of change in inner London. The term 'gentrification' was first coined in 1963 by the sociologist Ruth Glass to describe the changes occurring in the social structure and housing market in parts of inner London. The process involved:

- the physical improvement of the housing stock (Figure 6.28)
- a change in housing tenure from renting to owning
- an increase in house prices
- the displacement or replacement of the working class by the new middle class.

Figure 6.28 Gentrification of terraced housing in inner London

## Section 6.2 Activities

1 What is the cycle of urbanisation?
2 With reference to Figure 6.24, describe the process of suburbanisation.
3 What is counterurbanisation and when did it begin?
4 a Define reurbanisation.
  b Explain the reasons for the occurrence of this process.

## Competition for land

All urban areas exhibit competition for land to varying degrees. Such competition varies according to location, and the level of competition can change over time. The best measures of competition are the price of land and the rents charged for floorspace in buildings. However, planning measures such as **land-use zoning** and other restrictions can complicate the free market process to a considerable degree. Bid-rent theory does much to explain how competition for land can result in **functional zonation** – this is discussed in more detail in the next section. Space does not usually stay idle for long in the sought-after parts of urban areas. However, there are areas of some cities where dereliction has been long-standing. Here, the land may be unattractive for both residential and business purposes and it may require substantial investment from government to bring the area back into active use again.

### Renewal and redevelopment

**Urban redevelopment** involves complete clearance of existing buildings and site infrastructure and constructing

new buildings, often for a different purpose, from scratch. In contrast, **urban renewal** keeps the best elements of the existing urban environment (often because they are safeguarded by planning regulations) and adapts them to new usages. Simple examples are where a bank has been turned into a restaurant, keeping the former's façade but altering the inside of the building to suit its new purpose. Urban renewal helps to maintain some of the historic character of urban areas.

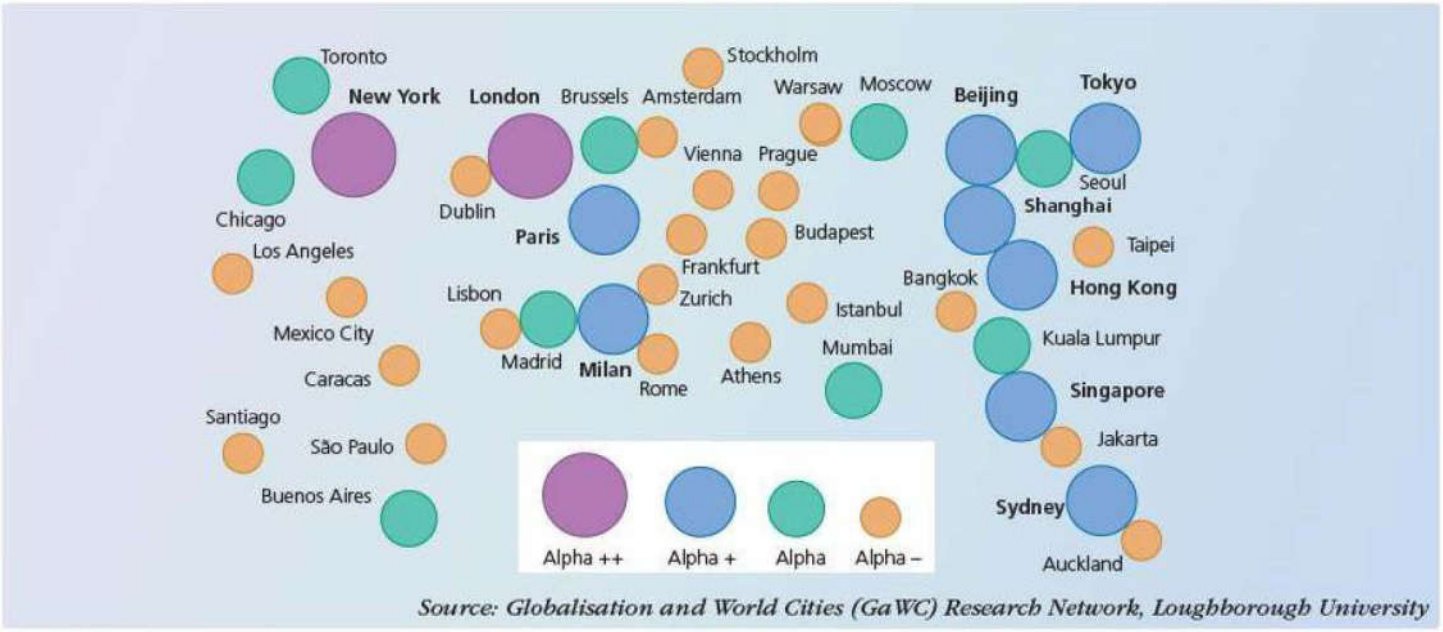
In cities in various countries where damage was extensive as a result of the Second World War, large-scale redevelopment took place in the subsequent decades. The general model was to completely clear the land (redevelopment) and build anew. However, from the 1970s renewal gained increasing acceptance and importance in planning circles. In more recent years, the term **urban regeneration** has become increasingly popular. This involves both redevelopment and renewal.

In the UK, urban development corporations were formed in the 1980s and early 1990s to tackle large areas of urban blight in major cities around the country. The establishment of the London Docklands Development Corporation in 1981 set in train one of the largest urban regeneration projects ever undertaken in Europe. An important part of this development was the construction of Canary Wharf, which extended London's CBD towards the east. The regeneration of the Lower Lea Valley is a more recent development, stimulated by the granting of the 2012 Olympic Games to London.

The Lower Lea Valley was one of the most deprived communities in the country and was seen as the largest remaining regeneration opportunity in inner London. Unemployment was high and the public health record poor. This run-down environment with an industrial history suffered from a lack of **infrastructure**. Most of the existing industry provided only low-density employment. Flytipping had been a major problem here for many years. The area is one of the most ethnically diverse in the UK. It had a negative image both within East London and in the capital city as a whole. It is hoped that the Olympic Games have transformed the Lower Lea Valley and much of the surrounding area, bringing permanent prosperity through the process of **cumulative causation**. The development that the Olympics brought was dovetailed with the existing regeneration framework. The total investment in the area exceeded £9 billion, much of which went into transport improvement. Plans to develop the Lower Lea Valley had been around for some time – the development role of the Olympic Games has been to speed up this process.

## Global (world) cities

A **global (world) city** is one that is judged to be an important nodal point in the global economic system. The term 'global city' was first introduced by Saskia Sassen in her book *The Global City* published in 1991. Initially referring to New York, London and Tokyo, Sassen described global cities as ones that play a major role in global affairs in terms of politics, economics and culture. The number of global cities has increased significantly in recent decades as the process of globalisation has deepened. Global cities are defined by influence rather than size. Which large cities in terms of population do not appear on Figure 6.29? For example, in the USA, Los Angeles is larger in population size than Chicago, but while Chicago has Alpha status, Los Angeles does not merit an Alpha ranking.




*Source: Globalisation and World Cities (GaWC) Research Network, Loughborough University*

Figure 6.29 Alpha global cities

## Hierarchy of world cities

The Globalisation and World Cities (GaWC) Research Network at Loughborough University has identified various levels of global city. Figure 6.29 shows those cities termed the 'Alpha' cities in 2008, which are subdivided into four categories. Only New York and London are placed in the highest Alpha++ category under this classification. Beijing is in the Alpha+ category, along with Shanghai, Hong Kong and Tokyo in the East Asia geographical region. The remaining cities in this category are Paris, Singapore (Figure 6.30) and Sydney. The GaWC analysis also recognises four lower levels of urban area around the world. The next two levels in the global city hierarchy, the Beta and Gamma levels, are shown in Table 6.4. The results are based upon the office networks of 175 advanced producer service firms in 526 cities in 2008.

Figure 6.30 Singapore – a world city

Table 6.4 Beta and Gamma global cities

| Beta + | Beta | Beta – | Gamma + | Gamma | Gamma – |
|---|---|---|---|---|---|
| Washington | Oslo | Munich | Montreal | Ljubljana | Detroit |
| Melbourne | Berlin | Jeddah | Nairobi | Shenzhen | Manchester |
| Johannesburg | Helsinki | Miami | Bratislava | Perth | Wellington |
| Atlanta | Geneva | Lima | Panamá City | Kolkata | Riga |
| Barcelona | Copenhagen | Kiev | Chennai | Guadalajara | Guayaquil |
| San Francisco | Riyadh | Houston | Brisbane | Antwerp | Edinburgh |
| Manila | Hamburg | Guangzhou | Casablanca | Philadelphia | Porto |
| Bogatá | Cairo | Beirut | Denver | Rotterdam | San Salvador |
| Tel Aviv | Luxembourg | Karachi | Quito | Amman | St Petersburg |
| New Delhi | Bangalore | Düsseldorf | Stuttgart | Portland | Tallinn |
| Dubai | Dallas | Sofia | Vancouver | Lagos | Port Louis |
| Bucharest | Kuwait | Montevideo | Zagreb | | San Diego |
| | Boston | Nicosia | Manama | | Islamabad |
| | | Rio de Janeiro | Guatemala City | | Birmingham (UK) |
| | | Ho Chi Minh City | Cape Town | | Doha |
| | | | San José (CR) | | Calgary |
| | | | Minneapolis | | Almaty |
| | | | Santo Domingo | | Columbus |
| | | | Seattle | | |

In 2008, the American journal *Foreign Policy* published its Global Cities Index. The rankings are based on 24 measures over five areas:

- business activity
- human capital
- information exchange
- cultural experience
- political engagement.

