Topic 4: Rural settlement and urban settlement

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There are over 7 billion people on Earth. About half of the world's population lives in rural settlements and half in urban settlements. In this topic you will study rural and urban settlements. You investigate why and how settlements develop and the reasons for their location and appearance. Case studies and examples from South Africa and abroad will illustrate the challenges facing settlements, and how they are managed and improved.

**Activity 1: Explore rural and urban settlements**

1. Study Figure 4.1 and 4.2, photographs of rural settlements. Use your senses – imagine the sights, sounds and smells you would experience in each scene. (6)
2. Describe the type of daily work and chores that people living in these rural settlements would do? (4)
3. Suggest three disadvantages and three advantages of living in these rural settlements. (6)
4. Describe the effect or influence that the development of computers, television, the Internet and cellphones have had on these two settlements. (4)
5. Look at Figure 4.3, a photograph of a large city. Describe the scene you see. (3)
6. List five jobs people living here would do for a living. (5)
7. Suggest three advantages of living in this city, and three disadvantages of living here. (6)
Chapter 1: The study of settlements

Settlement geography is the study of the site, situation, size, complexity, pattern and function of human settlements in the past, present and the future.

Unit 1: The concept of settlement, site and situation

1.1 The concept of settlement

Before the last ice age ended 12 000 years ago, humans lived as hunters and gatherers, constantly moving in search of food. The domestication of sheep, goats and cattle, as well as the cultivation of wheat, rice and maize, enabled people to settle and remain in one place. This grouping of people, activities and buildings is called a settlement. All humans live in some type of settlement.

A settlement is a place where:
- a group of people live
- an infrastructure exists
- buildings occur
- social and economic activities happen.

A settlement can be as small as a village or as large as a city that operates as a single integrated system on a regular daily basis.

Activity 2: Classify settlements.

1. Write a paragraph to describe one of the following:
   - the settlement in which your school is located, or
   - the settlement in which you live, or
   - another settlement that you are familiar with.

   Use the following guidelines to assist you in describing your chosen settlement:
   - density of buildings compared to open space
   - the population size
   - provision of municipal services – water supply, garbage collection, and electricity
   - transport availability – public roads, taxis, and railways
   - shops, recreation and entertainment
   - employment possibilities – types of jobs available
   - services – access to hospitals, clinics, community centres and police stations.

2. Draw up a table and enter the above-mentioned criteria in the first column, two have been completed for you.

<table>
<thead>
<tr>
<th>Density of buildings and open space</th>
<th>My settlement choice</th>
<th>Figure 4.1</th>
<th>Figure 4.2</th>
<th>Figure 4.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of municipal services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complete the table by including your answer to question 1 and by studying Figures 4.1, 4.2 and 4.3.

3. Decide which of the four settlements are similar and describe the factors that make them similar.
1.2 The site of a settlement

The actual place where a settlement grew is called its site. Many factors influence the choice of site. Site factors explain why a settlement was built in that particular place and not somewhere else a few kilometres away.

Factors that can influence the site of a settlement

- **physical factors**: the availability of resources such as water, fertile soil and grazing
- **economic factors**: the area contains valuable minerals that can be mined
- **trade and transport factors**: a natural harbour or the crossing point of a large river
- **cultural or social factors**: new towns have been built away from existing urban settlements which can be congested, polluted and overpopulated. These are expected to:
  - improve the living conditions and lifestyles of people
  - attract light industries to provide employment
  - design road networks that allow for easy traffic flow
  - provide easy access to schools, clinics, shops and other facilities.
- **political factors**: government policies can be actively involved in determining the site of settlements. The government of South Africa has created new settlements due to the need for housing. Examples are:
  - Ivory Park Village in Midrand, Gauteng – where 783 houses were built
  - Kulwanong, situated near the city of Kimberley in the Northern Cape province – this project provides homes that are 52 m² in size.
- **historical factors**: historically some settlements needed defensive sites to protect them from invaders

![Figure 4.4 This settlement site was chosen because it is protected by the river on most sides](image1)

![Figure 4.5 A hilltop settlement site chosen for defensive reasons](image2)
1.3 The situation of a settlement

The situation of a settlement means a settlement's location in relation to its surrounding features. To describe the situation of a site, the features surrounding the site are referred to, for example, soil, climate, other settlements, rivers, geology and vegetation. The features that are part of a settlement's situation usually influence the type of activity that will be carried out in the settlement. Some settlements can have a poor site but their situation is advantageous. For example, Kimberley was established on a poor site, but its situation was advantageous due to the discovery of diamonds in the area. Kimberley has continued to develop due to its situation as an important urban settlement in the Northern Cape, but its site remains poor.

Activity 3: Understand the factors that influence settlement sites and their situation

Refer to the topographic map of Zeerust on page 24. Zeerust is located in North West province. Maize is the main crop grown in the area. The area experiences warm, rainy summers, and cold, dry winters.

1. Locate the farmstead of the farm called Kareespruit (F2) at the coordinates 25°32'30"S; 26°01'45"E.
   1.1 Describe the factors that have influenced the site of the farmstead Kareespruit. (3)
   1.2 Study the surrounding area and use the information provided to describe the situation of Kareespruit. (5)

2. Study the settlement of Ikageleg (H11 and H12).
   2.1 List and describe the factors that may have influenced its site. (3)
   2.2 Describe the situation of the settlement Ikageleg. (4)

3. Discuss the site and situation of your own home settlement. If available, make use of maps, Google Maps or an atlas.
Unit 2: Rural and urban settlements

The Agricultural and the Industrial Revolutions brought about improvements in farming methods. This created food surpluses that could be sold. Because they could buy food, some people no longer needed to farm to survive, instead they could do non-farming activities. With the emergence of non-farming activities came the growth of towns and cities. As a result, two different types of settlement emerged - rural and urban.

In **rural settlement** the basic unit of study is the dwelling - the tent, the temporary structure of the Khoisan, the hut or the house - and the immediate land. While in **urban settlement** the basic unit of study is the settlement itself - town or city.

### 2.1 How do rural and urban settlements differ?

#### Size and population

Settlements can be classified as urban or rural according to their size. Rural settlements are small in physical size and in human population. Urban settlements are larger in size and in population. There are exceptions. In some countries, for example India, there are villages with over 1 000 inhabitants. While in some parts of the United States of America there are towns with only a few inhabitants but they are urban in character.

![Type of settlement diagram](image)

Figure 4.6 The difference between rural and urban settlements

#### Economic activity and function

Rural settlements are usually unifunctional, meaning they have one function. The inhabitants of rural settlements are mainly involved in primary activities (farming, mining, fishing or forestry).

Urban settlements are predominantly multifunctional and have a wide variety of functions. The people living in urban settlements are usually involved in secondary (manufacturing), tertiary (trade, transport, education, service and administration) and quaternary activities (law, finance, media, research and IT).

#### Services

High schools, universities, hospitals, shopping malls and public transport are usually not available or are limited in rural settlements.

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**Key question**

- What are the main differences between rural and urban settlements?

**Key words**

- **rural settlement** - a small settlement with a small population involved in primary activities; the settlement is unifunctional
- **urban settlement** - a large settlement with a large population involved in secondary, tertiary and quaternary activities; the settlement is multifunctional

**Geo fact**

South Africa's population in 2012 was 62% urban and 38% rural.
Activity 4: Analyse the relationship between services and the size of the population

Refer to the graph in Figure 4.7 to complete this activity.
1. What is the population size of settlement A? (2)
2. How many services does settlement A provide? (2)
3. Which of the three settlements labelled A, B and C is likely to be a large town, a village and a small town? (6)
4. Describe the relationship between population size and the number of services in a settlement. (4)
5. Supply a reason for this relationship. (2)
6. Name the services that are likely to be found in settlement A and settlement C, respectively. (4)

Land use

In urban areas a settlement is denser and closely grouped, with a great variety and mixture of land use. Urban land use can be residential, industrial, commercial and recreational. In rural areas the settlements tend to be widely spaced and the land is used for one or two activities.

Activity 5: Examine land use in rural and urban settlements

Study the maps in Figures 4.8 and 4.9.
1. List the land uses shown on the map in Figure 4.8. (3)
2. List the land uses shown on the map in Figure 4.9. (6)
3. Which map shows land use for a rural settlement and which shows land use for urban settlements? (2)

The distinction between rural and urban settlements these days is much less marked than it used to be, especially in some developed countries or areas. The development of telecommunications and space-shrinking technologies has allowed some tertiary and quaternary activities to occur in a rural setting. Some people, such as researchers, writers or journalists can live in a rural area and have access to information through satellite television, the Internet and cellphones. This has also meant that people living in rural areas are able to have a way of life that is very urban.
Unit 3: Settlement classification – size and complexity, pattern and function

Geographers are interested in the morphology, size and function of settlements. This assists with the classifying of settlements, understanding why settlements look the way they do, and how their function has developed.

3.1 Size and complexity

Settlements are different sizes and range from simple to complex. Figure 4.10 shows the different types of settlements.

A. Isolated farmstead – the smallest settlement

B. Hamlet – a loose grouping of a few farmsteads

C. Village – a denser grouping of many farmsteads

D. Town – a densely populated urban area

E. City – a large urban area where many people live and work

F. Metropolis – a main city in a region which is surrounded by dependent towns

G. Conurbation – a large urban area formed by the growth and coalescence of a number of cities and towns

H. Megalopolis – a gigantic urban complex formed when a number of conurbations join

Key questions

- How does size and complexity vary between settlements?
- What are nucleated and dispersed settlement patterns?
- What are the different functions of settlements?
3.2 Pattern

Geographers are interested in the spatial arrangement or pattern of settlements. The pattern of a settlement is either nucleated or dispersed.

Urban settlements display a **nucleated pattern** because the buildings tend to form a compact unit. The settlement unit is a dense structure of buildings and infrastructure.

Isolated rural settlements show a **dispersed pattern**. The dwelling units are spaced apart from each other so that their pattern is dispersed. Individual houses in hamlets and villages are closely spaced and therefore show a nucleated pattern.

![Figure 4.11 Rural nucleated settlement pattern](image)
![Figure 4.12 Urban nucleated settlement pattern](image)
![Figure 4.13 Dispersed settlement pattern](image)

3.3 Function

All settlements have a **function**. The function relates to its economic and social development, and determines its main activities.

The function is often closely related to:
- the site of the settlement
- the reasons for a settlement’s existence
- the way in which the inhabitants make their living.

Many settlements have lost their original function, or their function has changed over time.

Rural settlements tend to be unifunctional. As settlements develop, new functions are created and the settlement becomes multifunctional. Urban settlements tend to be multifunctional.

### Activity 6: Classify settlements

Draw up a table, as shown below, to classify all the settlements shown in Figure 4.10.

<table>
<thead>
<tr>
<th>Size/complexity</th>
<th>Pattern</th>
<th>Function</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated farmstead</td>
<td>Dispersed</td>
<td>Unifunctional – primary</td>
<td>Kareespruit, Zeerust</td>
</tr>
</tbody>
</table>
Chapter 2: Rural settlements

Rural settlements do not occur haphazardly. Many factors influence their site, situation, shape and pattern. The function of a rural settlement will also influence the land use within the settlement.

Unit 4: How site and situation affect the location of rural settlements

The location of a rural settlement is determined by the advantages of the site, and its situation in relation to the surrounding area.

Many factors related to the site and situation of rural settlements, influence their location.

4.1 Physical factors

Many early settlements developed around a subsistence farming economy. The choice of site for these settlements was linked to the physical aspects of the site. An ideal site was likely to have the following advantages:

- **availability of a reliable fresh water supply**: settlements needed to be close to a permanent supply of water. Permanent rivers, lakes, oases or accessible underground water (spring) were suitable. These are called *wet-point sites* as they are close to water.

- **water avoidance**: areas that flooded regularly were generally avoided. Marshy areas that carry waterborne diseases and malaria-carrying mosquitoes were mostly avoided. These are called *dry-point sites*, as they were chosen to avoid the threats posed by water.

- **farming factors**: settlements developed on or near fertile, arable land, or land that provided good grazing for livestock. Flat or gently sloping land with good drainage was preferred.

- **availability of building material and energy resources**: stone, clay, mud, grass and wood were used for building homes. The burning of wood was used as an energy source for heat and cooking. It would be advantageous to be as close to these resources as possible, especially when transport was not well developed.

- **the positive effects of microclimates – slope aspect, inversions and wind protection**: in South Africa it is an advantage to settle on a north-facing slope as this provides more direct sunshine, heat and light. In hilly areas, settlements were placed close to, or in, the warmer inversion layer. Settlements were not placed at higher altitudes or on valley floors where the temperatures were lower, especially at night. Settlements are also sited on the slope that is protected from the prevailing winds of the area.

- **relief**: settlements often developed on flat land because it was more easily built on, cultivated and managed.

Key questions

- What factors influence the site of a rural settlement?
- What factors influence the situation of a rural settlement?

Geo fact

Many of the villages on the flood plain of Mesopotamia were built on raised mounds of earth.

Key words

- **wet-point sites** – when the location of a settlement site is determined entirely by the presence of a water source. Especially in dry areas, as water is needed daily and is heavy to transport.
- **dry-point sites** – a settlement site that is chosen in an attempt to avoid water, because of the danger of flooding. This is relevant in many wet areas.
4.2 Economic factors

The choice of site for a rural settlement can also be influenced by the following economic factors:

- fertile, well-drained soil and grazing land attracts commercial farming settlements, for example, the site of Stellenbosch
- a natural harbour, close to productive fishing grounds leads to the development of settlements. For example, the site of Elandsbaai on the West Coast is close to crayfish fishing grounds
- tourist attractions, for example, the site of Skukuza settlement in the Kruger National Park was influenced and has developed through the economic activity of tourism and ecotourism.

Activity 7: Describe which site would be best according to site and situation

1. Study Figure 4.15. Consider the factors discussed in this unit that may influence a farmer’s choice of site for his house. There are four possible sites for the house: A, B, C or D. Choose the most suitable site for this farmer by comparing the advantages and disadvantages of each site. (20)
Unit 5: Classification of rural settlements – pattern, function and reasons for different shapes

A rural settlement's function is usually associated with primary activities. This means the main economic activity involves the collection and utilisation of natural resources, for example farming, fishing, forestry and mining. These activities and functions can influence the pattern and shape of the settlement. The patterns of rural settlements are also affected by physical, political and cultural factors.

5.1 Rural settlement patterns

Geographers are interested in the spatial arrangement or pattern of rural settlements as well as the shape created by a settlement's buildings (settlement shape).

The patterns of settlements shown in Figure 4.16 and 4.18 occur for a number of reasons. The influencing factors could be physical, political or cultural. The table on page 182 summarises the factors and how they can affect the pattern of a settlement.

5.2 Reasons for different shapes

Nucleated rural settlements (hamlets and villages) have certain shapes or forms. These shapes can be influenced by the factors described in the table. Common shapes are round or circular, linear, crossroads and T-shaped.

Key questions

- What factors influence the patterns of rural settlement?
- What factors influence the shape or form of a nucleated rural settlement?

