



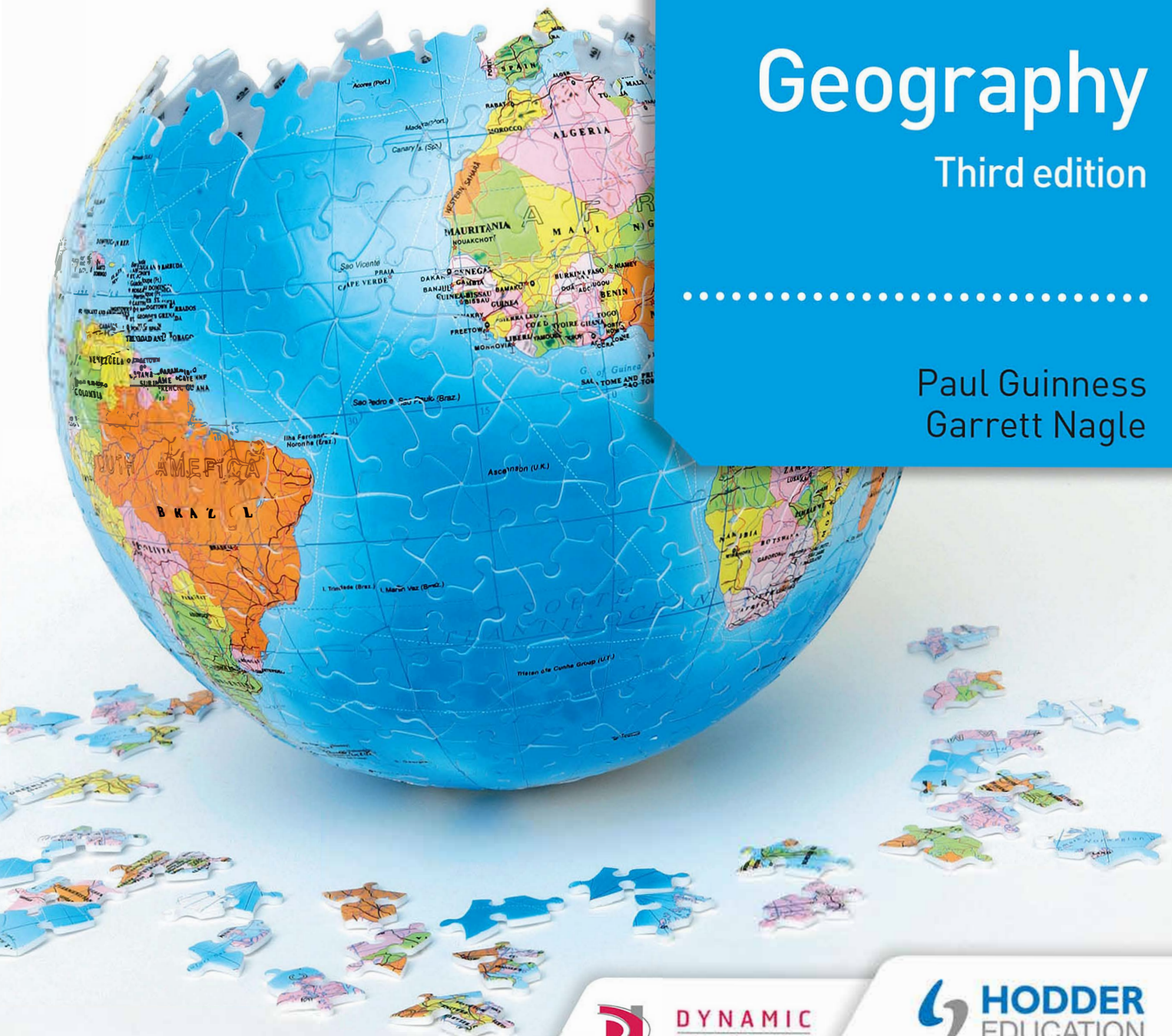
Endorsed for full syllabus coverage

Cambridge IGCSE® and O Level

Geography

Third edition

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1.5

Settlements (rural and urban) and service provision

Key questions

- ★ What are the main patterns of settlement?
- ★ What are the factors that influence the sites, growth and functions of settlements?
- ★ What are settlement hierarchies and how do they affect people?