*Foreign Policy* noted that 'the world's biggest, most interconnected cities help set global agendas, weather transnational dangers, and serve as the hubs of global integration. They are the engines of growth for their countries and the gateways to the resources of their regions.'

### Causes of the growth of world cities

The growth of global cities has been due to:

- **demographic trends** – significant rates of natural increase and in-migration at different points in time for cities in HICs, MICs and LICs; large population clusters offer potential in terms of both workforce and markets
- **economic development** – the emergence of major manufacturing and service centres in national and continental space, along with the development of key transport nodes in the global trading system
- **cultural/social status** – the cultural facilities of large cities are an important element of their overall attraction to FDI and tourism
- **political importance** – many global cities are capital cities, benefiting from particularly high levels of investment in infrastructure.

There will undoubtedly be many changes in the hierarchy of global cities as the years unfold. The rapid development of many NICs will have a significant impact on the rankings. Africa is so far unrepresented on the Alpha list, but cities such as Johannesburg, Cairo and Lagos may well get there in the not-too-distant future. In contrast, other established global cities may decline in importance.

### Section 6.2 Activities

1 What is a *global city*?
2 Describe the levels and distribution of global cities shown in Figure 6.29.
3 On an outline map of the world, show the locations of the Beta global cities shown in Table 6.4.
4 Suggest how global cities can rise and fall in terms of their level or grading.

# 6.3 The changing structure of urban settlements

## Functional zonation

The patterns evident and the processes at work in large urban areas are complex, but by the beginning of the twentieth century geographers and others interested in urban form were beginning to see more clearly than before the similarities between cities, as opposed to laying stress on the uniqueness of each urban entity. The first generalisation about urban land use to gain widespread recognition was the concentric zone model emanating from the so-called 'Chicago School'.

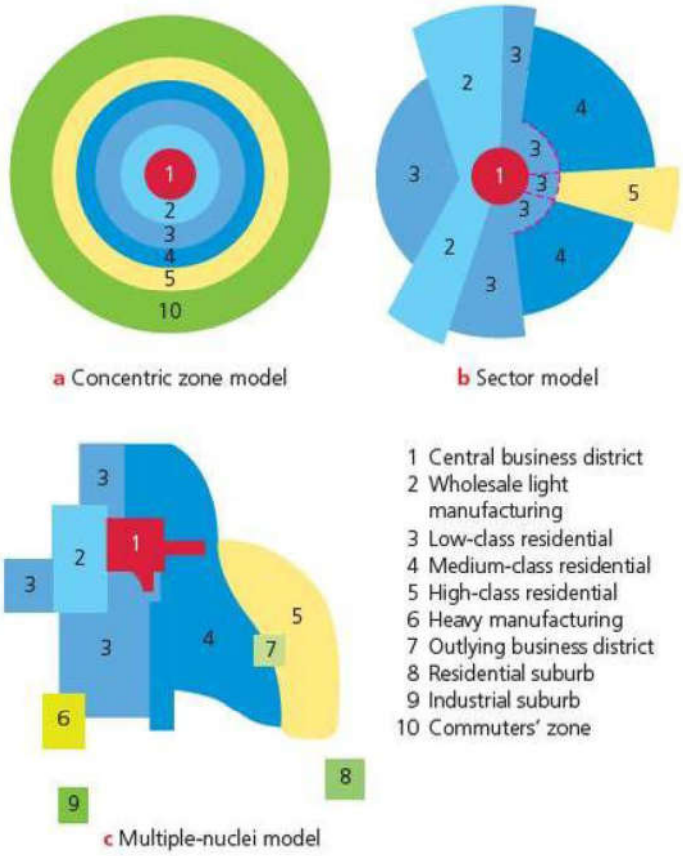
### The concentric zone model

Published in 1925, and based on American Mid-Western cities, particularly Chicago (Figure 6.31), E.W. Burgess's model (Figure 6.32) has survived much longer than perhaps its attributes merit as it has only limited applicability to modern cities. However, it did serve as a theoretical foundation for others to investigate further.

Figure 6.31 The CBD of Chicago

The main assumptions upon which the model was based are:

- a uniform land surface
- free competition for space
- universal access to a single-centred city
- continuing in-migration to the city, with development taking place outward from the central core.




Source: *OCR AS Geography* by M. Raw (Philip Allan Updates, 2008), p.203

**Figure 6.32** Concentric zone, sector and multiple-nuclei models

Burgess concluded that the city would tend to form a series of concentric zones. The model's basic concepts were drawn from ecology, with the physical expansion of the city occurring by invasion and succession, with each of the concentric zones expanding at the expense of the one beyond.

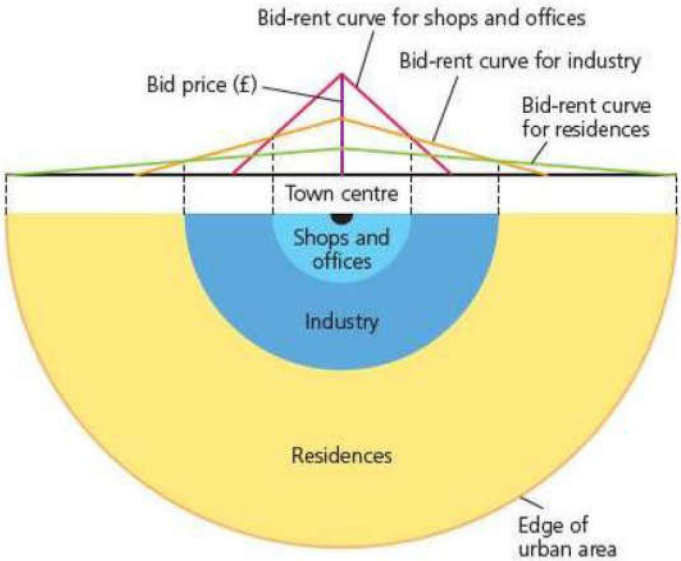
Business activities agglomerated in the CBD, which was the point of maximum accessibility for the urban area as a whole. Surrounding the CBD was the **zone in transition** where older private houses were being subdivided into flats and bedsits or converted to offices and light industry. Newcomers to the city were attracted to this zone because of the concentration of relatively cheap, low-quality rented accommodation. In-migrants tended to group in ethnic ghettos and areas of vice could be recognised (Figure 6.33). However, as an ethnic group assimilated into the wider community – economically, socially and politically – its members would steadily move out to zones of better housing, to be replaced by the most recent arrivals. Beyond the zone in transition came the 'zone of working-men's homes' characterised by some of the oldest housing in the city and stable social groups. Next came the 'residential zone' occupied by the middle classes with its newer and larger houses. Finally, the commuters' zone extended beyond the built-up area.

**Figure 6.33** Subway graffiti, the Bronx – inner-city New York

Burgess observed in his paper that 'neither Chicago nor any other city fits perfectly into this ideal scheme. Complications are introduced by the lake front, the Chicago River, railroad lines, historical factors in the location of industry, the relative degree of the resistance of communities to invasion, etc.'

## Bid-rent theory

Alonso's theory of urban land rent (1964), generally known as **bid-rent theory**, also produces a concentric zone formation, determined by the respective ability of land uses to pay the higher costs of a central location (Figure 6.34). The high accessibility of land at the centre, which is in short supply, results in intense competition among potential land users. The prospective land use willing and able to bid the most will gain the most central location. The land use able to bid the least will be relegated to the most peripheral location.




Source: *OCR AS Geography* by M. Raw (Philip Allan Updates, 2008), p.207

**Figure 6.34** The bid-rent model

Alonso explained the paradox of poorer people living on expensive land in inner areas and more affluent people living on cheaper land further out as follows:

- With poor personal mobility, low-income groups prefer to reside in inner locations. They overcome the problem of land costs by living at high densities, each household buying or renting only a small amount of space.
- The more affluent, desiring a large house and garden, seek out cheaper land in the low-density suburbs where they can realise their 'dreams'. Being highly mobile, they trade off space against accessibility to the CBD.

The assumptions upon which the theory is based and the criticisms of it are similar to the Burgess model.

### The sector model

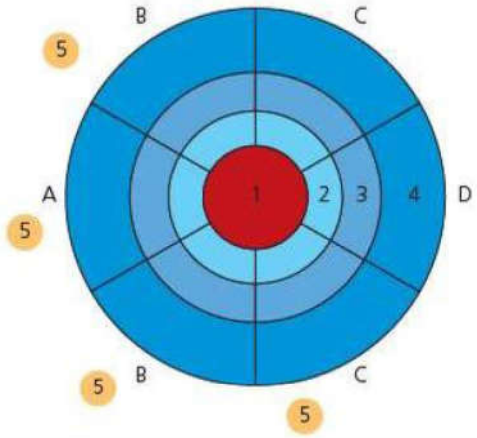
Homer Hoyt's **sector** model (1939) was based on the study of 142 cities in the USA (Figure 6.32). Following Burgess, Hoyt placed the business district in a central location for the same reason – maximum accessibility. However, he observed that once variations arose in land uses near to the centre, they tended to persist as the city expanded. High-income housing usually developed where there were distinct physical or social attractions, with low-income housing confined to the most unfavourable locations. Middle-income groups occupied intermediate locations. Major transport routes often played a key role in influencing sectoral growth, particularly with regard to industry. As new land was required by each sector, it was developed at the periphery of that sector. However, medium- and high-class housing near the centre – the oldest housing in each case – was subject to suburban relocation by its residents, leading to deterioration, subdivision and occupation by low-income groups.