**Key word**

settlement shape – the shape formed by the buildings in the settlement

Figure 4.16 Nucleated or clustered pattern

Figure 4.17 A German Rundling – this hamlet has a circular shape with the buildings situated around a central church and its grounds

Figure 4.18 Dispersed or isolated pattern

Figure 4.19 This village developed at a crossroads and has adopted this X shape

Figure 4.20 This village developed at a T-junction and has adopted this T shape

Figure 4.21 A linear-shaped village – the river and the road have influenced the shape
<table>
<thead>
<tr>
<th>Rainfall</th>
<th>Dispersed</th>
<th>Nucleated</th>
</tr>
</thead>
<tbody>
<tr>
<td>High rainfall area</td>
<td>There is sufficient rainfall throughout the area</td>
<td></td>
</tr>
<tr>
<td>Low rainfall or arid area</td>
<td>Settlement sited near water source</td>
<td>Nucleated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relief</th>
<th>Nucleated</th>
<th>Dispersed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hilly area</td>
<td>Settlement site on the small flat areas</td>
<td>Nucleated</td>
</tr>
<tr>
<td>Flat plains or plateaus</td>
<td>Plenty of space available</td>
<td>Nucleated and dispersed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soil</th>
<th>Nucleated</th>
<th>Dispersed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertile</td>
<td>Maximum use of soil, as ground has a high carrying capacity and is able to support more intense farming</td>
<td>Nucleated</td>
</tr>
<tr>
<td>Infertile</td>
<td>Large area needed to support agriculture; soil has a low carrying capacity</td>
<td>Dispersed</td>
</tr>
</tbody>
</table>

Social, cultural, tradition and religion

<table>
<thead>
<tr>
<th>Religion</th>
<th>Nucleated</th>
<th>Dispersed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultures with strong traditions and beliefs about living arrangements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same religion</td>
<td>Nucleated</td>
<td>Dispersed</td>
</tr>
</tbody>
</table>

Agricultural system

<table>
<thead>
<tr>
<th>Privately owned land and extensive commercial farms</th>
<th>Dispersed</th>
</tr>
</thead>
</table>

Political

<table>
<thead>
<tr>
<th>Safety</th>
<th>Nucleated</th>
</tr>
</thead>
<tbody>
<tr>
<td>In times of war, insecurity or political instability</td>
<td>Nucleated</td>
</tr>
<tr>
<td>In times of peace or a stable government</td>
<td>Dispersed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy</th>
<th>Dispersed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communism or socialism</td>
<td>Nucleated</td>
</tr>
<tr>
<td>Capitalism</td>
<td>Dispersed</td>
</tr>
</tbody>
</table>

Activity 8: Classify settlements according to pattern and shape

1. Match each of the rural settlements labelled A, B, C and D with one of the following statements:
   1.1 Irregular and nucleated pattern
   1.2 Irregular and dispersed pattern
   1.3 Nucleated pattern and linear shape
   1.4 Nucleated pattern and circular shape.

2. Describe a factor that may have influenced the pattern and shape of each settlement, A to D.

Figure 4.22 Rural settlements in a fictitious landscape
Unit 6: Land use in rural settlements

Rural settlements show varying rural land uses. The land use depends on the function and the type of primary activities that occur in and around the settlement. The land use in a subsistence farming community would be different to the land use on an intensive mixed-commercial farm (commercial farming).

The land use for a rural settlement that is involved in agriculture could include:
- dwellings in which people live
- farm-produce storage structures
- grazing land
- roads and paths
- storage buildings and equipment sheds
- cultivated lands
- stock pens
- water storage areas

Key questions
- How is land used in rural settlements?
- What factors determine land use in rural settlements?

Key words
- rural land use – what the land is used for
- subsistence farming – farming to produce food for the family
- commercial farming – farming for a profit

Activity 9: Describe land use in settlements associated with primary activities

1. What would the land use be in a settlement where the primary activities are:
   1.1 forestry (4) 1.2 mining (6) 1.3 fishing? (3)

Activity 10: Describe the land use of rural areas

Study the maps in Figures 4.23–4.25 and answer the following questions. Use the key on page 23 to assist you.

1.1 List the rural land uses shown on each of the maps in Figures 4.23–4.35. Make separate lists for each map.

1.2 Describe how the land uses shown on the maps in Figures 4.23–4.25 differ from the land use in the Malawi case study below.
**Geo fact**

In 1995 there were 26 million tractors being used in rural areas for farming. Europe had 42% of these tractors, Asia 21%, USA 19%, Russia 10%, South America 5%, Africa 2% and Oceania 1%.

**Case study**

**Land use on a subsistence farm in Malawi**

Mary Malwanda and her family live on the shores of Lake Malawi. All land belongs to women, as they are the farmers, while the men are fishermen. All farming is done by hand. The main crops grown are rice, maize, cassava and pumpkins. Mary also farms chickens and ducks. Other sources of food are fish, eggs and, occasionally, goat.

**Activity 11: Develop the land use on a commercial farm**

This activity concerns the internal land use of an isolated rural settlement. You have purchased this farm outside the town of Brits in the North West province. You intend to develop a mixed-commercial farm and sell your produce in Brits.

1. Make a copy of the map and indicate where you would place the following:
   - the main farmhouse and outbuildings
   - grazing cattle
   - chickens and pigs
   - root vegetables
   - leaf vegetables
   - internal roads
   - windbreaks
   - an irrigation network and water for domestic use
   - housing for resident farm labourers.
2. Justify, in geographical terms, your land use choices.

*Figure 4.26 The land use on Mary Malwanda's subsistence farm*

*Figure 4.27 Map of a farm area*
Chapter 3: Rural settlement issues

Unit 7: Rural–urban migration

The movement of people from rural areas (farms, villages) to urban areas (towns and cities) is called **rural–urban migration**. People leave rural areas, which causes **rural depopulation**. People are attracted to towns and cities, leading to urbanisation. This trend has been seen in South Africa for many decades. It is the reason for the relatively high rate of **urbanisation**, and increasing levels of poverty and depopulation in rural settlements.

The main reason for rural–urban migration are the greater opportunities for employment and an improved lifestyle offered by secondary, tertiary and quaternary activities in urban areas. In addition, farmers use more machines now and specialise in one crop or livestock type to increase production. This has reduced job opportunities in rural areas.

Poverty, lack of arable land and healthcare concerns are some of the other reasons why rural people move to towns and cities. Young adults move to towns and cities for employment so that they can send money home to the family in the rural areas, and to support themselves in the urban settlement. This is called **selective outward migration** and leads to the **ageing** of the rural population.

In South Africa urban centres are still growing as a result of the migration of rural people, but it seems that this migration is not always permanent. Strong ties still exist between the individual who left the rural settlement to find work in a city and the rural settlement itself, so it is likely that he or she will return to the family home someday.

**Key questions**
- What is rural–urban migration?
- What are the effects of rural–urban migration?

**Key words**
- **rural–urban migration** – the movement of people from rural areas to urban areas
- **rural depopulation** – the decline in the population of a rural area
- **urbanisation** – the increase in the proportion or percentage of people living in towns and cities
- **selective outward migration** – migration of an age group
- **ageing population** – only the older members of a population remain in an area

**Geo fact**
For the period between 2006–2011, approximately 215 000 people migrated from the Eastern Cape, 14 000 people migrated out of the Limpopo Province, while Gauteng had an inflow of 367 100 migrants.

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**Figure 4.28** The problems that rural people experience when they leave rural areas

- **distance**
- **lack of capital**
- **travel costs**
- **new lifestyle**
- **illiteracy**
- **misinformation**

**obstacles faced by rural-urban migrants**
A Unesco article about rural–urban migration

In one type of rural–urban migration, a member of the family migrates temporarily to an urban area, and the rural settlement is the place to which he plans to return. The migration is usually motivated by the need to find work and makes heavy demands on the members of the family back home. It means that women have to do certain tasks they did not previously perform. It influences the children and affects the social life within the family as well as relations outside. A study done, across varying cultures, of this type of migration has shown that migration increases family income, raises the standard of living and increases the responsibilities of female family members.

Through the network of kinship (blood relationship) people can move into the city and, once there, they continue to move in the kinship and village circle. Family reunions generally coincide with religious festivals and ceremonial occasions. This migration exposes women to a wider world of work and experience in the management of household affairs that in normal circumstances are looked after by men.

Men do not migrate to improve the status of women. They do it for the overall improvement of the family’s standard of living and to enhance its status within the rural settlement. Migration can be seen as an investment made by the parents to provide a better future for their children. The status of the parents may not change much, but their children may have an education, and thus get a better job.

Activity 12: Understand the effects of rural–urban migration

Study Figure 4.28 and read the article above.

1. List the problems experienced by a person who migrates to an urban area from a rural area. (6)
2. List the problems or changes experienced by the family and people remaining in the rural area. (5)
3. Describe the positive effects that this migration may have for the whole family. (8)
Unit 8: Causes and consequences of rural depopulation for people and the economy

8.1 Depopulation of rural settlements

Isolated commercial and subsistence farms and small rural towns are closely connected. The farms cannot function alone. The farmers depend on their nearest rural town, also called a service centre, for all their needs that are not met on the farm. On the one hand South Africa is experiencing depopulation of rural areas (rural depopulation) as well as small rural towns as people migrate to larger urban areas. On the other hand, rural dwellers from scattered or isolated settlements – or even hamlets – migrate to rural towns or villages in search of jobs.

The causes of depopulation of rural areas – push and pull factors

- lack of investment – money available to government is spent on urban areas
- few jobs and low wages
- use of jobs due to mechanisation and specialisation – lack of services doctors, clinics, hospitals, schools
- maintenance, malnutrition and poverty
- extreme physical conditions – climate, altitude, mountains
- lack of capital for machinery, pesticides and fertilisers – decrease in soil fertility, soil erosion and overgrazing – lack of land ownership and farms too small to support commercial farming – natural disasters – disease, drought, famine, floods
- unfavourable image
- wide range and variety of jobs
- many new jobs in industry
- educational opportunities – schools, colleges, universities – improved standard of living – well-developed medical and health care services
- higher wages – favourable city image
- entertainment and leisure – improved opportunities for children – higher quality of life – more reliable source of food

The consequences of rural depopulation

- resources in rural areas are not used to develop the economy which would provide employment for the rural population
- spending in the smaller service centres decreases as local farmers leave the farms. Business people and service providers in small rural towns lose their business or jobs
- services in the smaller centres close down, for example schools and shops. The local people now have no access to these services and people lose their jobs
- young men are the first to migrate – the women, children and elderly remain in the rural areas. This has an impact on the family unit and forces women and children to take on roles that are normally carried out by the men
- crime (farm murders) increases. Isolated farms become more vulnerable as the area is less populated. There is no support system or services to ensure security
- unemployment increases as there are few new investments
- low value of properties, abandoned and neglected farmhouses

Geo fact

More economically developed countries show a clear migration pattern from urban centres to rural areas, while less economically developed countries still experience the opposite.

Key word

service centre – small rural towns that provide services to the surrounding rural community
- tertiary services are below standard because the population size is too small to support and sustain an acceptable level of service
- the cycle of rural decline and decay (rural decay) sets in.

![Diagram of the cycle of rural decay](image)

**Figure 4.30** The cycle of rural decay – problems that occur in rural areas when they become depopulated

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**Activity 13: Understand the effects of rural depopulation**

1. List the services that a farmer would use in a small rural town? (5)
2. Draw the rough shape of a population pyramid for a depopulating rural area. (5)
3. Describe and explain the shape of your population pyramid. (6)
4. Rural depopulation is having a negative impact on:
   - commercial and subsistence farmers
   - rural service centres or small rural towns.
   Discuss the social and economic impact that rural depopulation is having on these two rural sectors, respectively. (10)
Unit 9: A case study that illustrates the effects of rural depopulation and strategies to address these effects

Case study: Rural depopulation – Prince Albert

The causes of depopulation of Prince Albert

Originally Prince Albert was a farm where wheat, barley, rye and vines were grown. A hamlet slowly grew and in 1865 a mill was built. Farmers started to breed ostriches and were exporting ostrich feathers. By 1882 over 50,000 kg of ostrich feathers were being exported. In 1891 when gold was discovered in the area, the population increased and a small rural town developed.

The depopulation of the area and the town started in 1917 with the collapse of the ostrich feather market. Then the gold mining stopped. The Great Depression of the 1930s coincided with severe droughts in the area. The population of the area and the town decreased and the economy of the rural area collapsed. Depopulation continued for the next 40 years. Unemployment was the main reason why people migrated to larger towns and cities. Farms and houses were abandoned, businesses closed, local natural resources were underutilised and the cycle of rural decay set in.

What did the municipality and the community do?

The local municipality and community have worked together to address and halt depopulation. The municipality’s mission statement is central to these development strategies:

‘Our VISION is to uplift the standard and quality of life of the people in the sphere of the Prince Albert Municipal area, through the optimal use of the resources and the sustainable preservation thereof.

Our MISSION is the supplying of services to and facilitating the development of the total community of Prince Albert’.

Key questions

- What strategies are implemented to address the effects of rural depopulation?
- What are rural development strategies?

Geo fact

In South Africa, almost 70% of ultra-poor households are located in rural areas. The monthly income needed to keep a one-person household out of poverty in 2012 was estimated at R1 315. For a household of four people R2 544 was needed. If a household earns less than this it is regarded as ultra-poor.
The goals of the Prince Albert community and municipality were:
- supplying the basic needs of residents
- facilitating job creation and stimulating the economy
- quality training and education for juveniles and adults
- sustainable management of natural resources
- creating and maintaining a sturdy infrastructure according to the needs of residents

These were the steps taken to achieve the goals:
- research was done to determine what could be farmed in the area. Dairy cows, vines, olives, angora goats (for mohair) and vegetables are farmed. Fruit trees were planted
- the town began to focus on its tourist potential and a business plan was drawn up. The town attracts tourists to the area with farm produce festivals, ecotourism, cycle trails, an Autumn School involving courses, talks, walks, exhibition and adventure sports like hiking and mountain biking.
- dilapidated and deserted historical buildings were repaired. There are now thirteen national heritage sites in the town and another five in the district
- industries connected to farm produce, such as mohair wool weaving, an abattoir, a tannery and cheese-making were developed
- in 1982 there was only one guest house and one hotel in the town in 2012 there were over 20 accommodation options
- an NGO, CIVICS, has assisted the town’s previously disadvantaged communities with housing, employment, training and the supply of services
- in 1995 the area was declared a conservation area, which encouraged ecotourism activities like bird watching and star gazing

- commercial farmers have donated portions of their land, with water, to be cultivated by local families as market gardens. The produce is sold at a weekly market in the town
- the development of community projects, for example Pick-a-Piece which provides some of the basic needs of children while teaching them about waste, hygiene and personal responsibility. Children bring recyclable waste to a centre where the goods are sorted and weighed. Each child is awarded points according to the recyclables that they brought. They can redeem the points for basic toiletries, stationery and some food items
- other community projects like Handmade-Karoo-Handgemaak, is a local project where women make handmade items to sell.

Figure 4.33 Ladies of the community and their goods

Figure 4.34 The key to Prince Albert’s success

Prince Albert town has a thriving population of 5 217 people, the Prince Albert municipality has a population of 8 376, and an average of 3 500 tourists visit the area each year.

Key words

[occasional misuse of terms and abbreviation]

Chapter 3: Rural settlement issues
## Rural development strategies

Many strategies have been implemented by the South African government over the last 60 years in an attempt to address the effects of rural depopulation. The table below illustrates these strategies.

<table>
<thead>
<tr>
<th>Strategy, theory or policy</th>
<th>Aim</th>
<th>Method</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter-urbanisation</td>
<td>To keep people in rural areas</td>
<td>Create employment</td>
<td>Tourist centres and industries related to the available raw resource</td>
</tr>
<tr>
<td></td>
<td>Improve services</td>
<td>Provide tapped water and electricity</td>
<td>Vaal-Hartz irrigation scheme</td>
</tr>
<tr>
<td></td>
<td>Increase or improve productivity</td>
<td>Introduce modern farming methods and irrigation schemes</td>
<td>Border industries were created on the borders of the previous homeland areas, developed during apartheid</td>
</tr>
<tr>
<td>Decentralisation and growth pole</td>
<td>Increase industries and therefore employment in rural areas</td>
<td>Government offered incentives and tax rebates to industries that were located in these rural areas</td>
<td></td>
</tr>
<tr>
<td>Agricultural planning</td>
<td>Increase food production</td>
<td>People were resettled onto a small piece of land for subsistence farming. There was communal cultivated land, grazing and planted forests</td>
<td>During apartheid 'betterment villages' were planned as agricultural settlements in the previous homeland areas</td>
</tr>
<tr>
<td>Basic needs philosophy - services should be accessible and affordable</td>
<td>Improve productivity of rural people by addressing their basic needs first. The local people were included in the decision making</td>
<td>The basic needs – food, clean water, sanitation, housing, education, health care and employment - were the first priority</td>
<td>The Reconstruction and Development Programme (RDP) – 1994</td>
</tr>
<tr>
<td>Integrated Rural Development</td>
<td>Improve farming as well as to meet the basic needs of people</td>
<td>Improve local food crops, introduce new cash crops, upgrade irrigation systems, improve and extend services, improve infrastructure, improve support through training, reform the communal tenure system</td>
<td>Integrated Rural Development Programme (IRDP) – 2000</td>
</tr>
<tr>
<td>Sustainable development at the local level (sustainable rural development strategies)</td>
<td>Development that integrates social, economic and environmental factors</td>
<td></td>
<td>Local Agenda 21 – 2001</td>
</tr>
<tr>
<td>Collective strategy</td>
<td>To fight poverty, hunger, unemployment and lack of rural development</td>
<td>Establish sustainable rural communities through land reform. Investment in economic and social infrastructure</td>
<td>Comprehensive Rural Development Programme (CRDP) – 2009. For two years there will be pilot projects done in each province before this programme is fully implemented throughout South Africa</td>
</tr>
</tbody>
</table>
The Comprehensive Rural Development Programme (CRDP)

The Comprehensive Rural Development Programme (CRDP) is presently being implemented in South Africa.