▲ **Figure 1.56** Dispersed settlement, Arabba, Italy

Most of us live in settlements, and most of us take them for granted. And yet there is a huge variety of settlements, and they are changing rapidly. For example, some settlements in rural areas differ greatly from those in urban areas, although the distinction between them is becoming less clear. In developing countries large cities are growing at the expense of rural areas, despite a recent movement out of some very large cities or 'megacities'. Population change, technological developments and changing lifestyles are having a tremendous impact on settlement geography.

In this section we look at the size, development and function of rural and urban settlements. We begin with rural settlements and analyse their pattern, site and situation, function and hierarchy. We study the characteristics of land use and describe the problems of urban areas in the developed and developing worlds, and consider possible solutions to these problems. We also look at the impacts on the environment as a result of urbanisation, and possible solutions to reduce these impacts.

Rural settlements

A settlement is defined as a place in which people live and where they carry out a variety of activities, such as residence, trade, agriculture and manufacturing. Most rural settlements are hamlets and villages, although not all are. The study of rural settlement includes:

- » pattern
- » form (or shape)
- » site and situation
- » function and hierarchy
- » change.

Pattern

A **dispersed settlement** pattern is one in which individual houses and farms are widely scattered throughout the countryside (Figure 1.57). It occurs when farms or houses are set among their fields or spread out along roads, rather than concentrated on one point. They are common in sparsely populated areas, such as the Australian outback and the Sahel region of Africa, and in recently settled areas, such as after the creation of the Dutch polders. The enclosure of large areas of common grazing land into smaller fields separated by hedges led to a dispersed settlement pattern. This happened because it became more convenient to build farmhouses out in the fields of the newly established farms. Similarly, the break-up of large estates (particularly in England during the sixteenth and seventeenth centuries) also led to a dispersed settlement pattern. In areas where the physical geography is quite extreme (too hot or cold, wet or dry) there is likely to be a low population density, and a poor transport network, which discourages settlement.



▲ **Figure 1.57** Dispersed settlement, Dingle Peninsula, west coast of Ireland

Nucleated settlements are those in which houses and other buildings are tightly clustered around a central feature such as a church, village green or crossroads (Figures 1.58 and 1.59). Very few houses



▲ **Figure 1.58** Nucleated settlement, Mgwali, Eastern Cape, South Africa



▲ **Figure 1.59** Nucleated settlement, Royston, Hertfordshire

are found in the surrounding fields. Such nucleated settlements are usually termed **hamlets** or **villages** according to their size and/or **function**.

A number of factors favour nucleation:

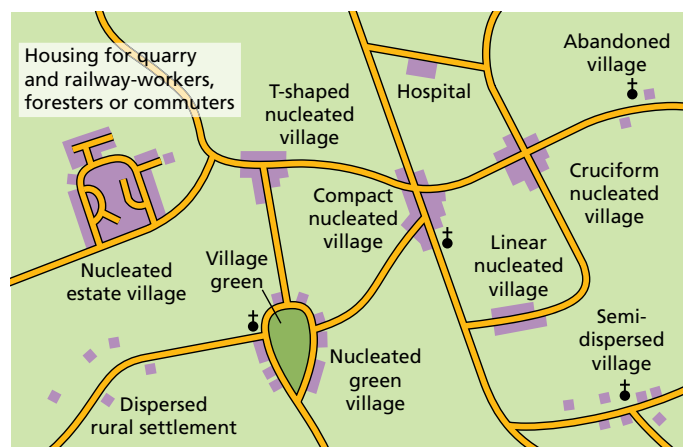
- » joint and cooperative working of the land — people live in nearby settlements
- » defence, for example hilltop locations, sites within a meander or within walled cities, such as Jericho
- » shortage of water, causing people to locate in areas close to springs
- » swampy conditions, which force settlements to locate on dry ground
- » near important junctions and crossroads, as these favour trade and communications.

In some countries the government has encouraged people to live in nucleated settlements, such as the Ujaama scheme in Tanzania, the kibbutzim in Israel and the communes in China.

A linear pattern occurs when settlements are found along a geographical feature, for example, along a river valley or a major transport route (see Figure 1.62 on page 41 for the potential site of linear settlements).