### The multiple-nuclei model

C.D. Harris and E. Ullman (1945) argued that the pattern of urban land use does not develop around a single centre but around a number of discrete nuclei (Figure 6.32). Some nuclei may be long established, for example old villages that have been incorporated into the city by urban expansion. Others, such as industrial estates for light manufacturing, are much newer. Similar activities group together, benefiting from agglomeration, while some land uses repel others. Middle- and high-income house-buyers can afford to avoid residing close to industrial areas, which become the preserve of the poor. A very rapid rate of urban expansion may result in some activities being dispersed to new nuclei, such as a new out-of-town shopping centre.

### A British urban land-use model

P. Mann based his land-use model for a typical British city on the theories of both Burgess and Hoyt (Figure 6.35), which he tried to apply to Sheffield, Nottingham and Huddersfield. The outcome was very much a compromise between the two models, which he regarded as being complementary. Identifying four residential sectors from middle class to lower working class, he noted the influence of prevailing winds on the location of industry and the most expensive housing. He also allowed for local-authority house-building (the influence of planning), particularly towards the periphery of the urban area, and for commuter villages.




1 City centre
2 Transitional zone
3 Zone of small terraced houses in sectors C and D, bye-law houses in sector B, large old houses in sector A
4 Post-1918 residential areas with post-1945 development mainly on periphery
5 Commuting-distance villages

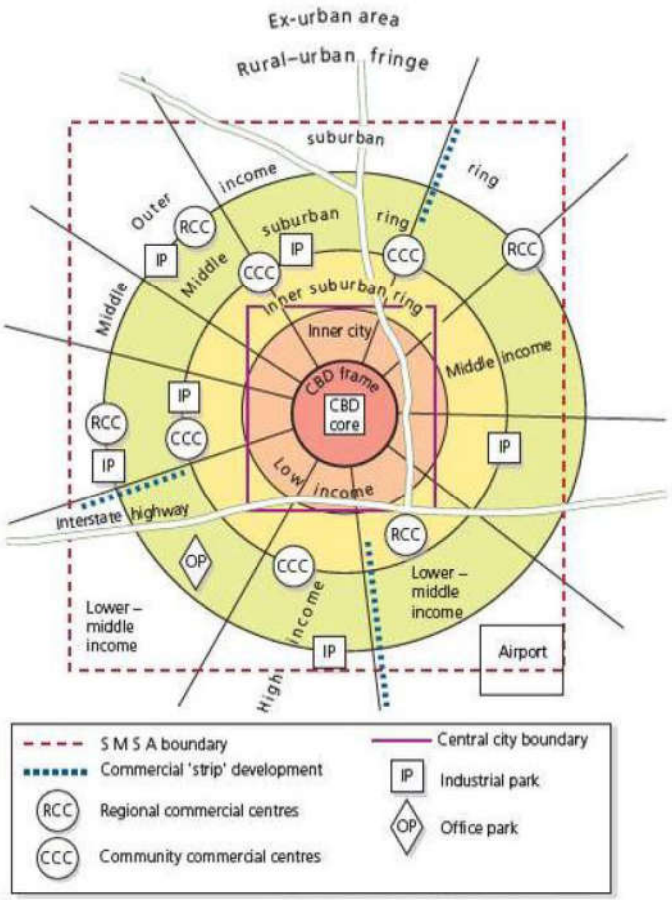
A Middle-class sector
B Lower-middle-class sector
C Working-class sector (and main municipal housing areas)
D Industrial and lowest working-class areas

Source: *OCR AS Geography* by M. Raw (Philip Allan Updates, 2008), p.206

**Figure 6.35** Mann's structure of a British city

### A model of the modern North American city

Another model that incorporates aspects of both Burgess and Hoyt was produced by David Clark (Figure 6.36) in his book *Post-Industrial America*, although similar diagrams have also been produced by others. Here, the CBD is subdivided into a core and a frame. Outside the low-income inner city are three suburban rings, divided into sectors of lower-middle, middle and high income. Important elements in the commercial hierarchy are included, along with industrial and office parks. Thus decentralisation is a key element of this model. The central city boundary shows the legal limits of the main city that once contained the whole urban area. In the twentieth century, the city has sprawled way beyond its legal limits to incorporate other legal entities. The Standard Metropolitan Statistical Area (SMSA) also includes the rural sections of counties that form part of the wider urban area.




Source: *Advanced Geography: Concepts & Cases*, P. Guinness & G. Nagle (Hodder Education, 1999), p.92

**Figure 6.36** The spatial structure of the post-industrial American city

## Models of cities in LICs and MICs

Although the development of urban land-use models has favoured Western cities, some interesting contributions relating to cities in LICs, MICs and socialist cities have appeared at various points in time.

Griffin and Ford's model, upon which Figure 6.37 is based, summarises many of the characteristics that they noted in modern Latin American cities:

- Central areas, which had changed radically from the colonial period to now, exhibit most of the characteristics of modern Western CBDs.
- The development of a commercial spine, extending outwards from the CBD, is enveloped by an elite residential sector.
- There is a tendency for industries, with their need for urban services such as power and water, to be near the central area.
- The model includes a 'zone of maturity' with a full range of services containing both older, traditional-style housing and more recent residential development. The traditional housing, once occupied by higher-income families who now reside in the elite sector, has generally undergone subdivision and deterioration. A significant proportion of recent housing is self-built of permanent materials and of reasonable quality.
- Also included is a zone of '*in situ* accretion', with a wide variety of housing types and quality but with much still in the process of extension or improvement. Urban services tend to be patchy in this zone, with typically only the main streets having a good surface. Government housing projects are often a feature of this zone (Figure 6.38).
- There is a zone of squatter settlements, which are the place of residence of most recent in-migrants. Services in this zone are at their most sparse, with open trenches serving as sewers and communal taps providing water. Most housing is of the **shanty** type, constructed of wood, flattened oil-cans, polythene and any other materials available at the time of construction. The situation is dynamic and there is evidence of housing at various stages of improvement.

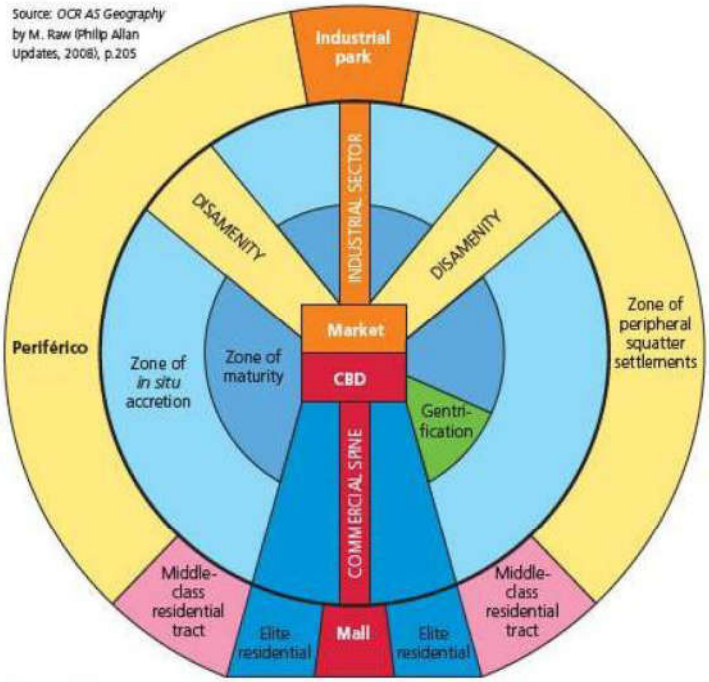



**Figure 6.37** Latin American city model

**Figure 6.38** Low-cost government housing – Manaus, Brazil

Figure 6.39 High-rise apartment blocks in the inner area of São Paulo

### Urban density gradients

Contrasting functional zones within urban areas characteristically vary in residential population density. Examination of population density gradients, termed 'gradient analysis', shows that for most cities densities fall with increasing distance from the centre (Figure 6.39).

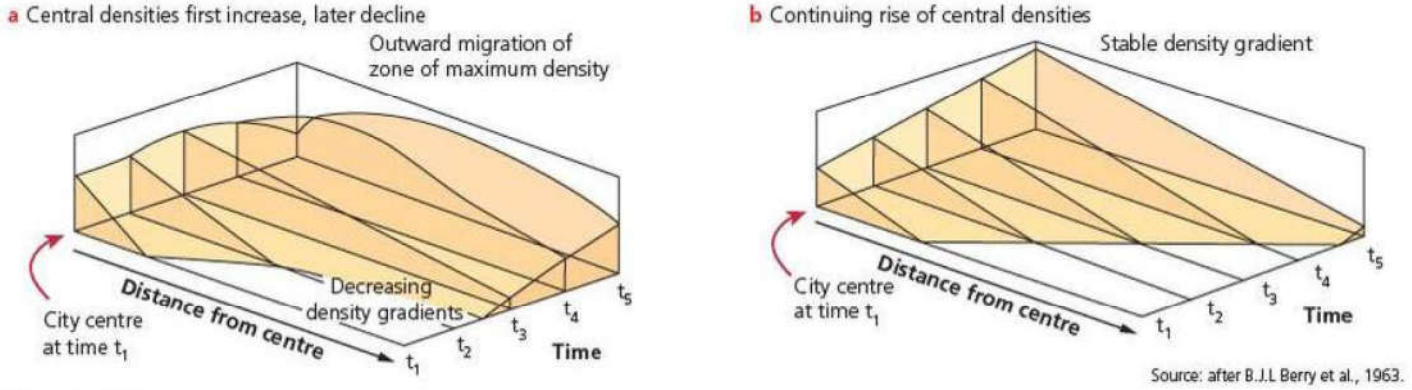
Gradient analysis of cities in HICs over time (Figure 6.40a) shows the following trends:

- the initial rise and later decline in density of the central area
- the outward spread of population and the consequent reduction in overall density gradient over time.