The comprehensive rural development strategy aims to:
- eliminate rural poverty and food insecurity
- maximise the use and management of natural resources
- create vibrant, equitable and sustainable rural settlements.

The methods being used are:
- aggressive implementation of land reform policies
- stimulation of agricultural production
- broadening of rural livelihoods to improve household food security
- improved service delivery and rural infrastructure to ensure quality of life
- a development programme for rural transport
- skills development
- revitalisation of rural towns
- support for non-farm economic activities
- cooperative development

The key actions are:
- infrastructure must be developed and geared to support agricultural and non-farming economic activities
- people should be encouraged to add value to their primary products by turning them into secondary products, for example making jam from harvested fruits
- encourage public investments to support rural non-farm industries that can provide additional rural incomes
- improve information and communication to provide knowledge about crops, weather and current trends.

Activity 14: Match rural development strategies with the case study

1. List the strategies in the table on page 191 and then match them to a plan or strategy put in place by the community and municipality of the Prince Albert area.
Unit 10: Social justice issues in rural areas – access to resources and land reform

Social justice and the issue of rural land reform are still not fully resolved in South Africa’s rural areas and settlements. Social justice is the principle that all individuals are entitled to meet their basic human needs: food, water, clothing, shelter, health care and education. This is regardless of differences such as income, gender, race, ethnicity, citizenship, religion, age, sexual orientation, disability, or health. Social justice includes the elimination of poverty and illiteracy and the development of equal opportunity.

To fully understand the issues relating to social injustice we need to know the history behind the problems.

In 1936 the Native Trust and Land Act of South Africa assigned 13.6% of the land area of South Africa to black South Africans. Black South Africans could own land in these areas only. These areas were called reserves and later became known as homelands. In the 1950s the government passed laws stating that all black South Africans (76.7% of the population) had to live in a homeland unless they had a special pass to leave their homeland.

The rest of the rural land in South Africa was owned either by the government, for example forests and national parks, or by white commercial farmers. With the aid of government subsidies, loans and tax concessions, commercial farming became highly profitable, using advanced machinery, fertilisers, herbicides, high-yielding seeds and irrigation.

The diagram below illustrates the numerous rural settlement issues and their associated problems.

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**Geo fact**

54% of South Africa’s children live in rural areas. In other words, 10 million children, and 75% of them live in the Eastern Cape, KwaZulu-Natal and Limpopo province. 39.3% (19.1 million people) of South Africa’s population live in rural areas.
1. Study Figure 4.35. Classify each issue under one of the following groupings. Some issues can be repeated in different groups.

1.1 Social issues
1.2 Economic issues
1.3 Physical issues

10.1 Social justice and access to resources in rural areas

Even though homelands are no more, many South African families live in these areas and continue family traditions and practise agriculture. The overuse of land leading to severe degradation continues in previous homelands in the Eastern Cape, Limpopo, North West and KwaZulu-Natal. Some areas have such poor soil conditions that crop farming is almost impossible. The topics discussed below are concerned with the social injustices that occur in many rural areas of South Africa. Many of these social injustices are caused by the lack of easy access to resources.

Socio-economic and physical issues

- South Africa’s main rural economic activities are agriculture – crop and cattle farming, as well as fishing.
- Poverty is the greatest problem in these areas, and therefore this affects the type of agricultural activity practised by a rural household. For these families, subsistence farming, is the only way in which bought food can be supplemented to ensure that the entire family can survive.
- Success of the average South African subsistence farmer’s activities depends on available resources – money, seed, fertiliser, machinery and water. These resources cost money which further limits the farmer’s farming capabilities.
- Physical factors, poor soil fertility or an unsuitable climate contribute to poverty. A lack of finance and a physical environment that is degraded; or unsuitable to agriculture, worsens the problems.
- The social and economic exclusion of rural people from many government development strategies and policies has hampered rural development. Gender inequality, a lack of basic education and useful skills have increased the rates of unemployment, poverty and even the spread of HIV/AIDS.

Access to primary healthcare

- The number and location of clinics and doctors are insufficient and sparse.
- Some of the poorer provinces, for example the Eastern Cape, have other needs that are more urgent, for example, housing and job creation, and therefore health care receives less money from the budget.
- Healthcare professionals do not wish to move to rural areas. Isolation, huge workloads, lack of recognition and inadequate facilities are reasons for avoiding or leaving a rural health employment position.
HIV/AIDS and TB

- HIV/AIDS puts pressure on the rural healthcare sector, as rural HIV/AIDS rates are generally higher than those in urban centres.
- Tuberculosis (TB) is another disease that is spreading through South Africa's rural areas. TB patients are required to complete a course of drugs before being considered healthy again. However, access to these drugs is limited, with the result that more people in the rural community are likely to be affected (or infected).

In 2007, the South African Department of Labour released the results of a study in rural KwaZulu-Natal that proved that nine out of every ten rural children aged twelve to sixteen are somehow involved in physical labour in the agricultural sector. Many of these children were assisting their families' subsistence farming activities, but some of these children were working on commercial farms so they could contribute to the household's income.

Figure 4.36 Subsistence farmers fall into the lowest income bracket

Rural infrastructure

Rural economic development is hindered because of:
- the remote locations of many small settlements
- expensive prices of services and products such as foodstuffs and transport
- limited access to and high costs of public transport
- poor road and rail infrastructure and the condition thereof
- road-transport limitations experienced by large-scale commercial farmers. Since the average subsistence farmer does not require his products to be transported to a nearby market, the economic need for quality tarred roads becomes unnecessary according to the Department of Transport and Roads

Access to water and electricity

- access to sanitation and water is another concern in many rural regions. Despite attempts by provincial authorities to provide these services, many rural dwellers still lack access to clean water, sanitation and electricity.
10.2 Access to land and land reform

Land is an important and sensitive issue for all South Africans. Who owns land, who has access to land and what land is used for concerns all people.

The Comprehensive Rural Development Programme, discussed at the end of Unit 9, is implementing strategies to reach its objectives with regards to land reform.

Why are these strategies necessary?
- to correct the injustices of racially based land dispossession of past years
- to achieve a more equitable (fairer) distribution of land ownership
- to reduce poverty and stimulate economic growth through land reform
- give all people security of tenure (land tenure)
- increase the number of black South African commercial farmers.

The aims of the Comprehensive Rural Development Programme for land reform

To increase the pace of land redistribution
- provide increased access to land for previously disadvantaged people, through the redistribution of 30% of white-owned agricultural land (rural land redistribution)
review the land acquisition processes.

**To increase the pace of land tenure reform**
- speed up the settlement of *labour tenant* claims, especially in KwaZulu-Natal and Mpumalanga
- facilitate secure access to land by farm dwellers
- protect the land rights of farm workers and create decent jobs on farms
- establish agri-villages for local economic development on farms
- provide the basic needs of farm dwellers, including water, sanitation, electricity, and housing
- stimulate economic growth in traditional communities in the former homeland areas while promoting efficient use of land and the sustainable use of natural resources.

**To speed up the settlement of outstanding land restitution claims**
- provide an analysis of outstanding claims
- develop a strategy to deal with land claims in the Land Claims Court to ensure that these are ‘winnable strong cases’
- ensure sustainability and to contribute to poverty eradication, economic growth and the creation of employment opportunities
- provide a reliable and efficient property/deeds registration system
- provide surveys, mapping services and spatial planning information.

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**Activity 17: Evaluate a letter written to the media**

A reader of the Cape Times is happy that the land reform minister has committed himself to ensure that all **rural land restitution** and land reform projects are now accompanied by a viable business plan.

**Nkwinti’s land reform plans will grow to success**

As South Africans we cannot adopt a one-size-fits-all approach to land reform. Apartheid did two things – it dumped millions of black people in the countryside and simultaneously denied them any meaningful access to productive agricultural activity. Even basic subsistence agriculture declined. So when people received land after 1994 without adequate follow-up training, credit and other support – we were setting them up for failure. I am happy that Rural Development and Land Reform Minister Gugule Nkwinti has recommitted himself and the department so that all restitution and land reform projects are now accompanied by a viable business plan that includes training, mentorship and partnerships.

(Adapted from a letter written to the Cape Times in April 2012 by Tshepo Diale)

1. Describe the three effects, mentioned in the letter, that apartheid laws had on rural areas and people. (4)
2. List the three aims of the Comprehensive Rural Development Programme on Land Reform. (3)
3. Describe three methods that will be used to achieve or realise these aims. (6)
4. List the three principles of land reform in South Africa. (6)
5. Discuss why the reader, who wrote the letter, feels that farmers were being set up to fail. (4)
6. Discuss why the reader now believes this problem has been resolved. (4)
Chapter 4: Urban settlements

Key questions
- What is urbanisation?
- When and how did urban settlements originate and develop?
- What are the trends in global urbanisation?
- Where are the world's largest urban settlements and how do their populations change?

Unit 11: The origin and development of urban settlements – urbanisation of the world's population

11.1 What is urbanisation?

Today, one out of every two people on Earth lives in a town or city. This means that there are over 3.5 billion urban inhabitants on our planet. In 2007, for the first time in history, the number of people living in urban places exceeded those living in rural areas. The process in which an increasing proportion of a country's population is concentrated in urban areas is called urbanisation.

11.2 Origin of urban settlements

The first urban settlements were established in Mesopotamia (modern-day Iraq) 6,000 years ago. These first towns housed up to 80,000 people. Later, urban settlements were established in Egypt, Turkey, China as well as in modern-day Pakistan, Peru and Mexico. Rome was the first ancient city in the world to house one million people in 1 CE.

Before there were towns and cities, all settlements were rural and supported mainly by agriculture and hunting. When permanently settled farmers began producing a surplus of food, growing numbers of people were free to do other things. This led to non-agricultural workers specialising in other jobs, such as making and selling food, clothes and furniture. This is a simple explanation of how the first villages were established. Villages grew into towns and sometimes into cities. These early settlements became centres of trade where goods were exchanged, stored and redistributed. They also became centres of administration, religion and often defence.

Figure 4.39 Tokyo (Japan) has the world's largest urban population (over 36.5 million); 67% of Japan's population of 127 million live in urban settlements.
11.3 Development of the world’s urban settlements

The Industrial Revolution changed the economy and appearance of most towns and cities. By 1850, the major cities of the world were located in the newly industrialised countries of Europe and eastern USA. In 1880, no more than 3% of world's population lived in cities (see Figure 4.40). By 1950, most large cities of the world were in the former colonies, that is, in the developing world.

Today, cities are focal points of our modern global civilisation. The percentage of the world’s urban population has increased as illustrated by Figure 4.40.

<table>
<thead>
<tr>
<th>Year</th>
<th>World's urban population</th>
<th>% of world's population that is urbanised</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>1 billion</td>
<td>33%</td>
</tr>
<tr>
<td>2000</td>
<td>3 billion</td>
<td>47%</td>
</tr>
<tr>
<td>2012</td>
<td>3.5 billion</td>
<td>51%</td>
</tr>
<tr>
<td>2030 (est.)</td>
<td>5 billion</td>
<td>75%</td>
</tr>
</tbody>
</table>

Figure 4.40 The world’s increasingly urbanised population

Today urban settlements are based on service activities, for example finance, administration, tourism and information technology (IT). Other modern cities are centres of business, government, art and culture. The world’s urbanised population increased significantly in the twentieth and twenty first centuries (see Figure 4.40).

11.4 World urbanisation trends

In most countries of the world there are an increasing number of people living in urban areas. This process is called urban growth. Statisticians often express the number of people who live in urban areas as a percentage of the total population. This is called the level of urbanisation. The rate of urbanisation describes the pace at which urbanisation takes place.
Geo fact

In 1800, there were three cities in the world with populations greater than 1 million. In 1900 there were 16 cities with over 1 million inhabitants. By 2010, there were 450. In 2012, in China alone, there were 150 such cities. Due to rapid urbanisation, China will have 220 cities with over 1 million inhabitants by 2025.

Here are some interesting observations about the urbanisation of the world's population:

- the rate of urbanisation is greatest in the developing world. By 2025, four times as many people in the developing world will be living in urban areas than in the developed world
- the developing countries already contain seven of the world's top ten megacities (cities with more than 10 million inhabitants). In 2015, there will be 23 megacities in the developing world
- in the cities of the developing world, 50% of the urban population has no access to clean water or sanitation
- there are 41 cities in the world with more than 5 million people; in 2015, there will be 64 such cities. All but 11 will be in the developing world
- globally, each week one million people either move to or are born in a city. By 2030, 75% of the world's population will be urban
- by 2050, 60% of Africa's population will be urbanised.

Activity 18: Review the urbanisation of the world’s population

Study the table alongside showing the percentage of the total population living in urban areas in different parts of the world.

1. Explain the meaning of 'urbanisation'.
2. Describe the general trend in global urbanisation from 1950 to 2000.
3. Suggest why the level of urbanisation in more-developed areas is usually greater than in less-developed areas.
4. In which part of the world was the increase in the level of urbanisation the greatest between 1990 and 2000? Suggest a reason for this trend.
5. Justify this statement: 'With increasing industrialisation comes increased urbanisation.' Use data from the table to support your answer.
6. Why may Europe and CIS be less urbanised in 2020 than in 2000 (and similarly, why do levels of urbanisation in North America remain almost the same for that period)?

<table>
<thead>
<tr>
<th>Region</th>
<th>1950</th>
<th>1990</th>
<th>2000</th>
<th>2020 (est.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>30</td>
<td>43</td>
<td>47</td>
<td>60</td>
</tr>
<tr>
<td>More-developed areas</td>
<td>54</td>
<td>67</td>
<td>73</td>
<td>77</td>
</tr>
<tr>
<td>Less-developed areas</td>
<td>17</td>
<td>25</td>
<td>37</td>
<td>53</td>
</tr>
<tr>
<td>Europe and CIS (Commonwealth of Independent States – former Soviet Republics)</td>
<td>56</td>
<td>74</td>
<td>79</td>
<td>77</td>
</tr>
<tr>
<td>North America</td>
<td>64</td>
<td>74</td>
<td>78</td>
<td>79</td>
</tr>
<tr>
<td>Oceania (Australia, New Zealand and surrounding islands)</td>
<td>61</td>
<td>71</td>
<td>74</td>
<td>75</td>
</tr>
<tr>
<td>Latin America</td>
<td>41</td>
<td>69</td>
<td>77</td>
<td>83</td>
</tr>
<tr>
<td>Asia</td>
<td>16</td>
<td>26</td>
<td>39</td>
<td>50</td>
</tr>
<tr>
<td>Africa</td>
<td>16</td>
<td>31</td>
<td>45</td>
<td>52</td>
</tr>
</tbody>
</table>

Figure 4.42 Bombay (Mumbai) in India—population
20 million, estimated to be over 26 million in 2025
Study the table below showing data for the world's ten largest urban settlements in 1975, 2000 and 2025 (estimated).