Village form

Village **form** refers to shape (Figure 1.60). In a **linear settlement**, houses are spread out along a road or a river. This suggests the importance of trade and transport during the growth of the village. Linear villages are also found where poor drainage prohibits growth in a certain direction. In the rainforests of Sarawak (Malaysia), many of the longhouses are generally spread alongside rivers (Figure 1.61).



▲ **Figure 1.60** Village shapes

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▲ Figure 1.61 A Malaysian longhouse

Cruciform settlements occur at the intersection of roads and usually consist of lines of buildings radiating out from the crossroads. The exact shape depends on the position of the roads and the amount of infilling that has since taken place. By contrast, a **green village** consists of dwellings and other buildings, such as a church, clustered around a small village green or common, or other open space. In South Africa ring villages are formed where the houses, called kraals, are built around an open area.

Factors affecting the site, growth and functions of settlements

Cruciform site and situation

The **site** of a settlement is the actual land on which a settlement is built, whereas the **situation** or position is the relationship between a particular settlement and its surrounding area. In the past geographers have emphasised the importance of physical conditions on the pattern of settlement, land tenure and the type of agriculture practised. Increasingly, social and economic factors are important, especially in explaining recent changes in rural settlements.

Early settlers took into account advantages and disadvantages of alternative sites for agriculture and housing. These included:

- » availability of water — necessary for drinking, cooking, washing, as a source of food supply, and for transport
- » freedom from flooding — but close to the flooded areas as river deposits form fertile soils

- » level sites to build on — but these are less easy to defend
- » local timber for construction and fuel
- » **aspect**, for example sunny, south-facing slopes (in the northern hemisphere) as these are warmer than north-facing slopes and are therefore better for crop growth
- » proximity to rich soils for cultivation and lush pasture for grazing
- » the potential for trade and commerce, such as close to bridges or weirs, near confluence sites, at heads of estuaries, points of navigation and upland gaps.

A **dry point site** is an elevated site in an area of otherwise poor natural drainage. It includes small hills (knolls) and islands. Gravel terraces along major rivers are well favoured. Water supply and fertile alluvial soils, as well as the use of the valley as a line of communication, are all positive advantages.

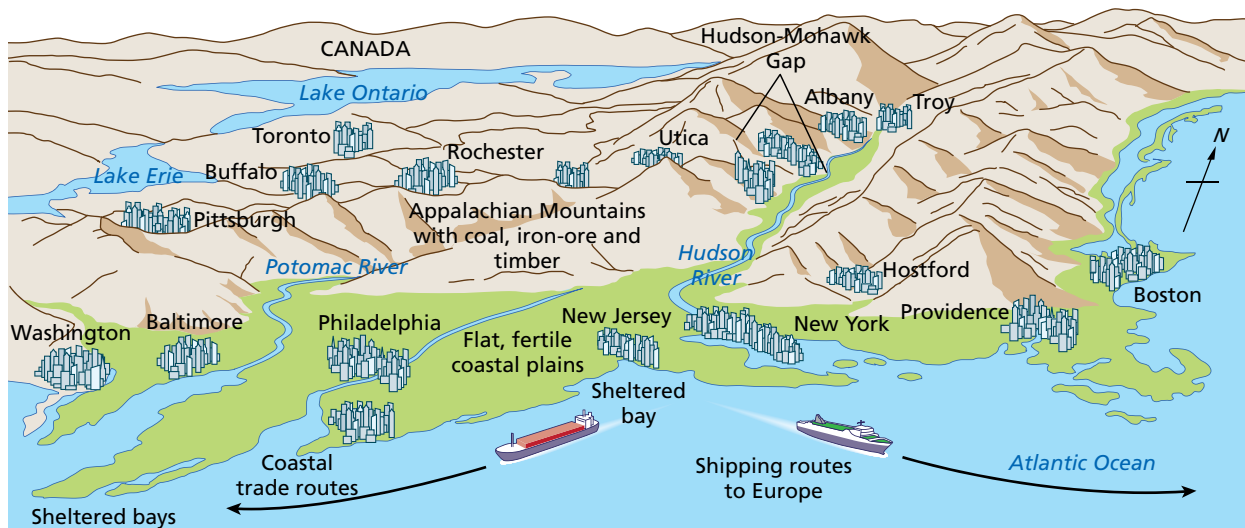
A **wet point site** is a site with a reliable supply of water from springs or wells in an otherwise dry area. Spring line villages at the foot of the chalk and limestone ridges are good examples. **Spring line settlements** occur when there is a line of sites where water is available.