In contrast, analysis of density gradients in LICs and MICs shows:

- a continuing increase in central area densities (Figure 6.40b)
- the consequent maintenance of fairly stable density gradients as the urban area expands.

In cities in LICs and MICs, both personal mobility and the sophistication of the transport infrastructure operate at a considerably lower level. Also, central areas tend to retain an important residential function. Both of these factors result in a more compact central area and the transport factor in particular has restricted urban sprawl to levels below that of cities in HICs. The presence of extensive areas of informal settlement in the outer areas also results in higher suburban densities. However, in the more advanced LICs and MICs, where car ownership is rising rapidly, significant sprawl is now occurring.




Source: after B.J.L Berry et al., 1963.

Figure 6.40 Changes in urban density gradients through time

## Section 6.3 Activities

1 With reference to Figure 6.32, briefly explain the differences between the three models illustrated.
2 Identify the main features of Mann's land-use model for a typical British city.
3 Briefly describe and explain the main elements of the model illustrated in Figure 6.36.
4 Comment on the main characteristics of the model of Latin American cities shown in Figure 6.37.
5 a Define the term *urban density gradient*.
b How and why do urban density gradients differ between cities in HICs and LICs/MICs?

## ☐ Factors affecting the location of urban activities

A range of factors affects the location of urban activities such as retailing, manufacturing, office functions, education, health, leisure and open space. Most, if not all, of these factors can be placed under two general headings:

- **Market forces** – the demand and supply of land in various locations dictates its price.
- **Local or central government planning decisions** – planners can overrule market forces where they consider it necessary for the public good. Government may be able to decide, within certain constraints, where the locations of public housing, open spaces, schools, hospitals and public buildings should be.

Under extreme conditions, government can issue compulsory purchase orders. This is most likely to happen when privately owned land is in the way of a planned new transport route.

## Manufacturing industry

The relatively compact nature of towns and cities during the Industrial Revolution years of the nineteenth century resulted in a concentration of manufacturing industry in the inner cities of the twentieth century as the era of the motor vehicle allowed cities to sprawl far beyond their previous limits. However, as the decades evolved, the disadvantages of inner-city location became more and more obvious. The first reaction to the constraints of inner-city sites was to select new suburban locations, but increasingly, from the 1960s in particular, manufacturing industry has been attracted to rural areas. The process of **deindustrialisation**, involving the filter-down of manufacturing industry from HICs to MICs, has resulted in many factory closures in more affluent countries. The term **post-industrial city** is now commonly used when referring to HICs.

The explanation for the inner-city decline of manufacturing industry lies largely in **constrained location theory**. This identifies the problems encountered by manufacturing firms in congested cities, particularly in the inner areas:

- The industrial buildings of the nineteenth and early twentieth centuries, mostly multi-storey, are generally unsuitable for modern manufacturing, which has a preference for single-storey layout.
- The intensive nature of land use usually results in manufacturing sites being hemmed in by other land users, thus preventing on-site expansion.
- The size of most sites is limited by historical choice and frequently deemed to be too small by modern standards, making change of use to housing, recreation or other uses likely. Old sites can rarely accommodate industrial estates, the preferred form of industrial location in most local-authority areas.
- Where larger sites are available, the lack of environmental regulations in earlier times has often resulted in high levels of contamination. In such situations, reclamation is very costly indeed.
- The high level of competition for land in urban areas has continuously pushed up prices to prohibitive levels for manufacturing industry in many towns and cities.

Other factors specific to inner cities that have contributed to manufacturing loss are:

- Urban-planning policies in the form of the huge slum-clearance schemes of the 1950s, 1960s and 1970s meant that factories located in slum-housing areas were frequently demolished too.
- Regional economic planning also had an impact in some areas, with incentives to industry to relocate to another part of a country.
- Before the era of decline, important inter-firm linkages had been built up in inner-city areas. As these links were steadily broken, the locational *raison d'être* of the remaining inner-city firms gradually evaporated.

Although manufacturing employment has declined in cities as a whole in recent decades, job loss has been much more severe in inner cities than in suburban areas. Thus there has been a marked relative shift of manufacturing employment within urban areas in favour of the suburbs, and in a few instances manufacturing employment in the suburbs has shown an absolute increase.

The movement of people from inner to suburban areas increased the relative strength of the latter in terms of labour supply. For some industries, population movement also meant a locational shift of their markets. Investment in new roads, particularly motorways, dual-carriageways and ring roads, has given many suburban areas a very high level of accessibility. Industrial estates in suburban areas are usually much larger than those in inner areas because of contrasts in building density and competition for land. Land prices and rents are in general considerably lower in suburban locations. Also, the quality of life is perceived to be significantly higher in suburban locations.

## Retailing

The location and characteristics of retailing have changed significantly in most cities in recent decades. Changes within the CBD itself are discussed in the next section. Outside the CBD, large urban areas have witnessed the development of particular features:

- **Suburban CBDs** – As urban areas increase in population size and urban sprawl occurs, more people find themselves at a considerable distance from the central CBD. Suburban retail and business centres develop to satisfy this demand.
- **Retail parks** – These entities are characterised by retail units requiring very large floorspace and a large area for car parking. They are invariably located along key arterial and ring roads.
- **Urban superstores** – These single-owner retail units (very large supermarkets) are located at points of high accessibility and consumer demand.
- **Out-of-town shopping centres** – Large indoor shopping centres are located at the edge of cities or in the rural areas beyond. Table 6.5 summarises the advantages and disadvantages of out-of-town shopping centres.
- **Internet shopping and home delivery services** – Such services are rapidly increasing in popularity and threaten the future existence of certain types of shops.

Table 6.5 Advantages and disadvantages of out-of-town shopping centres

| Advantages | Disadvantages |
|---|---|
| • Plenty of free parking<br>• Lots of space so shops are not cramped<br>• New developments so usually quite attractive<br>• Easily accessible by car<br>• Being large means the shops can sell large volumes of goods and often at slightly lower prices<br>• Having a large shop means that individual shops can offer a greater range of goods than smaller shops<br>• Being on the edge of town means the land price is lower so the cost of development is kept down<br>• Developments on the edge of town reduce the environmental pressures and problems in city centres<br>• Many new jobs may be created both in the short term (construction industry) and in the long term (retail industry and linked industries such as transport, warehousing, storage, catering, etc.) | • They destroy large amounts of undeveloped greenfield sites<br>• They destroy valuable habitats<br>• They lead to pollution and environmental problems at the edge of town<br>• An increase in impermeable surfaces (shops, car parks, roads, etc.) may lead to an increase in flooding and a decrease in water quality<br>• They only help those with cars (or those lucky enough to live on the route of a courtesy bus) – people who do not benefit might include elderly people, those without a car, those who cannot drive<br>• Successful out-of-town developments may take trade away from city centres and lead to a decline in sales in the CBD<br>• Small businesses and family firms may not be able to compete with the vast multinational companies that dominate out-of-town developments – there may be a loss of the 'personal touch'<br>• They cause congestion in out-of-town areas<br>• Many of the jobs created are unskilled |

### Other services

The range of urban services that people use over a long time period can be extensive, often changing significantly during a person's lifetime. The location of some of these services may change more than others. For example:

- **Health** – There has been a tendency in many countries to invest in larger hospitals and health centres in order to achieve economies of scale, resulting in the closure of smaller local hospitals and clinics. Thus the average person has to travel further to reach their nearest hospital.
- **Education** – Although primary schools have tended to remain local in character, secondary education is generally being provided in larger schools than in the past, increasing the distance between such schools, resulting in longer 'journey to school' times. This has considerable implications for traffic congestion in cities.
- **Sport** – The redevelopment of sports stadia (football, cricket, baseball, and so on) often results in a move from an inner city to a suburban or edge-of-city location due to a shortage of space and congestion in inner-city locations.

Over the years, an increasing number of land uses that require large sites and are mainly used by urban residents have been located in the **rural–urban fringe**. This is the boundary zone where rural and urban land uses meet. It is an area of transition from agricultural and other rural land uses to urban use. It is characterised by a mix of land uses, all requiring a lot of space. Such uses include theme parks, race courses, golf courses, cemeteries, hospitals and colleges. It is logical for these land uses to locate where the space requirements can be met as close as possible to the built-up area.

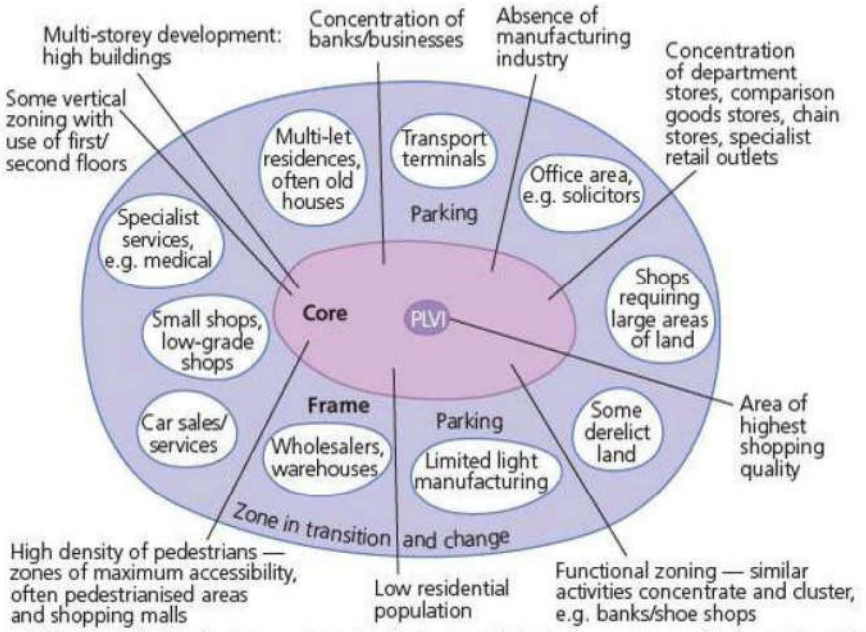
A major issue with regard to service provision is the role of **key workers** such as nurses, teachers and police officers. Such workers are absolutely vital for the efficient running of an urban area. However, many key workers on modest salaries struggle with high costs of housing in many cities. Some cities have developed schemes to help key workers with the cost of housing.