Note: Some of these urban settlements are 'urban agglomerations' – a combination of several cities that have joined together to form one massive urban settlement. Different sources often quote different population statistics for large cities.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tokyo, Japan</td>
<td>26.6</td>
<td>1. Tokyo</td>
<td>34.5</td>
<td>1. Tokyo</td>
<td>36.4</td>
</tr>
<tr>
<td>New York, USA</td>
<td>15.9</td>
<td>2. Mexico City</td>
<td>18</td>
<td>2. Bombay (Mumbai)</td>
<td>26.4</td>
</tr>
<tr>
<td>Mexico City, Mexico</td>
<td>10.7</td>
<td>3. New York</td>
<td>17.9</td>
<td>3. Delhi</td>
<td>22.5</td>
</tr>
<tr>
<td>Osaka-Kobe, Japan</td>
<td>9.8</td>
<td>4. São Paulo</td>
<td>17.1</td>
<td>4. Dhaka, Bangladesh</td>
<td>22</td>
</tr>
<tr>
<td>São Paulo, Brazil</td>
<td>9.6</td>
<td>5. Bombay (Mumbai), India</td>
<td>16.1</td>
<td>5. São Paulo</td>
<td>21.4</td>
</tr>
<tr>
<td>Los Angeles, USA</td>
<td>8.9</td>
<td>6. Shanghai, China</td>
<td>13.2</td>
<td>6. Mexico City</td>
<td>21</td>
</tr>
<tr>
<td>Paris, France</td>
<td>8.6</td>
<td>8. Delhi, India</td>
<td>12.4</td>
<td>8. Calcutta (Kolkata)</td>
<td>20.6</td>
</tr>
<tr>
<td>Calcutta (Kolkata), India</td>
<td>7.9</td>
<td>9. Buenos Aires</td>
<td>11.9</td>
<td>9. Shanghai</td>
<td>19.4</td>
</tr>
<tr>
<td>Moscow, Russia (Russian Federation)</td>
<td>7.6</td>
<td>10. Los Angeles</td>
<td>11.8</td>
<td>10. Karachi, Pakistan</td>
<td>19.1</td>
</tr>
</tbody>
</table>

Source: United Nations

1. Using an atlas, locate all of the cities above on a world map.

2. How many Asian megacities were there in the 'top ten' in 2000? According to estimates, how many Asian megacities will there be in 2025? What does your answer tell you about global urbanisation? (8)

3. Suggest explanations for the following observations made from the data in the table:
   3.1 The rank order of the world’s top ten cities in 2025 differs from 2000. (2)
   3.2 Osaka-Kobe, Los Angeles, Buenos Aires, Paris and Moscow feature in the 1975 list but not in the 2025 list. (2)
   3.3 Calcutta’s (Kolkata) population has grown the most from 1975 to 2025 (12.7 million). (2)
   3.4 Tokyo’s population grew the least between 2000 and 2025 – by 1.9 million. (2)

Geo fact

It is predicted that in 2015, Gauteng province will be the twelfth largest megacity in the world as several large cities join together. In 2012, 62% of South Africa’s population was urbanised. It is estimated this will rise to 80% by 2026.
Unit 12: How site and situation affect the location of urban settlements

12.1 Factors influencing the location of urban settlements

Figure 4.43 shows the continents at night, as seen from space. Where there is a lot of light, people are living in large urban centres and where it is dark or where there are few lights, there are no large urban settlements. Why are these urban settlements located where they are? Look in particular at the east coast of the USA, Europe, South Africa, Southeast Asia and the east coast of Australia.

Location is a general term used to describe where a place is. Two more precise geographical terms are site and situation. The site of a settlement refers to the actual piece of ground on which the settlement is built, for example Cape Town's site is the land around Table Bay beneath Table Mountain. Situation refers to the location of a settlement with reference to its surroundings, for example Johannesburg is situated on the Witwatersrand south of Pretoria (Tshwane) in Gauteng. How do site and situation affect the location of urban settlements?

The location of urban settlements is influenced by these factors:
- physical environment, including climate, relief (land), drainage, natural harbours, availability of water, resources (for example valuable minerals)
- social, including religion, language and culture
- political, governments can decide where to create urban settlements
- economic, including trade, availability of resources (for example minerals), transport routes, jobs and industry

Figure 4.43 This image of the continents at night, as seen from space, indicates where more urban settlements are located. The lights indicate large urban settlements.
Unit 13: Classification of urban settlements according to function

13.1 Functions of urban settlements

Urban settlements can be classified according to their original or main function, in other words, why was the settlement originally established? What purpose(s) did it serve? What service(s) did it provide? Usually, this function is a reflection of one or many of the original reasons that led to the establishment of the settlement. Most urban settlements are multifunctional (have many functions), although we can often identify a historical or dominant function. Urban settlements offer functions such as:

<table>
<thead>
<tr>
<th>Function</th>
<th>Wholesale</th>
<th>Manufacturing</th>
<th>Business Services</th>
<th>Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>Political</td>
<td>Administrative</td>
<td>Military/Defence</td>
<td>Financial</td>
</tr>
<tr>
<td>Entertainment</td>
<td>Religious</td>
<td>Public Services</td>
<td>Education</td>
<td>Trade</td>
</tr>
<tr>
<td>Health</td>
<td>Transportation</td>
<td>Recreational</td>
<td>Cultural</td>
<td>Media</td>
</tr>
</tbody>
</table>

Notice that most of these functions are tertiary or quaternary functions, with a few secondary functions. Remember that rural settlements have mainly primary functions, whereas urban settlements have secondary, tertiary and quaternary functions. If you look through the telephone directory (and Yellow Pages) for the settlement in which you live, you will see the many businesses in operation.

13.2 Types of urban settlement according to function

We can classify urban settlements according to their main or dominant function as the table below illustrates.

Functions of towns and cities change with time. Johannesburg was originally a gold mining town, but now all the original gold mines have closed. Only reclaimed gold from past mine dumps is being processed. Johannesburg’s main function today is as an economic centre of business, finance and industry, as well as being the administrative capital of Gauteng. Pilgrims Rest (Mpumalanga), originally a gold rush town, now specialises in tourism.

<table>
<thead>
<tr>
<th>Settlement type</th>
<th>Description</th>
<th>Example(s)</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Central places</td>
<td>Urban settlements that are accessible, and provide goods and services to the surrounding population.</td>
<td>Upington is accessible to people living in Northern Cape. It provides goods and services to people living in the surrounding areas (see photo alongside). These people require the functions that this central place provides. All urban settlements serve as central places.</td>
<td>![Illustration of a central place with settlement and vehicles]</td>
</tr>
</tbody>
</table>

Key questions
- What functions do urban settlements serve?
- What are the different types of urban settlement according to their function?

Key words
- Tertiary (activities) – also called ‘services’ – for example retail, banking, education, transportation, medical
- Quaternary (activities) – the collection, analysis and transmission of information, for example media, research, IT
- Secondary (activities) – manufacturing and industry
- Primary (activities) – farming, mining, fishing, forestry and hunting
- Accessible – the ease with which a place or location can be reached from other places or locations
- Aerotropolis – settlement close to a major airport with infrastructure and economic activities linked to the airport
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Trade and transport cities</td>
<td>Urban settlements that were established due to trade and transportation. Such settlements were at a good location for rail, road or sea transportation. Settlements around large airports, called an aerotropolis, contain industrial parks, warehouses, offices, houses and services. Most of these functions operate 24 hours a day, seven days a week.</td>
</tr>
<tr>
<td>3. Break-of-bulk points</td>
<td>These settlements are established at a point where one mode of transport is changed for another and/or where the volume of goods being handled is reduced in volume. Examples being where goods are moved from ship to train or truck; where goods are unloaded in bulk and transported or packed in smaller quantities. Ports are often good examples of such settlements. Other related industries can emerge, for example oil refineries next to a port where crude oil is off-loaded and processed.</td>
</tr>
<tr>
<td>4. Specialised cities</td>
<td>Towns and cities that specialise in a particular activity, for example vehicle manufacturing, information technology, tourism or mining. Often such settlements depend on a resource, for example iron ore (Sishen) and copper (Phalaborwa). Normally such a specialisation coexists with other central place functions.</td>
</tr>
<tr>
<td>5. Junction towns</td>
<td>Urban settlements that develop at important transport junctions, such as river crossings, railway and road junctions. Over time other functions arise to service the needs of transport and travellers.</td>
</tr>
</tbody>
</table>
Urban settlements located at a physical 'gap' (space), such as a pass through a mountain range that enables a road or railway line to pass through; or at a 'gateway' (entrance) to the interior.

Worcester (Western Cape) is a gap gateway town because it is situated on the edge of the Karoo near the Hex River Pass. The major N1 road and inland railway line pass through here. See map alongside. Other examples: Montagu (Western Cape – Langeberg Mountains), Ceres (Western Cape – Skurweberg Mountains).

Activity 20: Investigate the location and functions of Laingsburg

Look at Figure 4.44, a map of Laingsburg.

1. Describe the location of Laingsburg. (2)
2. Describe the site and situation of Laingsburg. (4)
3. Using evidence from the map, give reasons why Laingsburg can be classified as a:
   3.1 Central place
   3.2 Junction town. (4)
4. Find where the main railway line and N1 road cross the Buffalo (Buffels) River. This is where the town of Laingsburg grew in the 1880s as a trading post. Explain why and how this happened. (3)
5. List four functions (services) that are found in Laingsburg today. (4)
6. Which would be the most common activities in this settlement: primary, secondary, tertiary or quaternary? Give reasons for your answer. (3)

Geo fact

The Open Pit at Palabora Mining Company (Phalaborwa, Limpopo) is Africa's largest manmade hole – 2 km in diameter and 898 m deep.
Chapter 5: Urban hierarchies

Unit 14 Urban hierarchies – important concepts

14.1 Urban hierarchy

The word ‘hierarchy’ means a system of ranking items, people or places according to level of importance or size. An example of a hierarchy would be the way a school is structured: learners, learner representative council, educators, heads of department, deputy principal and principal. Urban settlements can be arranged in a hierarchy according to their size and functions. A South African geographer, Professor R. Davies, used these ideas to classify South Africa’s urban places into a hierarchy. Although originally formulated in the 1960s, Davies's urban hierarchy remains useful for classifying urban places according to their size and functions.

<table>
<thead>
<tr>
<th>Level on settlement hierarchy</th>
<th>Type of urban settlement</th>
<th>South African examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largest</td>
<td>1. Primate metropolitan area</td>
<td>Johannesburg-Ekurhuleni-Pretoria/Tshwane conurbation</td>
</tr>
<tr>
<td></td>
<td>2. Major metropolitan area</td>
<td>Cape Town, Durban</td>
</tr>
<tr>
<td></td>
<td>3. Metropolitan area</td>
<td>Bloemfontein, Port Elizabeth, Pietermaritzburg</td>
</tr>
<tr>
<td></td>
<td>4. Major country town</td>
<td>Mbombela, Grahamstown, Paarl</td>
</tr>
<tr>
<td></td>
<td>5. Country town</td>
<td>Upington, Harrismith, Ermelo</td>
</tr>
<tr>
<td></td>
<td>6. Minor country town</td>
<td>Bredasdorp, Mooi River</td>
</tr>
<tr>
<td></td>
<td>7. Local service centre</td>
<td>Drummond, Wilderness</td>
</tr>
</tbody>
</table>

Conurbations and the megalopolis

The word conurbation means ‘continuous urban area’. The Witwatersrand (Gauteng) is an example of a conurbation that has formed as a result of the merging together of many towns and cities, such as Johannesburg, Boksburg, Brakpan, Benoni, Roodepoort, Randburg, Sandton, Edenvale, Soweto, Orange Farm, Alberton, Midrand and Pretoria.

A megalopolis is formed when conurbations grow and join together. The northeast seaboard of the USA is a megalopolis consisting of over 1 000 km of continuous urban sprawl. It includes the huge cities of New York, Boston, Philadelphia, Baltimore and Washington DC (combined population: 45 million) – see Figure 4.43 on page 202.
Carefully study Figure 4.46 showing South Africa’s main urban settlements.

1. For the province in which you live, name one example of the following urban settlements:
   1.1 town
   1.2 major town
   1.3 provincial capital.

2. Describe the general distribution of urban settlements across the country (in other words, where the most are most found and where the least are found).

3. Suggest a reason why there is a concentration of settlements in Gauteng.

4. Bhisho is the capital of Eastern Cape. Port Elizabeth and East London are larger settlements than Bhisho. Explain this anomaly (different from what is expected).

14.2 Central place theory: important concepts

In order to understand the distribution, density and size of urban settlements, it will be useful to have a basic understanding of an idea called ‘central place theory’. A German economic geographer, Walter Christaller, developed this idea in 1933. Christaller noticed that towns in southern Germany seemed to display a regular pattern with a certain order. Central place theory is a theory explaining the number, location, size, spacing and functions of urban settlements.

You do not need to know all the technical details of the theory, but it is useful to apply the main ideas to everyday life. This will help you understand urban settlement and urban hierarchies.

The main ideas that underpin central place theory are:
- people want convenience and the cheapest price when buying something
- businesses aim to maximise profits by attracting the most customers
- distance means traveling costs, so consumers aim to minimise traveling costs when they buy something.

Can you apply these ideas to your everyday life?

You need to buy the following goods. Where would you buy them?
- bread, sweets and cool drink
- jeans and a new T-shirt
- computer equipment
- an imported sports car.

Your answers probably revealed the following:

You buy everyday, cheap items at a convenience store, which is usually nearby.

There are usually quite a few convenience stores in a settlement that sell everyday or low-order goods. Smaller settlements or low-order centres (for example, country towns) offer mostly lower-order functions and services. You buy more expensive, specialised items that you need less frequently, from larger centres (high-order centres), which may be far from where you live. There are usually fewer, larger centres where these high-order items can be bought. Large settlements (for example, major metropolitan areas) offer higher-order functions and services.

Key words

low-order centres – smaller settlements, for example a country town

lower-order functions and services – things and services that are required every day and used by people on a regular basis

high-order centres – large settlements, for example a city

higher-order functions and services – things and services that are specialised and required by fewer people

Figure 4.46 The main urban settlements of South Africa. Note the difference in size and distribution (where the settlements are located)
We can use these basic ideas to explain the distribution of urban settlements according to central place theory:

- Settlements with large populations are able to support more functions than settlements with smaller populations.
- Low-order goods (needed every day) are available in greater quantities than high-order goods (expensive, specialised items).
- There are more small urban settlements (lower order settlements), and fewer large urban settlements (higher order settlements).
- Lower-order settlements are closer together; higher-order settlements have greater distances between them.

There are four important concepts that link up with this theory and that will help you to understand the distribution of urban settlements. You need to know and be able to apply these concepts.

- **central place**: an urban settlement that provides goods and services to the surrounding rural population
- **threshold population**: the minimum number of people required to support a business
- **sphere of influence**: the area from which a business draws its customers (also known as the market area)
- **range of goods**: the maximum distance a consumer is willing to travel to purchase something at a central place.

A consequence of central place theory is that a hierarchy, or ranking, of urban places emerges shown by Figure 4.48 on page 209.

The table below provides a summary of central place theory and urban hierarchies.

<table>
<thead>
<tr>
<th><strong>Lower-order centres</strong></th>
<th><strong>Higher-order centres</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Large number of such settlements, for example, small towns</td>
<td>Fewer in number, for example a major metropolitan area</td>
</tr>
<tr>
<td>Closer together</td>
<td>Greater distances between these cities</td>
</tr>
<tr>
<td>Smaller population</td>
<td>Large population</td>
</tr>
<tr>
<td>Fewer services on offer – mainly low-order</td>
<td>Wide selection of services offered – from low-order to specialised high-order</td>
</tr>
<tr>
<td>Small threshold population</td>
<td>Large threshold population</td>
</tr>
<tr>
<td>Small sphere of influence (market area)</td>
<td>Large sphere of influence (market area)</td>
</tr>
<tr>
<td>Short range (distances)</td>
<td>Large range (distances)</td>
</tr>
</tbody>
</table>
Activity 22: Apply central place concepts to buying fast food

Study Figure 4.49, which is a photograph of a fast-food outlet.