Some hilltop villages suggest that the site was chosen to avoid flooding in a marshy area as well as for defence. Villages at important river crossings are excellent centres of communication.

Growth and function of settlements

A number of factors affect settlement size, growth and function. In extreme environments settlements are generally small. This is because the environment is too harsh to provide much food. Areas that are too hot, cold, wet or dry usually have small, isolated settlements. In contrast, settlements have managed to grow in areas where food production is favoured. If there is more food produced than the farmers need, then non-farming services can be supported. In the early days these included builders, craftsmen, teachers, traders, administrators and so on. Thus, settlements in the more favoured areas had greater potential for growth, and for a wider range of services and functions.

Some environments naturally favoured growth and hence a large size. In the northeast of the USA, settlements on the lowland coastal plain were able to farm and trade (Figure 1.62). Those that had links inland as well, such as New York, were doubly favoured (Figure 1.63).



▲ **Figure 1.62** Settlement sites in the northeast of the USA



▲ **Figure 1.63** New York developed because of its excellent trading position — inland as well as overseas

Trade and communications have always been important. Cairo grew as a result of being located at the meeting point of the African, Asian and European trade routes. It also benefited from having a royal family, being the government centre, and having a university and all kinds of linked trades and industries such as food and drink, and textiles. Similarly, Paris grew because of its excellent location on the Seine. Not only could the river be crossed at this point, it could also be used for trade (Figure 1.64).

Other centres had good raw materials. In South Africa, the gold deposits near Johannesburg, and the diamonds at Kimberley and Bloemfontein, caused these settlements to grow as important mining and industrial areas.

Functions change over time. Many settlements that were formerly fishing villages have become important tourist resorts. The Spanish costas are a good example. Many Caribbean settlements, such as Soufrière in St Lucia, have evolved into important tourist destinations. In the developed world, many rural settlements have now become dormitory settlements — this is related to good **accessibility** to nearby urban centres (Figure 1.65). Increasingly, many rural settlements in the developed world are also becoming centres of industry, as new science parks locate in areas such as Silicon Valley in California, formerly an agricultural region. South Korea has industrialised and urbanised over the last 50 years or so, and the rural population had declined to just 17 per cent by 2011.



Interesting note

Baniachong in Bangladesh claims to be the world's largest village. The area covers about 75 km² and contains around 70,000 people.

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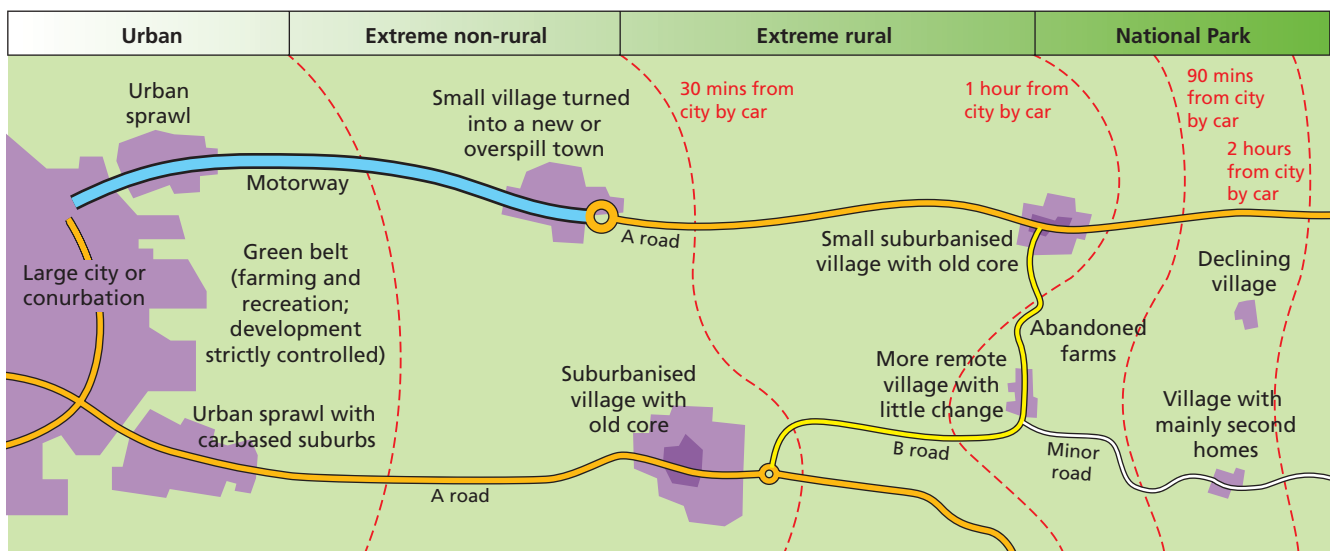
▲ **Figure 1.64** The Seine was a vital factor in enabling the growth of Paris into a city of international importance