## The changing central business district

The CBD is the commercial core of an urban area, which exhibits the highest land values (Figures 6.41 and 6.42). It is the focus of public transport systems and, in theory at least, the most accessible area in a city. A high level of accessibility results in high land values and rents, which in turn encourage vertical development. Most large CBDs exhibit a core and a frame (Figure 6.43).

Figure 6.41 Pedestrianised precinct – CBD of Reading, UK

Figure 6.42 Large indoor shopping centre – the Eaton Centre, Toronto, Canada




PLVI = Peak land value intersection: the highest rated, busiest, most accessible part of a CBD

Source: *AQA A2 Geography* by A. Barker, D. Redfern & M. Skinner (Philip Allan Updates, 2009), p.165

**Figure 6.43** The key features of the CBD

Major retailing and office functions dominate the core, alongside theatres, cinemas, restaurants, bars, hotels and key public buildings. Vertical zoning is often apparent, with retailing occupying lower floors and offices above. Similar functions often locate together, for example department stores and theatres. The high land values of the CBD result in extremely low residential populations. This contrasts with the very high pedestrian flows recorded in CBDs – a combination of a large number of people attracted to the CBD to purchase goods and services and the very significant number of people who work there.

Traffic congestion is a universal problem in CBDs and thus it is not surprising that this is the urban zone with the greatest traffic restrictions. In London, a congestion charge zone covers much of the CBD. At the time of writing, motorists have to pay £11.50 a day to enter the zone.

CBDs change over time. Common changes in many HICs and an increasing number of MICs and LICs have been:

- pedestrianised zones
- indoor shopping centres
- environmental improvements
- greater public transport coordination
- ring roads around the CBD with multi-storey car parks.

Some parts of the CBD may expand into the adjoining inner city (a zone of assimilation), while other parts of the CBD may be in decline (a zone of discard). The CBD is a major factor in the economic health of any urban area. Its prosperity can be threatened by a number of factors (Figure 6.44). CBDs are often in competition with their nearest neighbours and are constantly having to upgrade their facilities to remain attractive to their catchment populations.


Source: *AQA A2 Geography* by A. Barker, D. Redfern & M. Skinner (Philip Allan Updates, 2009), p.166

**Figure 6.44** Factors influencing CBD decline

Urban redevelopment can be a major factor in CBD change (Figure 6.45). The redevelopment of London Docklands changed London's CBD from a bi-nuclear entity (the West End and the City) to its current tri-nuclear form (West End, City, Canary Wharf). In the West End retailing is the dominant function, whereas in the City offices dominate, for example the latter area contains the Bank of England, the Stock Exchange and Lloyd's of London (insurance). Canary Wharf was planned to have a good mixture of both offices and retailing. It has been an important development in maintaining London's position as a major global city (Figure 6.46).


Figure 6.45 Times Square – part of the CBD of New York

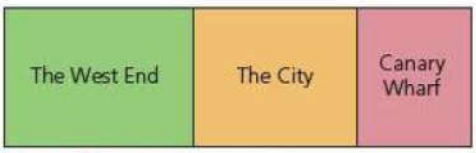



Figure 6.46 London's CBD

## Residential segregation

Residential segregation is very apparent in cities in HICs, MICs and LICs. The main causes of residential segregation are income and race/ethnicity. The processes that result in residential segregation include:

- the operation of the housing market
- planning
- culture
- the influence of family and friends.

The way the housing market operates in an urban area or a country as a whole significantly determines the number of housing units built, the type of housing, the availability of mortgages and where housing construction takes place. The last is of course also heavily influenced by planning. In terms of the number of housing units built, the ideal situation is where the supply of housing matches the demand. In such a situation, in theory, housing should be reasonably affordable with little overcrowding. However, in so many urban areas housing is in short supply, resulting in high prices and overcrowding at the lower end of the housing market in particular. Residential segregation tends to become more intense when housing is in short supply, with people on lower incomes gradually pushed out of desirable areas and into what is sometimes termed the 'urban periphery'.

Access to finance, mainly in terms of the availability of mortgages, is an important factor in the efficient operation of the housing market. Where access to housing finance is generally good, the level of residential segregation is likely to be less intense compared to a situation where housing finance is difficult to access.

The tenure of housing is also a major issue, with the proportion of housing units that are classed as 'social housing' a major factor here. Where the proportion of social housing is significant, the way it is distributed in an urban area has a major impact on residential segregation. The situation where planners aim for a good social mix in an urban area is very different from the grouping of social housing in distinct areas, which may result in 'urban ghettos'.

Culture can be a strong determinant of where people want to live in an urban area. Income may allow people to live in certain areas, but if they do not feel 'comfortable' in an area they will tend to avoid it. This factor is strongly linked to the influence of family and friends.

London provides a prime example of residential segregation. On all socio-economic measures, the contrast between the relative deprivation of inner London and the affluence of outer London is striking. London is made up of the City of London and the 32 boroughs, of which 13 are in inner London and 19 in outer London (Figure 6.47).

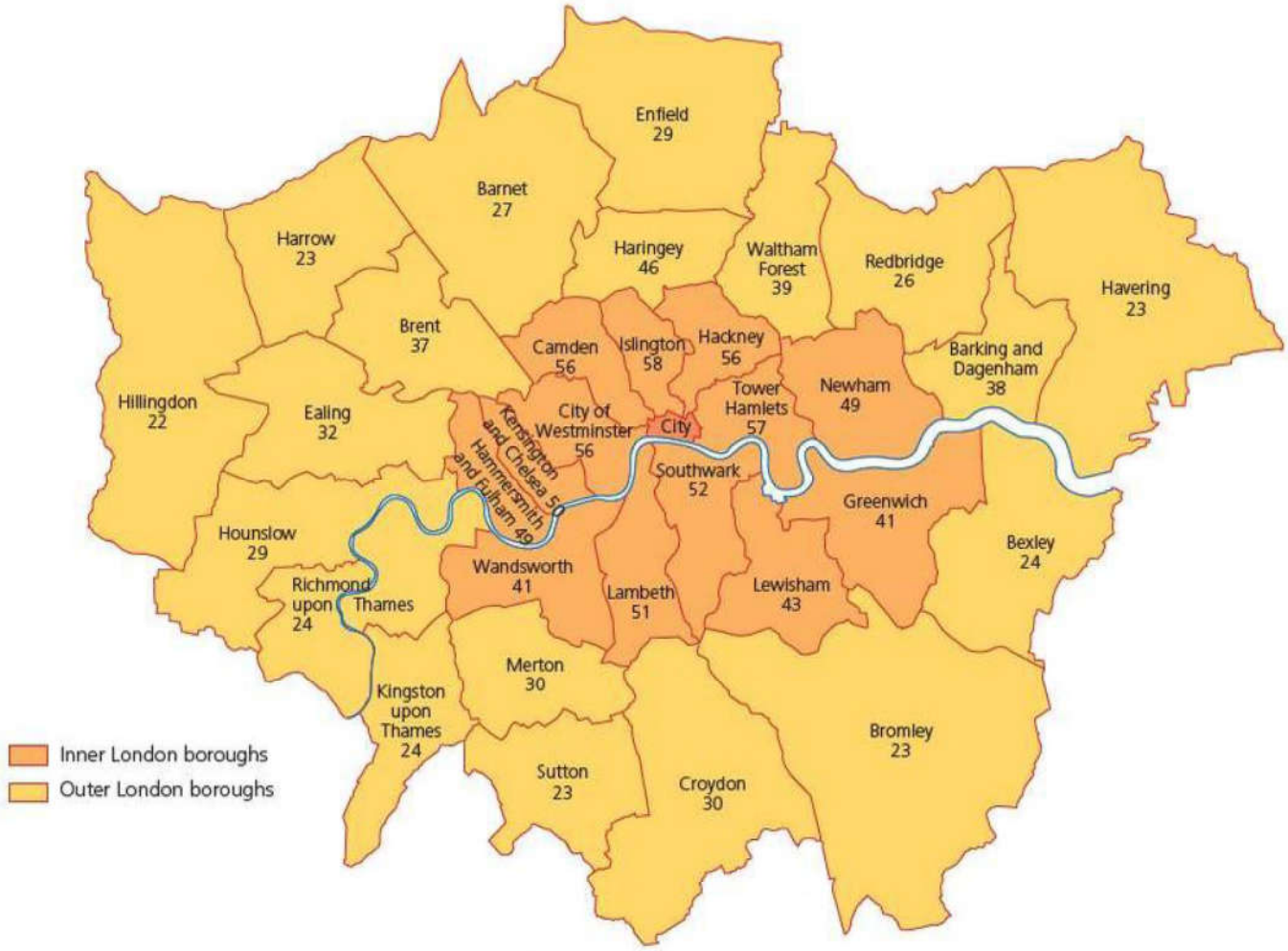



Figure 6.47 London – percentage of households without a car or van

The most intense deprivation in inner London is concentrated towards the east (the East End). However, significant contrasts exist within virtually all boroughs, so that the better-off wards (subdivisions of boroughs) in some inner London boroughs often record a higher quality of life than the least affluent wards in outer London boroughs. The pattern found within boroughs is often quite intricate, forming the **residential mosaic** that social geographers frequently talk about. The process of gentrification invariably increases residential segregation.