1. With reference to the fast-food outlet, explain the meaning of these central place terms:
   1.1 threshold population
   1.2 sphere of influence
   1.3 range (of goods).

2. Is this business an example of a lower- or higher-order function/service? Provide a reason for your answer.

3. If you were looking for new sites in South African towns and cities to open additional fast-food outlets, list three factors that would influence your decision.

4. If a rival fast-food outlet were to open next door to the outlet shown in Figure 4.49, predict what may happen.
Unit 15: Internal structure and patterns of urban settlements

If you look carefully at Figure 4.50, you will notice that land in this urban settlement is being used differently. There are areas of land that are clearly being used for different purposes. A land use zone is an area within an urban settlement where one particular function or activity is dominant, for example business, housing, industry, or a shopping centre. Different land use zones make up the structure of an urban settlement.

Figure 4.50 Look carefully at this oblique photograph of an urban settlement. You will notice different land use zones
15.1 Land use zones and the urban profile

Look carefully at the different buildings in the photograph of Cape Town in Figure 4.51. Identify what the land is being used for at A, B and C. You may have listed some of these words: business, transport, residential, commercial, industry, recreation, storage, manufacturing, administration – these are all urban functions that take place in specific land use zones.

The urban profile is the vertical shape of an urban settlement. It is what the skyline of a town or city looks like when viewed from the side from a distance (similar to a cross section). Another name for an urban profile is an urban transect. Most urban profiles have a concentration of higher buildings surrounded by lower buildings that gradually give way to less built-up areas, and eventually into rural areas, as illustrated by Figure 4.52.

Land use in an urban area needs to be compatible. In other words, different urban land use zones should coexist without negatively affecting one another. For example, heavy industry and high-income residences would be incompatible. It is for this reason that most urban settlements require zoning before a land use can be approved.

The different land use zones making up an urban profile have different characteristics. Remember that in many cities and towns, land uses are sometimes mixed and blend into one another.

Figure 4.52 A simple model of an urban profile. Look at Figure 4.53 for more detail.
7. Rural-urban fringe
This is a zone on the outskirts of urban settlement. Can be undeveloped (for example, smallholdings), used for business (for example, plant nurseries, dog kennels, riding stables) or recreation (for example, golf, horse riding, shooting range). Land is cheaper here but new developments encroach into the rural-urban fringe, increasing land value. Urban sprawl usually takes place here.

4. Suburban business parks/semi-urban business districts (OBUs)
These are business centres with gardens and parking, usually located away from the CBD, in residential areas or on the outskirts of urban areas. They can be office parks or mixed business. They are built around gardens and are attractive, so they're becoming popular. As a result, businesses are moving away from the CBD, allowing former city office blocks to be converted to residential units.

3. Residential areas
These are areas around the city where people live. Usually away from CBD and industrial areas. They can be high-density (for example, high rise apartments, informal dwellings, small houses on small plots) or low-density (for example, large suburban homes on large grounds), low income (for example, informal settlements), middle income or high income (for example, large, expensive mansions). There is a growing trend to live in townhouses and cluster developments as security is better and less maintenance is required.

Figure 4.53 The urban profile: land use zones
1. Central business district (CBD)
The heart of a city (‘downtown’), the CBD is the focus of activity – business, finance, social, administration, entertainment, etc. Most high-order functions are offered here. Usually the CBD is the oldest part of a city with good accessibility (including public transport). High-density tall buildings maximise land use. It is often the most expensive land with high rents. Problems like traffic congestion and pollution are experienced here. Many CBDs have a residential function, for example, inner-city apartments and lofts.

2. Transitional zone
The area around the CBD. It has mixed land use, for example commercial, warehouses, residential, light industry. Panel beaters, printers, wholesalers, loft apartments/studios are found here. It is usually ‘run-down’, with neglected older, decaying buildings (urban blight), graffiti, gangs, drug dealers, etc. This zone is called ‘transitional’ because it is undergoing change – buildings can be fixed up (renovated) or demolished and rebuilt. Land here is often desirable, as it’s close to the CBD and the buildings usually have interesting architecture.

5. Suburban shopping centres
These are large retail centres found in or close to residential areas, usually away from the CBD. They are usually accessible (on main road), attractive, with parking and a mix of retail and entertainment.

6. Industrial areas
These are areas far away from the CBD and high income residential areas but still within the urban settlement. Light industry can be found in the transitional zone (occasionally in ‘industrial parks’). Industrial parks have small to medium ‘clean’ industries, for example printing, electronics, and packaging. Heavy industry is usually out of town but close to infrastructure (for example road, rail or water). Heavy industry can cause noise, pollution and environmental problems. These areas require large areas of less expensive land.
Land in different parts of an urban settlement differs in value. Usually, land in the CBD is the most valuable. Land on the rural–urban fringe is usually the cheapest. There are exceptions to this; for example in some South African cities suburban business centres are more expensive than the CBD (Sandton versus Johannesburg CBD). The relationship between land value and land use can be illustrated by a graph called a bid-rent curve (see Figure 4.54). This graph will assist you in understanding urban land use zones and the urban profile.

**Activity 23: Identify the land use zone and location on the urban profile**

<table>
<thead>
<tr>
<th>CITY BOWL</th>
<th>COMMERCIAL ON SHOW</th>
<th>CONSTANTIA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R2 100 000</strong></td>
<td><strong>15 Hof Street</strong></td>
<td><strong>R13 500 000</strong></td>
</tr>
<tr>
<td><strong>FABULOUS LOFT LIVING</strong></td>
<td>Property size is 540 m² situated on a high visibility road. Ample parking. Sold with vacant occupation.</td>
<td>Large family home on one acre of land north facing with mountain views. Five en-suite bedrooms, dining room, living room, entertainment area, wine cellar and heated swimming pool. Private and peaceful, this property has something to offer the whole family.</td>
</tr>
<tr>
<td><strong>SANDTON R3 500 000</strong></td>
<td><strong>PRIME OFFICE SPACE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>COFFEE PARTICIPATION</strong></td>
<td>250 m² office space for sale in popular area. Four parking bays. High demand for rental.</td>
<td></td>
</tr>
<tr>
<td><strong>GOLF ESTATE R2 500 000</strong></td>
<td><strong>COUNTRY GOLF ESTATE</strong></td>
<td></td>
</tr>
<tr>
<td>Well maintained spacious 3 bedroom, double storey house, main en-suite. Open plan living area leading to kitchen. Excellent finishes.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Read through each property advertisement. Copy and complete the table below.
   For each advertisement, identify the land use zone in which this property would be found.
   Indicate the location of each on the urban profile by writing down the correct number. Give a reason for your answers.

<table>
<thead>
<tr>
<th>Advertisement number</th>
<th>Land use zone</th>
<th>Location on urban profile</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
15.2 Factors influencing the morphological structure of a city

Urban settlements have different shapes when viewed from above. The morphological structure of a city is its shape, including its form and structure. Some are circular (round) or semi-circular, others elongated (stretched out in a line) or shapeless, expanding in all directions (see Figure 4.56). What determines the shape of urban settlements? Physical features, such as the coast (for example, a bay), rivers and mountain ranges, affect the shape of urban settlements. Extremely large, spread out cities are often found on flat areas (plains). Important transport routes (for example, main roads) affect the shape of settlements. Urban sprawl extends outwards along transport routes, sometimes leading to a 'star' shape. Economic factors, such as the location of mines, tourist attractions, industrial areas and large shopping areas can also affect the shape of an urban area.

![Figure 4.56 Factors influencing the morphological structure of cities](image)

**Activity 24: Find out about factors influencing the morphology of urban settlements**

Study Figure 4.56 above.

1. Describe the shapes of the urban settlements A–D in Figure 4.56. (4)
2. List the factors that influenced their specific shapes. (Look back at page 181 for the names of some rural settlement shapes.) (4)
3. Look at the settlement of Zeerust on the 1:50 000 map on page 24. Describe the shape of the settlement, and list the factors that have influenced this shape. (4)
4. Name the town or city in which you live, or are close to or familiar with, and list factors that have influenced its shape. A map or aerial photograph of this settlement will be of great assistance to you. (4)

There is a link between the factors influencing the shape of urban settlements and the street pattern within settlements. The pattern of streets influences the internal form of an urban settlement. Most urban settlements display a combination of different street patterns, which are a result of the influence of physical features. In newer urban areas, street patterns are the result of different planning practices. Often different street patterns reflect different times in the history of an urban place.

![Figure 4.57 Different street patterns can reflect the influence of physical factors, history and/or planning](image)
Unit 16: Models of urban structure

16.1 Geographical models

Geographers use models to try and explain what happens in the real world. A model is a simplified representation of reality. Models help us understand how the real world works. Over the years, a number of geographers, economists and sociologists have attempted to explain urban land use zones and city structure through models. They have put forward models of cities which suggest how and why cities are structured. This unit will illustrate different models of urban structure.

16.2 Multiple nuclei model

The multiple nuclei model of city structure is based on the idea that cities have more than one centre (multiple = many, and nuclei = centres). It was developed in 1945 by two American geographers, Harris and Ullman. Certain activities (for example, an outlying business centre) attract people and related businesses resulting in a specific land use zone being formed. Harbours, airports, industrial parks, large universities, and suburban office and shopping centres are all examples of centres (nuclei) around which a land use zone could grow. Areas making up a city specialise in certain activities. Accessibility is an important requirement, and this requires a good transportation system. The original CBD is not necessarily in the centre of the city. Most large cities today have multiple nuclei or a multi-centred structure, for example Bangkok (Thailand), Tokyo (Japan) and Mumbai (India).

16.3 Modern American-Western city

The USA has a population of 310 million of which 82% is urbanised. Most Americans live in large cities, for example New York, Los Angeles and Chicago. American cities experienced huge growth during the period 1850 to 1910, spurred on by rapid industrialisation. This gave them a unique character, making them different from the older, pre-industrial cities found in Europe. The modern American-Western city model displays certain characteristics:

- multi-centred: tends to reflect the multiple nuclei model; it has more than one centre
spread out and suburban: vast urban areas (urban sprawl) with several residential suburbs. In 2012, 60% of the USA's population lived in the suburbs of urban settlements. The CDB is referred to as 'downtown' (famous for tall skyscrapers)

transport dependent: due to separation of home (in the suburbs) and work (usually in the CBD), millions of people commute daily. Railways and trams provided transport in the early years. Today, most people rely on private cars and public transport like underground subways

decentralisation: due to inner-city problems (see page 225), there has been a movement of people and functions out of the CBD to centres in the suburbs

segregation: there is a marked difference in neighbourhoods along socio-economic lines (for example, low income and high income) as well as ethnic clustering (people of the same language and ethnic origin live together)

there is a trend for large cities in the USA to grow into one another, forming giant megalopolis, for example northeast USA (see page 202).

16.4 The 'Third World' city

The 'Third World' refers to the developing countries. Nowadays, it is generally considered to be a derogatory term. Cities in the developing world (mainly South America, Africa and Southeast Asia) can be different to those found in North America and Europe. They have been influenced by different periods of history:

- indigenous/pre-colonial/pre-industrial period (early beginnings to around 1880s): original urban settlements before being influenced by industrialisation and colonialism. These settlements were usually compact places of fortification, trade and housed the ruling/religious power(s) of the time. The rich and powerful people lived in the city centre and the poorer people lived out of town. The land use zones were mixed and in some cases nonexistent. Streets were often narrow and close together

- colonial era (1880s to around 1930/40s): settlements influenced by colonialism - the colonial influence can be seen in the architecture. Many were centred on trade (for example, port cities); garden-like suburbs were created in the more desirable parts for the wealthy and governors. These cities displayed marked contrasts in social grouping, usually with residential separation between the colonists and local people. Often colonial powers laid out and built new cities based on a 'Western' model

- 'Third World' cities (1940s to 1980/90s): after the colonial era had ended. These cities were densely populated, usually with high urbanisation rates and growing informal settlements and slums. Activities and land use zones could be mixed. Business centres have lots of informal trading on the streets

Figure 4.60 French colonial architecture in Vietnam: Ho Chi Minh City People's Committee Building (Saigon City Hall), modelled on the original Hôtel de Ville, designed by a French architect, built in 1908.
• globalisation of cities in the developing world: since the 1980/90s to present time. Most cities in the developing world are taking on characteristics of city structure similar to cities all over the world. They are becoming ‘less different’ to cities in developed countries, resulting in cities across the world displaying similar structure.

16.5 The South African city

South African cities reflect their colonial and apartheid past. Our cities are relatively ‘young’ when compared with cities elsewhere in the world – the major ones being Johannesburg (1886), Cape Town (1652) and Durban (1835). Despite the abolition of apartheid, the former racial segregation of South African cities still affects the model of city structure today. Land use in South African cities did not evolve naturally. From early on, people of different races tended to live in different parts of towns and cities. Apartheid policies (approximately 1950–1990) put in place an unnatural system of urban land use. The Group Areas Act (1950) divided South African cities up into separate racial areas, and it became ‘illegal’ for black, Indian and ‘coloured’ people to live or own land in certain areas. This evolved into the ‘apartheid’ model of South African cities (see Figure 4.61). Black South Africans were forcibly removed from their homes and relocated in outlying townships or ‘locations’. Rows and rows of ‘matchbox’ houses were built in the townships, as well as huge hostels for migrant workers. Space in the CBD was reserved for ‘white’ businesses; there was no allowance for black-run businesses. Retail and commercial development in ‘black’ areas was minimal. It was the Act’s intention to restrict each so-called population group to its own residential and trading section of an urban area by controlling the purchase or occupation of land or dwellings in certain areas.

The legacy of apartheid policy has left a racial imprint on South African cities, which may take years to undo. Since the 1990s, land use in our cities has started to normalise, in other words, income, not race, now determines where people live.
Case study

Sophiatown to Triomf and back again

In 1897, 237 hectares of land 7 km north-west of Johannesburg was bought by a property speculator called Herman Tobiansky. The land was named ‘Sophia’ after Tobiansky’s wife. Although not his original intention, Tobiansky ended up selling most of his land to African families after the First World War (1914-1918), and so Sophiatown was born.

In the 1940/50s, the suburb earned the name the ‘Chicago of South Africa’ and was famous for shebeens, jazz, dancing, movies, gangsters and large American cars. White and ‘coloured’ South Africans also bought homes in this vibrant neighbourhood. The area stood for racial harmony and tolerance and had a warm feeling of good-neighbourliness.

The Nationalist government decided to remove the residents of Sophiatown, as it represented everything their apartheid legislation tried to prevent. In 1955, thousands of armed policemen moved in and, despite protests, started moving all the black people out of Sophiatown into Meadowlands. The demolition and removals went on until 1963.

*Figure 4.63 Sophiatown, once Triomf, northwest of Johannesburg CBD*

*Drum* magazine reporter Benson Dyantyi wrote this soon afterwards: “... she (Sophiatown) looks like a bombed city ... the few citizens who remain are hounded out of their houses for not possessing permits ... hundreds sleep on verandahs, live with friends and live in the ruins ... and the rains are coming”.

The Nationalists renamed Sophiatown ‘Triomf’ - a ‘triumph’ according to apartheid policy. It was rebuilt as a residential suburb, mainly occupied by Afrikaners. After apartheid was eradicated, Triomf was renamed Sophiatown by the ANC government in 2006. The original name had been restored.

Read the case study on Sophiatown/Triomf.

1. Draw a timeline starting from 1886 up to today. On it indicate the following:
   - founding of Johannesburg
   - purchase of the farm ‘Sophia’
   - establishment of original suburb Sophiatown
   - forced removals under the Group Areas Act
   - establishment of Triomf
   - renaming of Sophiatown.

2. Using Sophiatown as an example, write a paragraph explaining how South African cities were affected by apartheid. You must use these words appropriately in your answer: Group Areas Act, racial segregation, apartheid model of city structure, forced removals, townships, legacy of apartheid.