Other centres have become important due to political factors. New capital cities, such as Brasilia, Canberra and Ottawa, have developed central administrative roles. Other planned cities, such as Putrajaya in Malaysia and Incheon in South Korea, have become centres of high-tech industry.

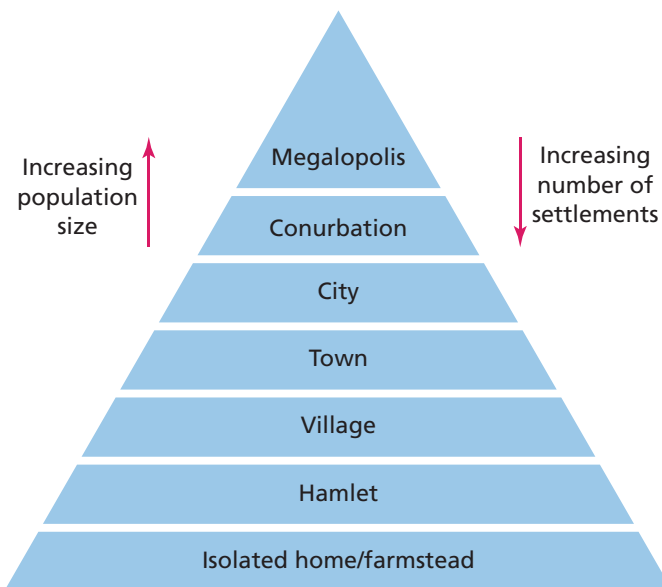
Settlement hierarchy

The term **hierarchy** means 'order'. Settlements are often ordered in terms of their size. Dispersed, individual households are at the base of the rural settlement hierarchy. At the next level are hamlets (Figure 1.66). A hamlet is a very small settlement, consisting of a small number of houses or farms, with very few services. The trade generated by the population, which is often less than 100 people, will only support **low-order services** such as a general store, a small post office or a pub. By contrast, a village is much larger in population (Figure 1.67). Hence it can support a wider range of services, including a school, church or chapel, community centre and a small range of shops (Table 1.11). Higher up the hierarchy are towns and cities, offering many more services and different types of service. As Table 1.11 shows, there are more settlements lower down the hierarchy — the higher up you go, the fewer the number of each type of settlement. Thus, for example, there are far fewer cities in a country than there are villages.

Rural settlements offer certain functions and services. Only basic or low-order functions are found in the smaller hamlets, whereas the same functions and services are found in larger settlements (villages



▲ **Figure 1.65** Cloke's model of rural change and accessibility to large urban centres



▲ **Figure 1.66** A hierarchy of settlement

and market towns) together with more specialised ones — **high-order functions**. The market towns draw custom from the surrounding villages and

Table 1.11 A simple rural hierarchy

Hamlet	Village	Small market town
General store	General store	General store
Post office	Post office	Post office
–	Butcher	Butcher
–	Garage	Garage
–	Grocer	Grocer
–	Hardware store	Hardware store
–	Primary school	Primary school, baker, bike shop, chemist, electrical/television/radio shop, furniture store, hairdresser, local government offices, restaurant, shoe shop, solicitor, supermarket, undertaker

hamlets as well as serving their own population. The maximum distance that a person is prepared to travel to buy a good is known as the **range** of a good. Low-order goods have a small range whereas high-order goods have a large range. The number of people needed to support a good or service is known as the



▲ **Figure 1.67** Settlement hierarchy in County Kerry. (a) Isolated dwelling in Gullaun, (b) linear settlement Dohilla, (c) Gneeveguilla village, (d) market town Killorglin