The urban-mosaic model highlights three main features:

- **Income** – People on high incomes have a very wide choice of where to live. Because housing is a very important factor in people's lives, most people tend to live in the best houses and locations they can afford. People on low incomes have very limited choice for houses and locations.
- **Ethnicity** – People from particular ethnic groups tend to cluster together in particular areas, which are sometimes called 'ethnic villages' (see Section 5.2, 'Ethnic villages').
- **Age** – Most people move a number of times during their lives. The location and type of property they live in is often affected by their age and family size. For example, young people often rent small flats; families with children require more space and tend to buy the largest properties they can afford; older people, once their children have left home, often 'trade down' to a smaller property. As certain types of property tend to be in different areas, people often move from one area to another as their 'life cycle' progresses.

The following three indicators show the contrast between inner and outer London according to three key single indicators from the 2001 census:

- **Households with no car or van 2001** – The availability of a car or van is a significant factor in personal mobility, which can have a significant impact on the quality of life. Figure 6.47 shows the contrast between inner and outer London. Eight London boroughs have at least 50 per cent of households with no car or van. The lowest figure in inner London is the 41 per cent recorded by Wandsworth and Greenwich. In contrast, eight outer London boroughs have figures below 25 per cent, with the lowest being Hillingdon (22 per cent).

- **Households in owner-occupied accommodation 2001** – Most people will buy their own house or flat if they can afford to do so. The considerable increase in owner-occupation in the UK in recent decades is testament to this argument. The range of owner-occupation in inner London is from a low of 29per cent in Tower Hamlets to 52per cent in Wandsworth. The range in outer London is from 49per cent in Greenwich to 79per cent in Havering and Bexley.
- **Rate of unemployment 2001** – The range in inner London was from 5.7per cent in Hackney to 3.4per cent in Wandsworth. In outer London, the range was from 4.4per cent in Greenwich to 2per cent in Havering and Sutton.

### Urban renaissance

Urban renaissance is a common theme running through strategic planning in most HICs and in an increasing number of MICs and LICs. It is about:

- creating a high quality of life in urban areas
- more sustainable living – putting people close to services and facilities, reducing traffic and minimising the need to travel by car
- maintaining and creating attractive living environments
- social well-being, housing and jobs for all sectors of the community that need them
- having a good transport system, promoting good urban design and meeting community needs.

## Section 6.3 Activities

1 Discuss the factors that have changed the location of manufacturing industry in developed world cities.
2 Explain the reasons for the changing location of urban retailing.
3 Describe and explain the changes that have occurred in CBDs.
4 a What is residential segregation?
b Discuss the factors highlighted by the urban-mosaic model.
c Describe and explain the differences shown in Figure 6.47.

# 6.4 The management of urban settlements

## Squatter settlements in São Paulo

About 32per cent of the world's urban population live in **slums**. The problem of poor housing quality is overwhelmingly concentrated in MICs and LICs. São Paulo (Figure 6.48) has the largest slum population in South America. Here, urban poverty is concentrated in two types of housing:

- ***favelas*** (squatter settlements/shanty towns)
- ***corticos*** (decaying formal housing, mainly in the inner city).

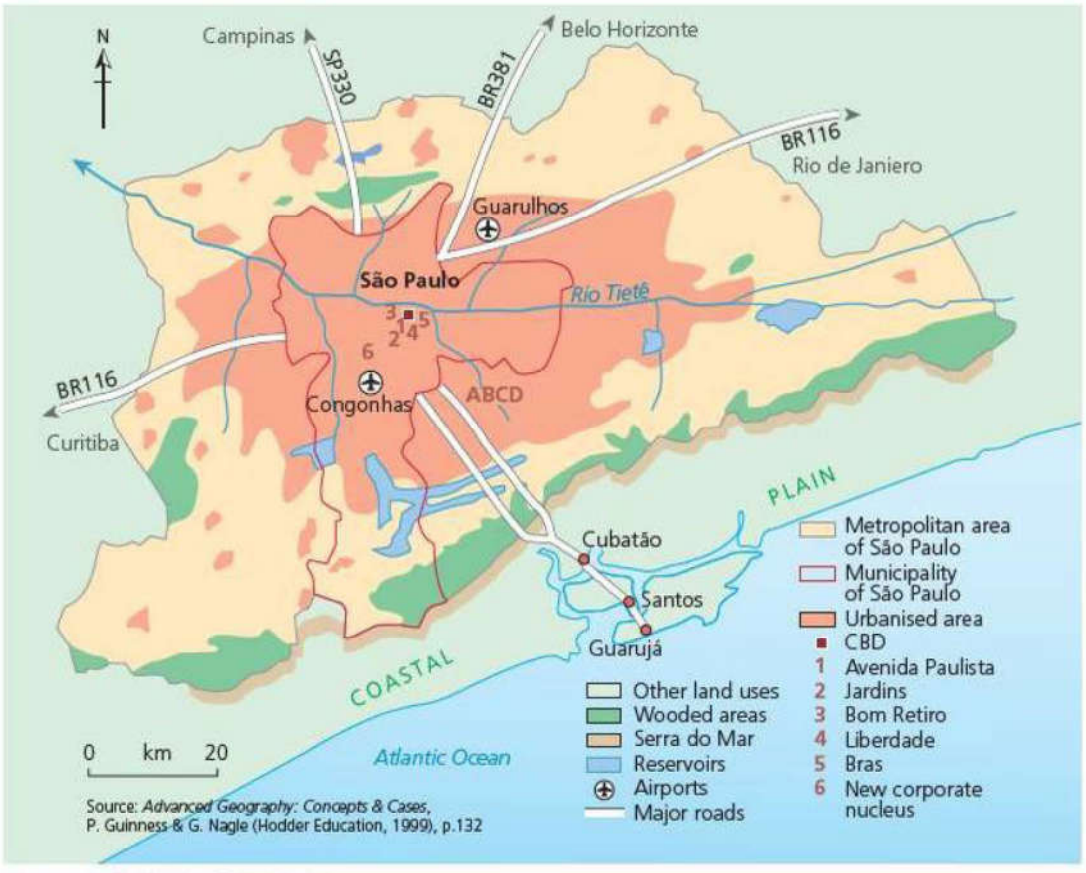



Figure 6.48 Greater São Paulo

The population of the metropolitan area is over 20 million. In international terms, São Paulo is a compact urban area. At approximately 8110 per km², the population density is more than twice that of Paris and almost three times that of Los Angeles.

The extreme inequality in São Paulo was highlighted in a report in August 2002 by the city administration. Figure 6.49 shows the relationship between inequality, poverty and slum formation.

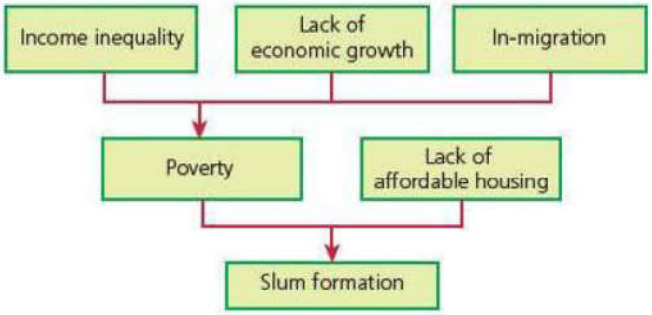



Figure 6.49 Inequality, poverty and slum formation

## The slum housing problem

It is estimated that substandard housing occupies 70 per cent of São Paulo's area – approximately 1500 km². Two million people – 20 per cent of the population – live in *favelas*, while over half a million people live in converted older homes and even factories in São Paulo's inner core, known as *corticos* (see above). Often, whole families share a single room, which may lack electricity and plumbing. Rat and cockroach infestations are common. More than 60 per cent of the population growth in the 1980s is considered to have been absorbed by the *favelas*.

By the beginning of the twentieth century, São Paulo was socially divided between the affluent who lived in the higher central districts and the poor who were concentrated on the floodplains and along the railways. The rapid acceleration of urbanisation between 1930 and 1980 built on the existing pattern of segregation. However, by the late 1970s this pattern was beginning to change, with growing numbers of poor migrants spreading into virtually all areas of the city. The 'lost decade' of the 1980s witnessed the rapid development of shanty towns (*favelas*) at the urban periphery, and inner-city slum tenements (*corticos*). The *cortico* was the dominant form of slum housing until the early 1980s, when the *favela* broke out of its traditional urban periphery confines and spread throughout the city to become the new dominant type of slum. This happened as the newly arrived urban poor sought out every empty or unprotected urban space. It is estimated that *favela* residents now outnumber those living in *corticos* by 3:1. The rapid spread of the *favelas* in the 1980s mixed up the pattern of centre/periphery segregation in São Paulo. However, public authorities constantly removed *favelas* in the areas valued by the property market. The action of private property owners regaining possession of their land has pushed *favelas* to the poorest, most peripheral and hazardous areas (floodplains, hill slopes, and so on). Few *favelas* remain in well-served regions, although the largest two, Heliópolis and Paraisópolis, are located in these areas.