3. Explain why Sophiatown illustrates the model of urban structure of the South African city.
Unit 17: Changing urban patterns and land use in South African cities

Cities are dynamic – they change all the time. If you were to compare photographs and maps of Johannesburg or Durban from various dates between 1900 and the present, the cities would look very different. Even old buildings from long ago, while still present, may be used for different purposes today. Land use in cities also changes, for example what was once office space could now be residential or retail.

17.1 Why urban patterns and land use change: centripetal and centrifugal forces

In looking at changing urban patterns and land use, it is useful to understand the forces that influence the movement of people and businesses in an urban settlement, since these cause cities to change.

Centripetal forces

Centripetal forces are forces that attract and keep people and business in the city centre. They include:
- site attraction: the attraction of the city's site keeps people and business in the city centre
- functional convenience: accessibility of the city centre attracts people and business – it is convenient to work and do business in the CBD
- functional magnetism: mutual attraction of similar functions is an attraction, for example banks, investment, insurance, legal and finance companies cluster together in the city to make business easier
- functional prestige: advantage of locating in the city centre and having a prestigious address – this can be good for the status of a business.

Centrifugal forces

- Centrifugal forces are forces that drive people and business away from the city centre towards the suburbs and rural–urban fringe. They include:
  - spatial force: overcrowding and congestion in the city centre force people to move to the periphery
  - site force: the need for a special site that cannot be found in the city centre leads to movement out of the CBD
  - situational force: noise, pollution and decay of the city centre forces people and businesses out into the suburbs
  - economic force: high rents, rates and taxes in the city centre force people and businesses out
  - status force: the city centre is seen by some people as old and regulated (or sometimes dangerous and undesirable), whereas the periphery is seen as young, vibrant and dynamic.
17.2 Changing urban patterns and land use: some examples of urban renewal

Over time, buildings in a city can become old, unsuitable and inappropriate for modern use. Instead of demolishing these buildings, it is preferable to change the structure or design to suit current requirements. Urban renewal is the modification of the land/buildings. Urban renewal usually involves a geographical process called invasion and succession. Where land use in a city is no longer appropriate, a new land use (the ‘invader’) can take over the original function and succeed it. Some examples include:

- former residential homes close to commercial centres that are converted into medical rooms (doctors, dentists, physiotherapists), hair salons, tax consultants’ offices, etc.
- former residential homes in up-market areas that are demolished and offices or shops built on the valuable site.

Here are some other examples of urban renewal:

- **Figure 4.65** Invasion and succession: a former residential home has been turned into a local library.

- **Figure 4.66** Where a building is old and has architectural value, the front of the structure can be retained, and new structures can be built behind the original façade. This trend is called façadism, and is desirable as it preserves historic city architecture.

- **Figure 4.67** Old cottages and houses close to the city centre can be modernised and improved. This is called gentrification or chelseaification. Previous slums and ghettos can be transformed into trendy, desirable and expensive neighbourhoods. Usually higher income professional people who wish to live close to the CBD undertake this process. The value of these properties can rise significantly.

- **Figure 4.68** Inner-city renewal in Johannesburg, Cape Town and Durban has led to people living, working and playing (recreation) in the CBD. Many live in inner-city lofts. Former warehouses, sheds, factories and other obsolete spaces in the inner city have been converted into ‘loft’ apartments.

**Key words**

- invasion and succession – where land use in a city is no longer appropriate, a new land use will take over the original function and succeed it
- façadism – when the old, original front or façade of a building is retained and a new development built behind the old façade
- gentrification/chelseaification – the modernisation and improvement of old houses close to the city centre
- ghetto – small area within an urban settlement in which people of a particular ethnic or cultural group live together
The inner-city residential population of Johannesburg has grown to 230 000. Not all inner-city living is aimed at the wealthy investor. In Johannesburg, low- to middle-income earners rent inner-city flats. A disadvantage of urban renewal is the displacement of the poor – they cannot afford to live in the upgraded buildings. Tax incentives (for example, urban development zones and the urban renewal tax) encourage property developers to renovate old city buildings or build new ones. Several South African cities have established city improvement districts (CIDs) to fight crime and litter.

17.3 Changing urban patterns and land use: some general South African observations

1. South Africa’s population is becoming increasingly urbanised. Our towns and cities are growing, with most growth taking place in the major metropolitan areas, for example Durban, Johannesburg and Cape Town. These cities’ populations will grow approximately 12% by 2025.

2. The suburban areas surrounding South Africa’s main cities are growing. Urban sprawl is evident, both formally (suburban formal housing) and informally (informal settlements). Despite government’s priority of building houses for all informal settlements will continue to grow.

3. Inner-city areas are being upgraded, redeveloped and revitalised. There is a growing CBD residential component in certain cities. There will be a growing demand for places to rent by new entrants into cities.

4. Some small country towns have declining populations due to migration to the larger centres; others are growing due to the popularity of the small town lifestyle.

5. There is a growing trend in most cities towards secure living, for example security complexes, townhouses, cluster developments, boomed areas, golf estates, eco estates and apartment complexes.

6. Under the government’s Land Reform Policy, there is a process of land redistribution (government gives land to disadvantaged, poor people) and land restitution (land taken away during apartheid era is given back to original owners). This affects rural areas mainly, but does impact on urban areas as well, causing changing patterns and land use.

7. Land in South African cities is being used more intensively, especially in the suburbs. Large plots are being subdivided into smaller stands; sectional title developments are being built on plots that previously housed a single family. This leads to densification as there is an increase in the number of dwellings and people living in an area.
Activity 26: Identify and explain changes in South African urban settlements

Sunny Heights

from R450 000

including VAT transfer and bond costs

- Stylish 1 bedroom apartments with balcony
- Fitted kitchen with granite tops
- Security development with electric fencing
- Secure parking
- Communal garden area

New security development

Completion May 2013

Figure 4.69 An advertisement for a new residential development

Read the advertisement for Sunny Heights.
1. Describe the new development Sunny Heights. (3)
2. Explain why it is necessary to emphasise the security aspect of the development. (2)
3. List examples of security offered by Sunny Heights. (2)
4. Apartments in Sunny Heights are selling well. Suggest who the units would appeal to, giving reasons. (4)
5. List two advantages and two disadvantages of living in a residential development like Sunny Heights. (4)
Unit 18: Recent urbanisation patterns and issues related to rapid urbanisation in South Africa

18.1 Recent urbanisation patterns in South Africa

Approximately 62% of South Africans (32 million) live in towns and cities (urban settlements). Close to 16 million people live in the main economic centres or larger cities. South Africa, like most African countries, is an urbanising country. Look at Figure 4.70 which shows the rate of urbanisation in South Africa from 1904 to 2012. It is estimated that in 2050, 80% of South Africa’s population will be urbanised.

The average rate of urbanisation is 1.2% per year (in other words, assuming South Africa’s population is 50 million, that means 600 000 people will move to urban areas each year). Our cities are growing at an average rate of 2% per year. The larger metropolitan areas of Johannesburg, Cape Town and Durban grow the most; smaller towns attract migrants but they tend to move on to the larger urban settlements. Internal migration from within South Africa and the natural growth of urban populations contribute to increased urbanisation. Each year, 50 000 people move to Cape Town, most arriving from Eastern Cape (this translates to 16 000 households a year). More recently, South African urbanisation rates have increased due to migrants from other African countries. Unit 7 (page 185) illustrates the rural-urban push-pull model of migration. Many migrants living in cities keep links with their rural relatives and return ‘home’ for weddings, funerals and sometimes at the end of a year. They often support family members in the poorer rural areas with money and food.

Figure 4.70 Urbanisation rates in South Africa: 1904–2012
18.2 Urban issues related to rapid urbanisation

South African urban settlements are growing rapidly. This rapid urbanisation can lead to several issues or challenges that most cities are confronted with. The table below illustrates some problems, along with a few suggested solutions. When reading through the table, think of the challenges faced by the settlement in which you live.

<table>
<thead>
<tr>
<th>Urban Issues</th>
<th>Some possible solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Lack of planning:</strong> when rapid urbanisation occurs developments are not always properly planned, for example growing informal settlements, and extensions to buildings; different land use zones can be incompatible, for example housing alongside industry; services like water, electricity and sewerage can be inadequate or even absent; low-cost houses are often poorly built.</td>
<td>Cities require town planners and urban designers to carefully plan and design urban places; government and municipalities need to allocate funding for new developments and infrastructure; new urban developments must be professionally managed and inspected; city centres must be made attractive: control crime, clean up streets and buildings, improve parking and transportation, green the CBD with plants and trees, provide street entertainment, lunchtime concerts, water features, etc., take steps to bring people back to the CBD at night.</td>
</tr>
<tr>
<td><strong>2. Housing shortage:</strong> due to the growing size of the urban population, too many people, insufficient space, and not enough adequate houses; informal settlements, shanty towns; homelessness; street children; overcrowding in inner-city apartments; inadequate services; deterioration of living conditions.</td>
<td>Attempt to regulate rural–urban migration; government low-cost housing programmes; formalise informal settlements; rehabilitate street children; establish shelters to take care of homeless people; monitor and control absent landlords who exploit tenants in inner-city high-rise blocks.</td>
</tr>
<tr>
<td><strong>3. Overcrowding:</strong> cities are crowded places with high population densities; some inner-city buildings house up to six people per room; slums develop; schools, hospitals and other public services can be oversubscribed; shortage of office space for businesses, high rents.</td>
<td>Provide sufficient housing (see 2 above): regulate number of people per room/apartment; stimulate growth in nearby smaller towns to encourage people to live there (decentralisation); build more schools and hospitals.</td>
</tr>
<tr>
<td><strong>4. Traffic congestion:</strong> too many vehicles; congested roads; time- and fuel-consuming traffic jams (gridlock); delays; anger and frustration; shortage of parking; expensive parking; reduced accessibility to CBD. 78% of Johannesburg’s 3,8 million drivers get stuck in traffic jams daily.</td>
<td>Improve public transport (for example, mass rapid rail service); ban or tax private cars in CBD; build more high-rise inner-city parking garages; park-and-ride systems; flexitime; better use of one-way streets in and out of CBD at rush hours; bus and taxi lanes; lift clubs.</td>
</tr>
<tr>
<td><strong>5. Problems with service provision:</strong> growing cities demand and require services like water, electricity, sewerage, refuse removal – all supported by appropriate infrastructure; some infrastructure in our cities is old and not well maintained (for example, water pipes) which leads to problems; service providers cannot meet growing demand resulting in problems, for example power and water cuts; cable theft leads to power cuts and waste of funds.</td>
<td>Infrastructure needs to be continually maintained and monitored; new power stations, sewerage works and water supplies need to be planned; recycle water; use environmentally friendly energy sources, for example solar and wind power.</td>
</tr>
<tr>
<td><strong>6. Pollution:</strong> air pollution from emissions from vehicles and industry; noise pollution; waste accumulation; damage to urban fauna and flora; pollution of urban water systems; detrimental to human health.</td>
<td>Regulate carbon monoxide emission from vehicles; use more clean fuel; regulate pollution with legislation and fines; recycle waste (paper, cans, glass); clean up urban streams and open areas; replant natural vegetation; reintroduce animal and bird life.</td>
</tr>
<tr>
<td><strong>7. Urban decay or urban blight:</strong> when buildings deteriorate due to lack of upkeep, often in the transitional zone; lowers property value; graffiti; slums; crime; prostitution; unemployment; drug trafficking; overcrowding; ethnic/xenophobic tension; poor building maintenance; vandalism.</td>
<td>Proper building maintenance; urban renewal; gentrification; restoration; demolition and renewal; conservation of important city architecture; social upliftment; loft conversions; security patrols and cameras.</td>
</tr>
</tbody>
</table>
18.3 Improving city space

South African cities have devised Metropolitan Spatial Development Frameworks (MSDFs) to guide planning for an improved urban future. They list the following as problems facing our cities:
- urban sprawl
- apartheid legacy
- separation of work and home
- unequal access to resources and services
- inadequate public transport
- uncoordinated local government.

As cities continue to grow, the challenge of making urban settlements better places to live in becomes increasingly important. To create cities that are more ‘livable’, urban planners need to focus on:
- planning ‘healthier’ and ‘greener’ cities with clean air and water
- linking urban growth with environmental protection
- effective and environmentally friendly transportation
- preserving open spaces and parks in urban areas
- making cities sustainable systems.

The South African government now offers urban renewal tax incentives to property owners in city UDZs (urban development zones, for example, inner-city Johannesburg). The UDZ tax incentive is part of a national scheme encouraging inner-city renewal. Under the scheme, any commercial, industrial or residential property owner may claim a tax allowance of 100% covering the cost of inner-city property refurbishment.
1. Look at the urban issues illustrated by the diagrams labelled A to G. Identify the problem(s) in each diagram and suggest two solutions to each urban problem. Note: in some cases an illustration indicates more than one problem.

Activity 28: Investigate service provision in South Africa

Carefully study the table of data illustrating service provision in South Africa’s provinces on page 228. These explanations will help you to understand the data:

- **household**: group of people (for example, family) who live together in one dwelling/house
- **formal dwelling**: houses on a separate plot, including flats, townhouses, and clusters
- **informal dwelling**: houses in informal settlements and backyard shacks
- **traditional dwelling**: traditionally built homes made of stone, mud, wood and thatch
- **RDP/state-subsidised homes**: houses built or subsidised by government/RDP
- **bucket system**: using a bucket for sanitation instead of a flush toilet
<table>
<thead>
<tr>
<th>Service provision indicator</th>
<th>Province</th>
<th>Number of households (million)</th>
<th>Households living in formal dwellings (%)</th>
<th>Households living in informal dwellings (%)</th>
<th>Households living in traditional dwellings (%)</th>
<th>RDP/state-subsidised houses (%)</th>
<th>Households with access to piped water (%)</th>
<th>Households using bucket system (%)</th>
<th>Households with municipal refuse removal (%)</th>
<th>Household electricity for cooking (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Cape</td>
<td>1.68</td>
<td>63.2</td>
<td>7.7</td>
<td>28.2</td>
<td>16</td>
<td>77.8</td>
<td>2.3</td>
<td>43.5</td>
<td>84.49</td>
<td>62.09</td>
</tr>
<tr>
<td>Free State</td>
<td>0.82</td>
<td>81.1</td>
<td>15.7</td>
<td>2.4</td>
<td>33</td>
<td>97.8</td>
<td>5.45</td>
<td>72.7</td>
<td>84.48</td>
<td>84.48</td>
</tr>
<tr>
<td>Gauteng</td>
<td>3.91</td>
<td>79.8</td>
<td>18.9</td>
<td>0.4</td>
<td>4</td>
<td>98.2</td>
<td>1.76</td>
<td>89.9</td>
<td>83.89</td>
<td>83.89</td>
</tr>
<tr>
<td>KwaZulu-Natal</td>
<td>2.54</td>
<td>71.6</td>
<td>8.3</td>
<td>0.4</td>
<td>14</td>
<td>85.9</td>
<td>1.74</td>
<td>53.1</td>
<td>68.64</td>
<td>68.64</td>
</tr>
<tr>
<td>Limpopo</td>
<td>1.42</td>
<td>89.9</td>
<td>5.2</td>
<td>4.5</td>
<td>17</td>
<td>86.0</td>
<td>0.61</td>
<td>21.8</td>
<td>49.99</td>
<td>49.99</td>
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<tr>
<td>Mpumalanga</td>
<td>1.07</td>
<td>83.8</td>
<td>10.9</td>
<td>4.5</td>
<td>21</td>
<td>87.4</td>
<td>0.87</td>
<td>43.7</td>
<td>69.34</td>
<td>69.34</td>
</tr>
<tr>
<td>North West</td>
<td>1.06</td>
<td>76.2</td>
<td>21.2</td>
<td>1.7</td>
<td>22</td>
<td>91.6</td>
<td>1.00</td>
<td>50.2</td>
<td>75.26</td>
<td>75.26</td>
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<tr>
<td>Northern Cape</td>
<td>0.30</td>
<td>82.4</td>
<td>13.1</td>
<td>3.2</td>
<td>26</td>
<td>97.4</td>
<td>3.96</td>
<td>66.3</td>
<td>78.05</td>
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<tr>
<td>Western Cape</td>
<td>1.63</td>
<td>80.4</td>
<td>18.2</td>
<td>0.5</td>
<td>21</td>
<td>99.1</td>
<td>3.6</td>
<td>91.1</td>
<td>86.89</td>
<td>86.89</td>
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<tr>
<td>South Africa</td>
<td>14.45</td>
<td>77.6</td>
<td>13.6</td>
<td>7.9</td>
<td>19</td>
<td>91.2</td>
<td>2.06</td>
<td>63.6</td>
<td>73.87</td>
<td>73.87</td>
</tr>
</tbody>
</table>

Source: South African Institute of Race Relations: Census 2011

1. Assuming South Africa's total population is 50 million, work out the average number of people per household.

2. Suggest reasons why Gauteng has the most households and Northern Cape the least.

3. Suggest two reasons why Eastern Cape has the lowest percentage of households living in formal dwellings.

4. Explain why North West has the highest percentage of households living in informal dwellings.

5. Low numbers of households live in traditional dwellings in Gauteng, North West and Western Cape. Suggest reasons that explain this.