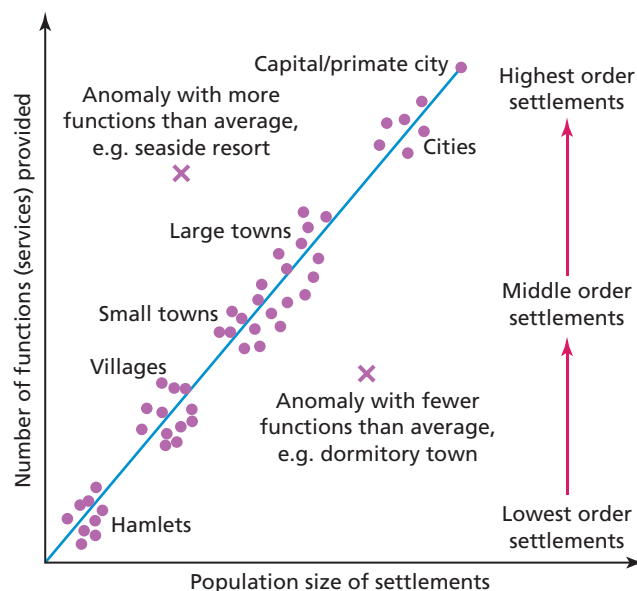
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threshold population. Low-order goods may only need a small number of people (for example 1000) to support a small shop, whereas a large department store might require 50,000 people in order for it to survive and make a profit.

The area that a settlement serves is known as its **sphere of influence**. Hamlets and villages generally have low spheres of influence whereas larger towns and cities have a large sphere of influence. The definition of hamlet, village and town is not always very clear-cut and these terms represent features that are part of a sliding-scale (continuum) rather than distinct categories.

In general, as population size in settlements increases the number and range of services increases (Figure 1.68). However, there are exceptions. Some small settlements, notably those with a tourist-related function, may be small in size but have many services. In contrast, some **dormitory (commuter) settlements** may be quite large but offer few functions or services other than a residential one. In these settlements, people

live (reside) in the village but work and shop elsewhere.



▲ **Figure 1.68** The relationship between population size and number of services

Activity



Figure 1.69 Services in three settlements. (a) Newsagents, Cassington; (b) Town Hall, Woodstock; (c) Butchers, Long Hanborough

Study the photos (a), (b) and (c) in Figure 1.69. Arrange the three settlements in terms of their likely hierarchy. Justify your choice.



Case study: Population size and number of services in Lozère

Lozère is a department in southeast France. It is a mountainous region, and the main economic activities are farming and tourism. However, due to the mountainous relief and poor-quality soil, farming is mainly cattle rearing. Surprisingly, the region has a very low rate of unemployment. This is due to a long history of out-migration of young people in search of work.

Table 1.12 shows how the population of St-André-Capcèze fell between the 1860s and the end of the twentieth century. However, in recent years the population has increased slightly. This is due to improved communications and easier travel — but the population is an ageing one. Tourism offers some employment, but the jobs are seasonal, part-time, unskilled and often quite poorly paid.

Table 1.12 Population change in St-André-Capcèze, 1800–2006

Year	Population
1800	437
1821	455
1841	479
1861	427
1881	383
1901	316
1921	222
1931	190
1962	148
1982	104
1999	145
2006	174

Table 1.13 Population change in Lozère, 1801–2011

Year	Population	Year	Population
1801	130,000	1921	108,000
1821	135,000	1941	94,000
1841	142,000	1961	82,000
1861	138,000	1981	74,000
1881	144,000	2001	76,000
1901	130,000	2011	73,000 (estimate)

Case study analysis

- 1
 - a Draw a line graph to show the change in population in Lozère between 1801 and 2011 (Table 1.13).
 - b Describe the changes in population in the graph you have drawn.
 - c Suggest reasons for the changes in population between:
 - i 1801 and 1881
 - ii 1881 and 1981
 - iii 1981 and 2011.
 - d Compare the population changes in the Lozère department with those in St-André-Capcèze (Table 1.12).
- 2 Table 1.14 shows data for services in seven settlements in Lozère.
 - a Choose a suitable method to plot population size against the number of services.
 - b Describe the relationship between population size and the number of services for the region.
 - c Identify one exception to the pattern and suggest how, and why, it does not fit the pattern.
 - d Suggest a hierarchy of settlements based on the information provided.