Heliópolis is São Paulo's largest slum (see the Case Study on page 183). In Paraisópolis, almost 43 000 people are crammed into an area of 150 hectares near the CBD and elite residential areas.

## The location of *favelas*

The location of squatter settlements is strongly linked to the city's physical and environmental situation. A large number are found in municipal and privately-owned areas:

- near gullies
- on floodplains
- on river banks
- along railways
- beside main roads
- adjacent to industrial areas.

These are areas that have often been avoided in the past by the formal building sector because of building difficulties and hazards. The nature of *favela* construction makes them vulnerable to fire, landslide and other hazards.

## The transformation of *favelas*

Initially, *favelas* are densely packed informal settlements made of wood, cardboard, corrugated iron and other makeshift materials. Later, they are replaced by concrete block constructions. Often, only one wall at a time will be built as a family saves up enough money to buy materials for the next wall (Figure 6.50). Then, concrete tiles will replace corrugated iron or other makeshift materials on the roof. The large-scale improvement in *favelas* is due to residents' expectations of remaining where they are as a result of changes in public policy in the last 30 years, from one of slum removal to one of slum upgrading.

Figure 6.50 A *favela* in central São Paulo

## Section 6.4 Activities

1 What is the difference between *favelas* and *corticos*?
2 Explain the links illustrated by Figure 6.49.
3 Describe and explain the types of urban locations where *favelas* develop.

## Case Study: Heliópolis – the development and improvement of a *favela*

Heliópolis, in the district of Sacomã, is São Paulo's largest slum and one of the largest areas of slum housing in Latin America (Figure 6.51). Established from the late 1960s, *heliopolis* mean's 'city of the Sun' in Greek. People first came to this location to play football, but later they began to build shacks and the *favela* was established. Over 100 000 people live here in a mix of absolute and semi-poverty. Access to facilities is very limited. For example, there is one library with about 300 books for the whole community.

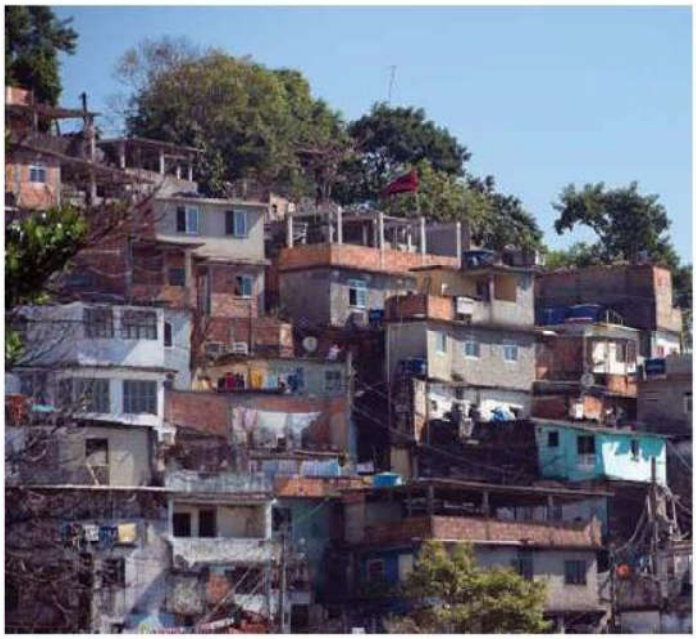


Figure 6.51 Heliópolis

This *favela*, to the south-east of the city centre, developed rapidly in the 1970s as a result of a high level of land invasion, and for about 20 years it was considered to be an illegal settlement. It continued to grow in the following decades, with many people arriving from the north-east of Brazil from the 1990s. Structural unemployment in the latter region encouraged many to seek a better life in the large urban areas of south-east Brazil (São Paulo, Rio de Janeiro, Belo Horizonte). Housing estates were built by the City agency CDHU COHAB and dirt roads were replaced by asphalt. During this period of rapid growth, drug gangs developed considerable power in the area and murder and violence were at a high level.

According to the residents' association UNAS, 75 per cent of Heliópolis has urban infrastructure. The Basic Sanitary Company of São Paulo (Sabesp) states that there is now 100 per cent water connection and 77 per cent sewerage connection. Almost 100 per cent of Heliópolis has street lighting. These rates of connection have increased markedly since the turn of the century. Heliópolis now has WiFi connection, making it possible for residents to use the internet. Since 1997, Community Radio Heliópolis has broadcast in the neighbourhood.

Most of the streets are now paved, but there is only one bus stop in Heliópolis, opposite the hospital, due to the narrowness of the roads.

The fragile nature of construction in Heliópolis was brought home in July 2013, following a fire that killed three people and left almost 900 people homeless.

NGOs are active in Heliópolis and have condemned the conditions in which people live. For example, ActionAid continually presses City Hall for housing improvement. Following the July 2013 fire, ActionAid reiterated that new housing should be:

- safely constructed and close to the area the community used to live in
- subsidised by the government to ensure the poorest people are not exploited.

UNAS, ActionAid's local partner in Heliópolis, said 'It was a foretold tragedy. That area had been visited by City Hall and the need for the rehousing of people was established, but nothing was done. What they did not do in two years, they now want to do in a week.' ActionAid runs a child sponsorship programme in the *favela*.

The most basic problem in any *favela* or shanty settlement is the quality of housing and the general environment in which people live. In 2003, one of Brazil's top architects, Ruy Ohtake, was brought in to radically improve the environment in Heliópolis. This was part of a wider plan to 'rethink Brazil's *favelas*'.

- The initial project was a coordinated street colour scheme. This was to replace an irregular street façade of red brick structures.
- Then the residents' association, UNAS, worked with Ohtake on projects for a library, a recreational centre and a housing project.
- As a result of this participation, the Heliópolis Housing Project (*Conjunto Habitacional Heliópolis*) was created as part of an Urban Plan initiated by SEHAB (the Department for Housing) in 2010. The wider city plan was to provide housing for 70 000 people in 18 000 households, as well as improving urban living and leisure spaces, and educational and health facilities. Across São Paulo, SEHAB is engaged in slum upgrading programmes, land tenure regularisation of municipal public areas, sanitary improvement and regularisation of informal land subdivisions.

⇨

- The first stage in the housing project in Heliópolis, completed in late 2011, was the construction of 11 five-storey circular towers (*redondinhos*), each containing 18 apartments. The first occupants came from the most marginal sites in the *favela*.
- The second stage of construction in Heliópolis will develop 29 circular towers containing 542 new apartments. The unit cost is estimated to be between $60 000 and $70 000, which is comparable to the cost of traditional social housing.

Ruy Ohtake has praised the levels of participation of local residents in developing projects in Heliópolis, saying 'They regained their civic sense not by any concept handed down to them by an architect, but by action, from results they achieved while making their own environment more beautiful.'

The size of Heliópolis is such that many people consider it a town in its own right. There have been various schemes to encourage entrepreneurship, and there are now small commercial ventures located throughout the area. A 2010 report in business magazine *The Economist* praised the innovation and entrepreneurial spirit found within Heliópolis, adding that the city government should act to capitalise on these qualities.

Gradually, Heliópolis has developed through a process of urbanisation to reach the status of a neighbourhood. It is a slum that has matured into a significantly improved area, although much still remains to be done. It has been transformed from a shack settlement divided by muddy paths to a neighbourhood of mainly brick buildings and paved roads, sanitation, water and electricity services. The security situation has improved markedly over the last 15 years, bringing greater stability to the neighbourhood and encouraging more people to invest in their local area.

## Case Study: The provision of transport infrastructure for a city – Cairo

Cairo, the capital city of Egypt, is situated on the banks of the River Nile (Figure 6.52), about 200 kilometres south of the Mediterranean Sea. It extends along the banks of the Nile for about 30 kilometres. It is the largest city in Africa and one of the most densely populated metropolitan areas in the world. The population has risen rapidly over the last 50 years (Figure 6.53). The average population density is about 30 000 per km².