6. Which three provinces are below the South African average (19%) for households living in RDP/state-subsidised houses? What do these provinces need to do in order to improve the housing situation?

7. Eastern Cape has the lowest percentage of households with access to water inside their dwellings and 2.3% of households using the bucket system. List four disadvantages of this situation.

8. The percentage of households with municipal refuse removal range from 21.8% (Limpopo) to 91.1% (Western Cape). Suggest reasons for this large variation in service provision.

9. If 73.87% of South Africa's households use electricity for cooking, what do the remaining 26% use? Suggest three other sources.

10. Assume you are the minister in government responsible for service provision in South Africa. Write a five-point plan outlining what you plan to do to improve service provision by 2020.

11. Use the Internet to review the latest statistics on service delivery in South Africa: [http://www.statssa.gov.za](http://www.statssa.gov.za)
Unit 19: The growth of informal settlements and associated issues

19.1 Growth of informal settlements and associated issues

Unit 18 explained how South Africa’s population is becoming increasingly more urban. One consequence is the shortage of affordable housing in urban areas, which results in many people living in informal settlements. Most South African cities and towns incorporate informal settlements. These settlements are sometimes referred to as slums, shanty towns or squatter camps. Such terms are considered derogatory. An informal settlement is an unplanned residential area of self-built dwellings made of reclaimed, found and bought material (for example, wood, iron, or plastic) constructed on land to which the occupants normally do not have any legal claim. The dwellings do not normally conform to building, safety and health regulations. In South Africa, it is estimated that there are 2 700 informal settlements with 1.4 million dwellings housing about 13.6% of all households. Most, but not all, informal settlements lack basic services like water, electricity and sanitation. A growing trend is the construction of backyard shacks – informal dwellings built alongside formal houses.

Residents of informal settlements face several issues, including:

- Their dwellings (often made of corrugated iron) are exposed to extreme weather, being uncomfortably warm in summer and freezing cold in winter. Often the roofs leak during the rains.
- Informal settlements built in low lying areas and/or where drainage is poor are vulnerable to flooding and damp. Dwellings built close to rivers are often washed away and/or flooded. Some houses are built on disused landfill sites.
- Fires are sadly a regular occurrence. Caused mainly by candles, paraffin stoves and open fires, these spread quickly as houses are built closely together. Firefighting vehicles cannot gain access as streets are too narrow.

Figure 4.74 There are an estimated 2 700 informal settlements in South Africa housing 1.4 million households
• Services are lacking, for example toilets and water taps can be outside away from the dwellings. Many informal settlement residents have illegal electricity connections. These can be dangerous, causing injuries and fires.
• Living conditions can be unhealthy and unhygienic. Waterborne diseases like diarrhoea and cholera can occur. The density of homes is very high – up to 140 per hectare (10 000 m²).
• Some residents are unemployed and poverty affects many (an estimated 80% of households earn less than R2 000 per month).

It is important to observe that many informal settlement residents are proud of their homes and have gone to much effort to make them attractive and liveable.

19.2 Case studies from around the world and South Africa: Rocinha, Rio de Janeiro, Brazil and Imizamo Yethu, Cape Town

Brazil Fact File

Population: 201 million
Urban population: 86%
GDP/capita: US$10 100
Life expectancy: 72 years
Birth rate: 18,1/1 000
Death rate: 6,4/1 000
Infant mortality: 21,9/1 000
children born
Literacy: 90%
Human Development Index (HDI): 0,72

Figure 4.75 Rocinha, Rio de Janeiro:
Home to approximately 200 000 people

Figure 4.76 Location of Rio de Janeiro, Brazil
Case study: Rocinha: Informal settlement in Rio de Janeiro, Brazil

Rio de Janeiro (population 11.8 million), Brazil's second largest city and host of the 2014 World Cup and 2016 Olympic Games has 600 'favelas' or 'shanty towns'. The largest and most densely populated is Rocinha (Rocinha means 'little ranch or farm'), home to between 150,000 and 200,000 people (maybe more). The settlement is cramped into an area of 0.86 km² (the average population density for all of Rio de Janeiro's slums is a staggering 37,000 people/km²). There are over 11 million slum dwellers in Brazil. Rocinha is built on steep hillsides surrounding Rio de Janeiro close to wealthy suburbs. These hillsides, and the structures built on them, frequently experience landslides and flooding, which have killed residents in the past. A benefit of its location is the proximity to central Rio de Janeiro, where many people work. The area dates back to the 1930s, although some historians link the settlement to former slaves in the 1880s. Rocinha started out as an informal settlement, although today it is a combination of formal (brick and cement) and informal dwellings. It has been described as a 'permanent urbanised slum'. Many dwellings have separate structures built on their roofs, several reaching two or more stories high. There are reports of residents selling their roof space to people who want to build a new dwelling thereupon. The settlement grew rapidly due to rural-urban migration, coupled with natural growth of the resident population. The streets are narrow, full of people, motorcycles and cars. Rocinha has various shops and businesses, both formal and informal, serving the residents. Overhead are bundles of tangled electrical cables. Most of the residents have some access to electricity, water and sanitation. Poverty and overcrowding are normal for many residents. The settlement has a low HDI (which includes life expectancy, education and GDP/capita) of 0.62. By contrast, neighbouring wealthy suburban areas have a HDI of 0.89. Sanitation, litter and health issues like TB are problems facing the community. Teen pregnancy, drugs and gangs also trouble the people of Rocinha. The police have been known to raid, 'invade and occupy' the densely populated settlement in armoured vehicles. On the positive side, there is a strong sense of community and loyalty to Rocinha among the residents. Tour companies take tourists through the settlement, although some suggest this is disrespectful to the community. There have been several projects aimed at uplifting and regenerating the settlement in an attempt to improve the quality of life for the thousands living in Rio's 'permanent urbanised slum'.

Activity 29: Life in Rio de Janeiro's largest slum

Read the case study to answer these questions.

1. Explain the geographical meaning of these words, underlined in the case study:
   1.1 favela
   1.2 slum
   1.3 landslides
   1.4 informal settlement
   1.5 rural-urban migration
   1.6 sanitation
   1.7 HDI
   1.8 suburban areas.

2. Explain the meaning of these statements:
   2.1 Rocinha is an informal and formal settlement
   2.2 Rocinha is a permanent urbanised slum
   2.3 There is a strong sense of community in Rocinha.
3. Why do the population, geographical extent, and population density of Rocinha continue to grow?

4. Copy and complete the table below:

<table>
<thead>
<tr>
<th>Advantages of living in Rocinha</th>
<th>Disadvantages of living in Rocinha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
</tbody>
</table>

5. Look at Figure 4.77, a photograph showing Imizamo Yethu, an informal settlement in Hout Bay (Cape Town) and the case study below. Also refer to the case study on Rocinha (Rio de Janeiro, Brazil) and Figure 4.75. Copy and complete the table below in your Geography workbook.

<table>
<thead>
<tr>
<th>Rocinha (Rio de Janeiro) and Imizamo Yethu/ Mandela Park (Hout Bay, Cape Town)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Similarities between the two settlements</td>
</tr>
<tr>
<td>2. Differences between the two settlements</td>
</tr>
<tr>
<td>3. Problems faced by the people living there</td>
</tr>
</tbody>
</table>

Figure 4.77 Imizamo Yethu/Mandela Park, Hout Bay

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**Case study**

**Imizamo Yethu/Mandela Park, an informal settlement in Hout Bay, South Africa**

Imizamo Yethu/Mandela Park, built on the slopes of the Constantiaberg in the 1990s, is an informal settlement surrounded by the up-market homes of Hout Bay, Western Cape. The U-shaped 18 ha site houses an expanding community, numbering between 12 000–30 000. The residents are mainly Xhosa-speaking from Eastern Cape, along with refugees from African states. The streets are named after political figures, for example Mandela, Biko, Hani and Goniwe. People live in tiny informal shacks and formal brick dwellings, densely clustered together. There are basic services (for example, water, electricity and sewerage). Problems include poverty, unemployment, overcrowding, poor sanitation, fires, and drug and alcohol abuse.

A police station was built at the entrance to the settlement. There are spaza shops and informal traders. A crèche and clinic serve the people, who have a strong sense of community spirit. If you have access to the Internet, use Google Earth to look at this settlement.

**Geo fact**

Imizamo Yethu is Xhosa for 'the people have gathered'. Many of the residents came from Eastern Cape.
Case study

Barcelona, Gugulethu

Figure 4.78 Yondela Mesele and her baby

Barcelona is an informal settlement forming part of Gugulethu, outside Cape Town. It has a population of around 6 600 residents, over half originating from Eastern Cape. Most people live in self-built shacks and have stayed there for five to ten years; 50% are unemployed. “They think they'll find jobs here, but they don't know what a struggle it is,” says Yondela Mesele (23). “I've been here for 4 months, and still nothing. There is no work”. Yondela and her baby Mhlali left Ciskei (Eastern Cape) to come to Cape Town. Poverty, unemployment, poor sanitation, lack of housing and service delivery forced her, along with thousands of other local migrants, to make the move from Eastern Cape in search of a better life. Mesele's mother, Nolisa (56) made the same move in 1978, leaving her children behind in the hope of supporting them. Yondela mentions that in Barcelona informal settlement, twenty people share one tap with no waste removal, there are no jobs and if you are sick, getting to a clinic is a major challenge. “It is a life of poverty in Ciskei and now in Cape Town, too”, Nolisa says. Nine people live in her two-roomed shack with its four beds. A government spokesman says Cape Town “is the city of opportunities for a better life. For many people who relocate, the city is the best place for them to pursue their dreams by working or studying. Our role as a city is to ensure that we extend opportunities to all people so that they can live in dignity”.

(Adapted from an article in the Cape Times, 20 July 2011)

Activity 30: Analyse aspects of an informal settlement

Read the Barcelona informal settlement case study. Copy and complete the mind map below by writing key points in the three boxes. Note: each box requires five points.

Figure 4.79 Mind map to analyse Barcelona informal settlement

Key word

mind map — thoughts, ideas and points set out in a summarised way so as to explain or understand something
Unit 20: Managing urban challenges: handling environmental, economic and social justice concerns – South African case studies

As discovered in this topic on urban settlement, towns and cities are exciting, complex and ever-changing places. From time to time, problems or situations arise requiring management and solutions. Examples could include:

- providing sufficient housing for everyone living in growing urban settlements
- allocating land in urban areas for new developments
- dealing with housing and land issues from the apartheid years
- providing basic services to all urban residents.

There are three main concerns when exploring urban challenges:

- Social justice: are past injustices being rectified? Will the solution be fair to all? Will one group of people benefit? Is there a political motive?
- Economic: who is benefiting from the urban development? Does it make economic sense?
- Environmental: how is the environment being affected? Is the urban development harmful to the environment? What ‘green’ issues have been addressed? Is it sustainable?

The case studies below will help you discover how urban challenges can be dealt with alongside environmental, economic and social justice concerns.

Case study: Handling social justice concerns – the rebirth of an urban settlement

District Six: early history

District Six was given this name in 1867 because it was the sixth voting district in Cape Town. It housed a mixed group of people from many races, classes, nationalities and incomes. Most of these people worked in the centre of Cape Town in working-class jobs, for example, as labourers in the docks, railway yards and businesses in town. Many people lived in rooms above shops. It was a poor area with problems like crime, sanitation (bubonic plague in 1901) and buildings in disrepair. However, there was a strong sense of community, fun and social harmony in the area.

Figure 4.80 A street scene in the old District Six
In 1901, authorities moved 2,000 black people out of District Six to newly built locations (for example, Langa and Ndabeni). During the 1930s, several attempts were made to clean up the overcrowded, unhealthy, decayed and unsanitary conditions. Most people regarded the area as a slum, housing almost 30,000 people. The outbreak of the Second World War in 1939 halted any planned slum clearance.

Forced removals

The National Party came to power in 1948 and enforced the Group Areas Act in 1950 (see page 218). This act segregated South Africa’s urban places into different racial areas. District Six was proclaimed a ‘white area’. In 1968 the forced removals and demolition began – 35,000 people were forced out of their homes. Every structure, except for a few churches and mosques, was demolished.

The mostly ‘coloured’ population was rehoused on the far-off Cape Flats in Rylands, Belhar, Hanover Park and Manenberg. People were given some financial compensation but there was no price on the human suffering, trauma, pain and loss. Now people had to commute long distances to jobs in town from the Cape Flats.

District Six was an empty wasteland, a scar on the urban landscape of Cape Town. The authorities were not to know that it would become a symbol of resistance to apartheid.

Development plans for District Six

During the years 1970 to 1990, there were many ideas and development plans for District Six. Because of the political nature of what had happened to the original inhabitants, every plan was subject to criticism and debate. A ‘Master Plan’ in 1971 proposed large complexes of flats, open spaces, shopping areas and pedestrian commuting areas. By 1990 the government had built a technikon (now the Cape Peninsula University of Technology), some subsidised housing and a shopping centre. Most of the land, however, remained empty until 2004.

Figure 4.82 New homes being built in District Six: 2012

The area was declared a ‘free settlement area’ in 1989, but it was difficult to trace the original inhabitants and obtain consensus as to the future of the area. South Africa’s first democratically elected government (1994) soon passed the Land Restitution Act (1996) which allowed former residents to individually claim land back. By 1998, 1,763 claims had been received and 29 hectares of land were earmarked for resettlement and redevelopment. The first nine families moved into their new homes in 2004, with 24 houses being rebuilt by 2005.

Figure 4.81 The demolition of District Six and forced removal of its people: 1968
New development plan for District Six

The restitution process has been slow. Forty families who lodged claims in 1995 moved into their new homes in early 2012.

In 2011/12, a new development plan for District Six was released. The development of 42 hectares will cost R7 billion. Environmental Impact Assessments have already been completed. The plan is to settle all restitution claims by 2015 by which time 5 000 residential properties will be built. It incorporates these components: residential (88%), commercial (8%), retail (3%) and community facilities (1%).

The redevelopment of District Six forms part of a larger development plan aimed at revitalising Cape Town’s centre. By expanding the residential function of the inner city, the economic viability of Cape Town’s centre will be stimulated. Simply put, more people living close to town will mean more shoppers and employment. This will help stop the decentralisation trend of businesses and people leaving the city centre for the suburbs. Returning residents have to sign a social compact agreement – they may not sell their homes for 15 years (unless to a family member), may not use their homes for selling drugs, running a shebeen or operating a business from their new home. The intention is to preserve the historical community of District Six. Restitution claimants will not have to pay rates on their properties for 10 years. They are being given the option of buying homes worth over R1 million for between R225 000 and R250 000. The old churches and mosques will remain, along with schools close to the area. There is a plan to build a new R60 million health care centre.

Geo fact

In South Africa, since 1994, over 3 million low-cost houses have been built.

Key word

shebeen – places (usually in townships) where people socialise and drink alcohol. Also called taverns

Activity 31: Investigate the management of a South African urban challenge

Read the District Six case study.