Table 1.14 Services in Lozère

Settlement	Altitude in metres	Population	Railway	Doctor	Chemist	Dentist	Restaurant	Hotel	Post office	Shops	Mobile shop	Cinema	Swimming pool	Swimming (river, lake)	Tennis	Fishing	Canoeing	Horse riding	Skiing
Mende	750	12,378	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	25
Badaroux	800	897	0.5	✓	6	6	✓	✓	✓	✓	✓	6	6	✓	4	✓	6	✓	12
Bagnols-les-Bains	913	229	6	✓	✓	20	✓	✓	✓	✓	✓	✓	20	✓	✓	✓	✓	16	14
Cubières	900	197	25	9	9	25	✓	✓	9	✓	✓	25	25	20	9	✓	25	25	9
Altier	725	209	11	11	11	11	✓	✓	✓	✓	✓	11	11	11	11	✓	11	16	25
Villefort	605	639	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
St-André-Capcèze	450	168	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14

Key Services available to tourists and residents in settlement: ✓

Numbers show distance in km to nearest service, i.e. 25 = 25 km distant

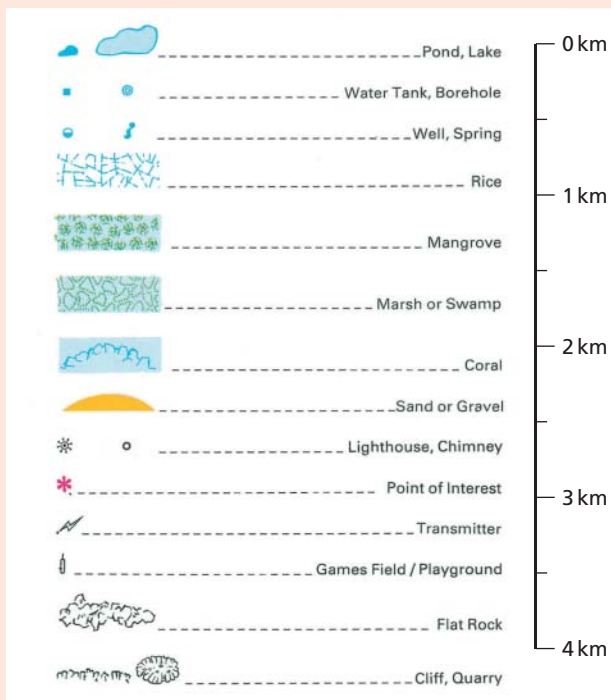
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Activities



▲ Figure 1.70 1:50,000 map of Montego Bay, Jamaica





▲ **Figure 1.71** Key to 1:50,000 map of Montego Bay

Study Figure 1.70, a 1:50,000 map of Montego Bay, Jamaica. Use the key (Figure 1.71) to help you.

- 1 What is the grid square reference of:
 - a the hospital in Montego Bay
 - b the factory on Torboy (Bogue Islands)?
- 2 What is the grid square reference for:
 - a the hotel (H) at Doctors Cave
 - b the Fairfield Estate?
- 3 What is the length of the longest runway at Sangster International Airport?
- 4 a How far is it, 'as the crow flies' (in a straight line), from the hotel (H) on Bogue Islands to the main buildings at Sangster International Airport?
b How far is it, by road, from the hotel (H) on Bogue Islands to the main buildings at Sangster International Airport?
- 5 In which direction is Gordons Crossing from the settlement of Montego Bay?
- 6 Describe the site of Montego Bay. Suggest why the area grew into an important tourist destination.
- 7 What types of settlement are found at Pitfour Pen (5598) and Wales Pond (5396)?
- 8 Suggest reasons for the lack of settlements in grid squares 5497 and 5199.
- 9 Suggest reasons for the growth of settlements at Bogue (5198) and Granville (5599).
- 10 Find an example of:
 - a a dispersed settlement
 - b a nucleated settlement
 on the map. Suggest why each type of settlement has that pattern in the area where it is found.
- 11 Using the map extract, work out a settlement hierarchy for the area. Name and locate an example of:
 - a an area of isolated, individual buildings
 - b a village
 - c a minor town
 - d a town
 - e a large town.
 Use the key (Figure 1.71) to help you decide what type of settlement each one is.