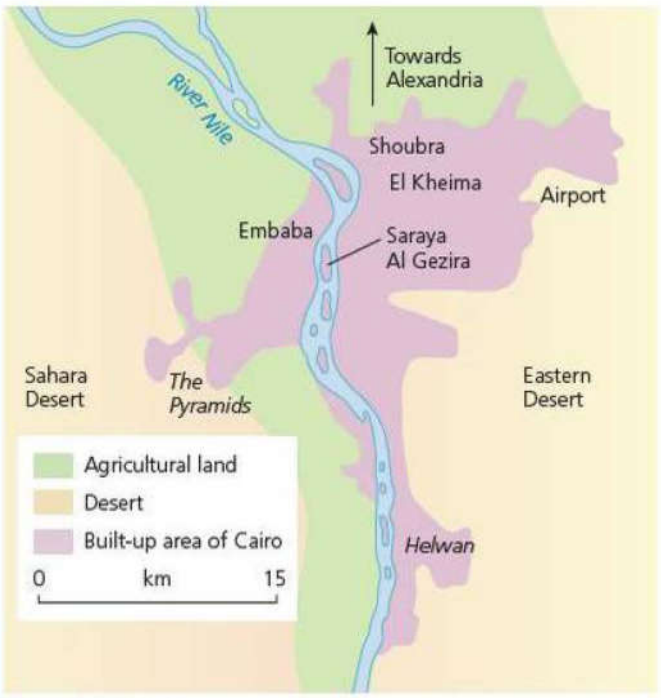



Figure 6.52 Cairo

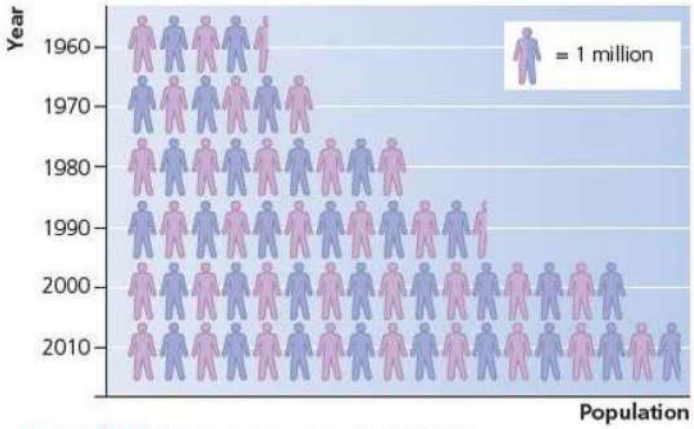



Figure 6.53 Cairo's population, 1960–2010

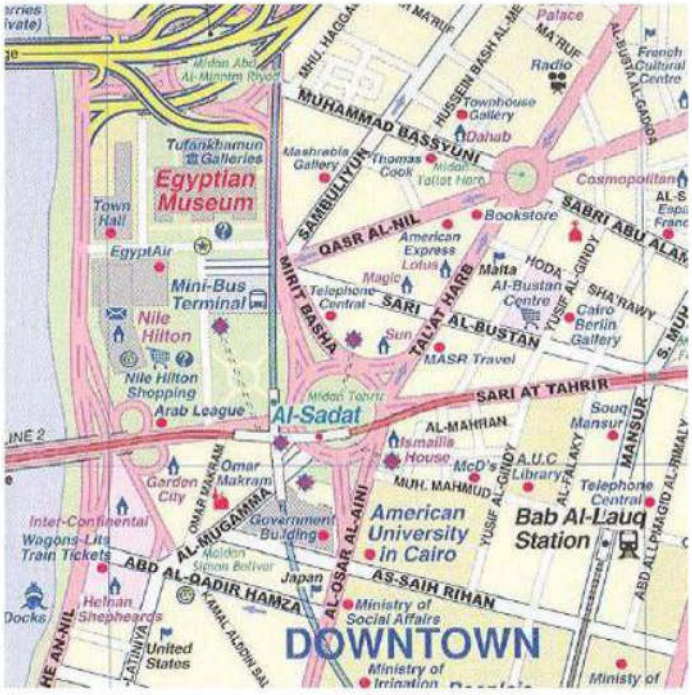
Much of the infrastructure of Cairo is designed for a population of about 2 million people and thus is under considerable strain from the tremendous demands being put on it by a much larger population. Housing is overcrowded and in short supply. Other elements of the urban infrastructure, including transport, education, health, water and sewerage, are under extreme pressure from the rapidly rising population. City planners have tried to improve the situation, but finding sufficient funds for new infrastructure has been a continuing challenge.

Planners generally recognise two types of infrastructure: **hard infrastructure** and **soft infrastructure**. The former refers to transportation, communication, sewerage, water and electric systems, while the term 'soft infrastructure' covers housing, education, health, leisure and other associated facilities. Both are vital to a city's economy and the quality of life of its residents.

## Transportation in Cairo

Transportation (Figure 6.54) is the most fundamental form of infrastructure within an urban area, as virtually every other human activity depends on it. In large, rapidly growing urban areas such as Cairo, city and national governments have struggled to keep up with the rising demands for the movement of both people and goods. When demand exceeds supply, congestion and environmental pollution increase, and the city becomes a less efficient economic entity. Figure 6.55 is a map of part of the central area of Cairo, which shows important elements of the transportation infrastructure.

**Figure 6.54** Traffic in central Cairo




Source: www.fantasticegypt.com/images/Map6_Cairo.jpg

**Figure 6.55** Map of part of central Cairo

Transportation in Cairo comprises:

- an extensive road network within the city itself and linking the city to other urban areas in Egypt; road transport is facilitated by personal vehicles, public buses, privately owned buses, taxis and Cairo minibuses
- a railway system
- the Cairo metro
- a tram system (now largely shut down)
- Nile ferries
- a major international airport that links in to much of the general transport system in the country.

Road transport has required a sustained high level of investment as the city has expanded in land area and population. Seven bridges now span the River Nile. Downtown expressways and lesser flyovers bypass areas of major congestion and new roads knit outlying suburbs into the urban fabric. Of major importance has been a 100 kilometre ring-road expressway that was completed in the 1990s. It surrounds the outskirts of the city, with exits that reach the outer districts of Cairo. Most people see the constant development of the road system as essential, but critics say that new roads simply generate more traffic. In spite of significant development, the road system is overcrowded and traffic jams are routine.

The Cairo Traffic Congestion Study 2014 produced by the World Bank highlighted the problems of chronic congestion in many parts of Cairo. Total daily commute time has been estimated to be an average of about 90 minutes. Congestion is a by-product of:

- population growth
- high and rising levels of car ownership
- lack of sufficient off-street parking
- insufficient capacity of the public transport system.

Twenty per cent of the total population are private car owners, and private cars make up over 80 per cent of traffic congestion. There are rising concerns over greenhouse gas emissions, deteriorating air quality and noise. About half of all motorised vehicles in Egypt operate in Cairo. Poor traffic management and the inadequate supply of mass transport add to the problems of congestion. No Bus Rapid Transit (BRT) system currently exists. The high ridership on buses and the metro is evidence of the strong demand for public transport in Cairo.

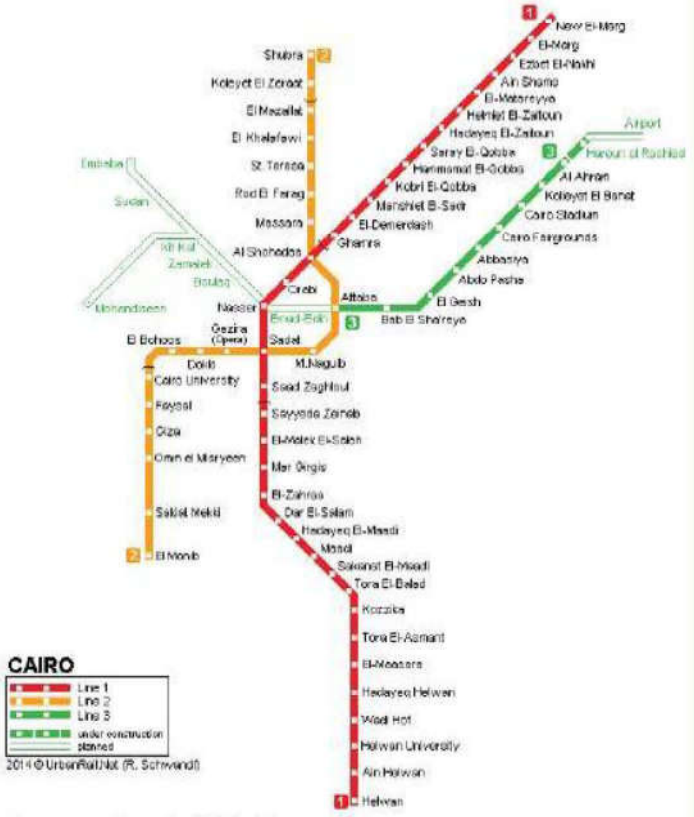
The 2014 study also highlighted the poor environment in the city for both pedestrians and cyclists. There is a very high accident rate especially for pedestrians, with more than 1000 deaths each year on Cairo's roads.

The standard full-size bus service is run by the Cairo Transport Authority (CTA). There are about 450 formal bus routes in the city. There are also minibuses run by companies sub-contracted by the government. In addition, taxis and micro-buses privately run by individuals are an important component of road transport.

The tram system in Cairo has been running since 1896 but has now largely been shut down. The focus of the rail system is the centrally located Ramses Station, which links with major commuter stations and beyond to the national urban network. Trains are run by Egyptian National Railways. Nile ferries also play a role in the daily movement of people. Popular among tourists are the *feluccas*, comparable to Venice's *gondolas*, which operate along the Nile to and from the pyramids at Giza.

Cairo's metro (Figure 6.56) carries an average of about 2.2 million passenger rides a day. The metro underground system was developed in an attempt to cut the number of vehicles on Cairo's roads. Line 1 was opened in 1987 and Line 2 in 1996. Line 3 was opened in 2012, although the extension to connect with Cairo airport will not be completed until 2019. The fourth line is about to start construction in 2016, and two more lines are planned. By 2014, there were 61 stations with a total track length of 78 kilometres. The ticket price in 2013 was EGP1.0 ($0.14), regardless of distance.

Cairo's airport is the second busiest in Africa after Johannesburg International Airport. It has had to expand to keep pace with demand. The airport is located about 15 kilometres from the heart of the city's business area. It is a large site covering an area of about 37 km². There are three main terminals and a Seasonal Flights Terminal opened in 2011. The purpose of the latter is to ease the strain on the existing terminals during pilgrim seasons. The airport handled 14.7 million passengers in 2012. The expansion of the airport has been vital to maintain Cairo's global city status.




Source: www.urbanrail.net/af/cairo/cairo-map.gif

Figure 6.56 Map of the Cairo metro

## Section 6.4 Activities

1 With reference to an atlas and Figure 6.52, describe the location of Cairo.
2 Describe and explain the growth of Cairo's population since 1960.
3 Distinguish between *hard infrastructure* and *soft infrastructure*.
4 a Describe the main elements of Cairo's transport infrastructure.
  b Why is transportation so important to the successful development of a city?