1. Give the correct dates (years) for these important milestones in the history of District Six:
   1.1 founding of the settlement
   1.2 removal of 2 000 black residents
   1.3 Group Areas Act
   1.4 forced removals and demolition
   1.5 first democratically elected government
   1.6 Land Restitution Act
   1.7 first claimants move back
   1.8 New development plan
   1.9 All restitution claims to be settled

2. Why was the original District Six demolished?

3. Original District Six residents consider what happened to them a ‘callous injustice that left an emotional scar’ (Anwah Nagia – District Six resident, Chairman of the District Six Beneficiary and Redevelopment Trust, 2011). Explain the residents’ feelings.

4. Suggest reasons why the settling of restitution claims by original residents can be a complicated issue and take time to sort out.

5. Give details of how the following aspects of the redevelopment of District Six are being handled:
   5.1 environmental
   5.2 economic
   5.3 social justice.
Case study: Managing economic concerns

Orange Farm – from informal to formal settlement
Read through the case study on how Orange Farm in Gauteng has managed the challenges it faced over the years.

Orange Farm, a residential settlement of 27 km², 50 km south of Johannesburg (Gauteng), was formed in 1988 by a group of unemployed farm workers. Today it is South Africa’s largest and most populous informal settlement (with a formal component), home to an estimated one million residents, most of whom work in Johannesburg. It is also an example of how urban challenges can be managed. Orange Farm originated as an informal settlement and grew rapidly. In 1990, a forum was established whereby people were given their own land. Government provided support for residents to acquire land. RDP houses have been built providing formal, permanent housing for some residents. In 2012, title deeds were handed over to some Orange Farm residents enabling them to own the land on which they live. Over time, more homes have been connected to services like water, electricity, street lights, sanitation and sewerage system. Many properties have neat gardens, some have vegetable gardens, and people are proud of their colourful homes. Some roads have been paved, while a community centre, church, library, school and clinic have been built. Some schools in the area have been congratulated on their excellent matric results. Problems facing residents include unemployment, poverty, HIV/AIDS, using coal for cooking, poor roads and the large number of informal dwellings. The Orange Farm Safety Plan was created, its intention being to:

- improve access to services
- strengthen youth and family initiatives
- improve access to social grants
- support community development
- build partnerships
- reduce alcohol and drug related crime.

The residents of Orange Farm together with private and government organisations, and supported by development funding, have created a proud, close-knit community from what was originally a cluster of shacks 24 years ago. In 2012, the Gauteng minister of housing, speaking in Orange Farm, commented that “People must appreciate that bit by bit, brick by brick, inch by inch, the government will ultimately realise our goal of building houses for all”.

![Figure 4.83 Orange Farm, south of Johannesburg in Gauteng](image)

![Figure 4.84 Houses in Orange Farm](image)

Activity 32: Assess the success of Orange Farm

Read the Orange Farm case study.

1. Give examples from the case study that illustrate how Orange Farm has improved these aspects of urban challenges:
   1.1 environmental concerns
   1.2 economic concerns
   1.3 social justice concerns.
Ivory Park: a South African ‘Green-Eco’ informal settlement

Ivory Park is home to 200,000 people living mainly in informal dwellings close to Midrand, north of Johannesburg in Gauteng. Close to half of Ivory Park’s inhabitants are unemployed and most are poor. Within the settlement, water and air are polluted, litter and waste are everywhere and respiratory illnesses are common due to smoke from cooking fires. Despite this, the Ivory Park EcoCity Village has given hope to many people living in Ivory Park. The EcoCity was born as an experiment in environmentally friendly poverty reduction. An NGO (Earthlife Africa) secured overseas funding, assisted by the UN and the World Wildlife Fund. This is what has been achieved at Ivory Park:

- local farmers form co-operatives (co-ops) to sell their organic produce at a town market
- environmentally friendly buildings built with clay, concrete, polystyrene blocks (for insulation) and doors from old buildings. The community centre has a grassed soil roof that acts as a natural air conditioner. Thick earthen walls absorb heat during the day and radiate it during cold winter nights. Many homesteaders are women
- locals use the clean-burning liquid propane (gas) for energy and use solar cooking ovens. The smokeless ‘umbhawula’ (tin drum cooker) uses less fuel and produces minimal smoke
- waste (bottles, glass, paper, plastics, tin) is collected by waste collectors and sold to recycling companies.
- a bicycle co-operative (Shova Lula) buys second-hand bicycle parts and assembles them into working bicycles, which are sold to the community
- young people from the community work at the bicycle co-op, are trained to build eco-friendly houses, act as EcoCity tour guides, train students at schools on environmental education, are taught how to farm organically, and how to build biogas digesters that convert food and animal wastes into clean fuel for cooking

(Adapted from an article by Stephen Leahy, ‘An Eco-Town takes root in South Africa’)

Activity 33: Investigate Ivory Park’s environmental approach

Read the Ivory Park case study.

1. List the environmental advantages of each of the six points listed under Ivory Park’s achievements. (6)
2. Using Ivory Park as an example, explain what it means to ‘think globally, act locally’. (2)
3. True or false? Give reasons for your opinion. ‘Ivory Park is an example of building a livable urban community for the twenty first century’. (4)
4. In groups, list five actions that you could take today that would contribute towards making your settlement more environmentally friendly. (5)
Section A: Rural settlement

Refer to Figure 1.26, the topographic map of Zeerust on page 24.

1. Study the settlement De Rust found in Block H2.
   1.1 Name the type of settlement found at De Rust (H2).
   1.2 Justify your answer to question 1.1 with evidence from the map and your own knowledge of settlements. (8)

2. Study the rural settlements in the area to the west of the town Zeerust.
   2.1 Identify the rural settlement pattern found in the area west of Zeerust. (2)
   2.2 Describe and explain your answer to 2.1 (4)
   2.3 Suggest one factor that may have influenced the development of this pattern. (2)

3. Find the farm Kareespruit 238 JP. Using the original farm boundaries locate the corner boundaries of the farm in block F1, B2, A6, D6 and F3. Study the farm carefully. List the land uses on the farm. (5)

4. Commercial farming occurs along the major perennial rivers.
   4.1 Name two pieces of evidence that suggest that commercial farming occurs in this area. Use evidence from the topographic map and the aerial photograph. (4)
   4.2 Supply two reasons why the area to the northeast of Zeerust town has not been used for commercial farming. Use the topographic map and the photographs. (4)

Section B: Urban settlement

Refer to the 1:50 000 map extract of Zeerust on page 24 and the accompanying orthophoto map (page 39) and aerial photo (page 25).

5. Select the correct answer from the options provided with each question.
   5.1 Zeerust can be classified as a .... (hamlet/town/city/conurbation).
   5.2 The site of Zeerust is .... (west of the Klein-Maricopoort Dam/100 km south of Kopfonteinhek/NW of the Klein-Maricopoort Resort/on flat land at the base of mountains close to the Klein-Marico River).
   5.3 Zeerust can be classified as a/an .... (multiple nuclei settlement/central place/outlying business district/modern American/Western city).
   5.4 Zeerust will provide .... (only high-order functions and services/no low-order functions and services/mostly low-order functions and services with perhaps some high-order/few low-order functions and services, but mostly high-order).
   5.5 The dominant street pattern in Zeerust is .... (radial/unplanned/irregular/grid or gridiron).
   5.6 On the map, the land use zone in C7 and C8 is the .... (CBD/transition zone/rural–urban fringe/residential area).
Chapter 1: Study of settlement

- Unit 1: Settlement geography is the study of the site, situation, size, complexity, pattern and function of human settlement in the past, the present and the future. All humans live in some type of settlement that consists of buildings and an infrastructure. Social and economic activities occur in the settlement. The settlement can be as small as a village or as large as a city that operates as a single integrated system on a daily basis.

- Unit 2: There are two types of settlement – rural and urban. They differ from each other in physical size, population size, economic activity and function, as well as services offered and the land use.

- Unit 3: Settlement types are varied and can be classified according to their size and complexity – they can be as small as an isolated farmstead and its outbuildings or as large as Johannesburg. Each settlement has a pattern which describes the spatial arrangement of the settlement. All settlements have a function which refers to its main activities. The function is often closely related to the site of the settlement.

Chapter 2: Rural settlement

- Unit 4: The location of a rural settlement is determined by the advantages of the chosen site and its situation in relation to the surrounding area. Many factors related to the site and situation of a rural settlement influence their location. Physical and economic factors influence the choice of site and therefore determine its location.

- Unit 5: The primary activities and the function of a rural settlement can influence the pattern and shape of the settlement. The influencing factors can be physical, political or cultural. The patterns are either nucleated or dispersed, and the shapes vary from circular to T-Shaped.

- Unit 6: Rural settlements show varying land uses. The land use depends on the function and the type of primary activities that occur in and around the settlement. The land use in a subsistence farming community would be different to the land use in an intensive mixed-commercial farm.

Chapter 3: Rural settlement issues

- Unit 7: The movement of people from rural areas to urban areas is called rural–urban migration. This causes rural depopulation and leads to urbanisation. The main reason for rural–urban migration is the search for employment, an improved lifestyle, poverty, lack of arable land and healthcare concerns. Young adults move to towns and cities for employment and send money home to the family in the rural areas.

- Unit 8: South Africa is experiencing depopulation of rural areas and of some small rural towns. Rural inhabitants are attracted to cities by jobs, salaries, education, medical facilities and the prospect of an improved lifestyle. People are also forced to move to the cities because of mechanisation, low salaries, droughts, crime and unemployment in rural areas. The consequences of rural depopulation are various and plentiful and lead to the cycle of rural decline and decay.

- Unit 9: Prince Albert is a small rural town in the rural area of the Little Karoo. Depopulation of the area started in 1917 and continued for the next 40 years. Many progressive strategies were implemented by the Prince Albert municipality and the local community in an attempt to halt rural depopulation. The town and the surrounding area continue to thrive economically. The South African government has implemented many strategies over the last 60 years in an attempt to address the effects of rural depopulation and promote rural development. Presently the Comprehensive Rural Development Programme (CRDP) is being implemented in
Unit 10: Access to resources and the issues of land reform are still not fully resolved in South African rural areas and settlements. These problems are known as social justice issues. Poverty, land degradation, lack of access to services, the inefficient supply of basic needs to rural people, and minimal infrastructure are just a few of the social injustices experienced by rural populations. Land reform continues to be an unresolved issue in South Africa. For rural development programmes to be successful the land reform process needs to speed up and produce positive results for previously disadvantaged people.

Chapter 4: Urban settlement
- Unit 11: Urbanisation results in an increasing number of people living in towns and cities as opposed to the rural countryside. Urbanisation originated many centuries ago but in recent years it has increased significantly. Some parts of the world are more urbanised than others.
- Unit 12: Urban settlements are located where they are for certain reasons. Site is the actual ground a settlement is built on. Situation is the position of a settlement relative to its surroundings.
- Unit 13: Urban settlements serve many functions. Some cities/towns specialise in a specific function. There are certain settlements that are classified according to their primary function; namely, central places, trade and transport settlements, break-of-bulk points, specialised cities, junction towns and gateway or gap towns.

Chapter 5: Urban hierarchies
- Unit 14: Urban settlements can be hierarchically ranked according to their size, from small to very large. Central place theory is an idea that explains the arrangement (pattern) of settlements of different sizes from low-order centres to high-order centres. These central place concepts are important: threshold population, sphere of influence, range of goods, high-order and low-order functions and services.

Chapter 6: Urban structure and patterns
- Unit 15: Within cities there are different land use zones where certain activities dominate. The urban profile is the vertical appearance of a city when seen from the side. The main urban land use zones are: CBD, transitional zone, residential, suburban business parks, suburban shopping centres, industrial and the rural–urban fringe.
- Unit 16: Different models have been developed to explain city structure. The main models include: multiple nuclei model, American/Western city, Third World city and the South African city. No single model can explain the structure of every city.
- Unit 17: The structure and appearance of South African cities changes. Urban patterns and land use within cities change over time. Centripetal forces keep functions in the city centre. Centrifugal forces push functions outwards towards the suburbs. Urban renewal changes the original function of a building to serve a new purpose.

Chapter 7: Urban settlement issues
- Unit 18: South Africa’s population is increasingly urban. Several issues are associated with this trend, for example lack of planning, a housing shortage, overcrowding, traffic congestion and inadequate service provision. Solutions have been put forward to help solve these urban problems.
- Unit 19: Many South Africans live in informal settlements – due to increasing urbanisation this number is growing. A review of international and local case studies of informal settlements illustrates the issues confronting these settlements, and what can be done to improve conditions in informal settlements.
- Unit 20: Urban settlements need to manage complex challenges. These challenges include environmental, economic and social justice concerns. A review of South African examples demonstrates how urban challenges can be managed.
Exam practice

Section A: Rural settlement

1. Choose the correct word to ensure that the statement is correct.
   1.1 Agriculture that meets the food needs of a farmer and the immediate family is called (subsistence/commercial) farming.
   1.2 A rural settlement is referred to as (unifunctional/multifunctional).
   1.3 A settlement that provides the surrounding rural area with urban services is called a (conurbation/service centre).
2. Supply a definition of the term ‘settlement’.
3. For each rural push factor listed below, describe two rural development strategies that could be used to prevent rural depopulation:
   3.1 a drought occurs
   3.2 there is not enough land and too many people
   3.3 the basic needs of people are not met

Section B: Urban settlement

4. Match the urban settlement words in column A with the correct definitions in column B. Write down only the number and matching letter. (10)

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Urbanisation</td>
<td>A. Urban settlements located at a physical gap, for example a pass through a mountain range</td>
</tr>
<tr>
<td>2. World's largest megacity</td>
<td>B. The minimum number of people required to support a business</td>
</tr>
<tr>
<td>3. Situation</td>
<td>C. The ageing and deterioration of buildings, normally in the CBD</td>
</tr>
<tr>
<td>4. Gap/gateway town</td>
<td>D. The location of a settlement relative to its surroundings</td>
</tr>
<tr>
<td>5. Urban sprawl</td>
<td>E. The improvement of old or abandoned buildings, usually in the CBD and transition zone</td>
</tr>
<tr>
<td>6. Threshold population</td>
<td>F. When an increasing proportion of a country's population is concentrated in urban settlements</td>
</tr>
<tr>
<td>7. Urban blight</td>
<td>G. Facilities and services in an urban settlement, for example water, electricity and transport</td>
</tr>
<tr>
<td>8. Urban renewal</td>
<td>H. A settlement, usually residential, that has been fenced off with a controlled access gate</td>
</tr>
<tr>
<td>9. Transitional zone</td>
<td>I. Tokyo</td>
</tr>
<tr>
<td>10. Infrastructure</td>
<td>J. A derelict area surrounding the CBD</td>
</tr>
<tr>
<td></td>
<td>K. The expansion of an urban area into the surrounding areas</td>
</tr>
</tbody>
</table>

5. Select the correct option for each question. Write only the question number and correct option, for example 5.1 A.

5.1 The rate of urbanisation is:
   A. how large cities are
   B. the proportion of a country's population that live in urban settlements
   C. the pace at which urbanisation takes place
   D. the physical expansion of cities
5.2 The situation of Johannesburg can be described as:
A. on flat land where gold was discovered
B. at the foothills of the Witwatersrand ridges
C. close to several rivers
D. on the Witwatersrand north of the Vaal River and south of Pretoria/Tshwane in Gauteng

5.3 Break-of-bulk points are settlements that:
A. act as central places offering a wide range of goods and services
B. arise where one mode of transport is changed for another and/or where the volume of goods being handled is reduced
C. owe their origin to mining and agriculture
D. are located at passes close to mountain ranges

5.4 If urban settlements are ranked hierarchically from smallest to largest, the correct order would be:
A. local service centre, town, metropolitan area, conurbation
B. minor country town, local service centre, metropolitan area, megalopolis
C. local service centre, metropolitan area, town, city
D. metropolitan area, hamlet, town, conurbation

5.5 Examples of high-order functions and services are:
A. bakery, butcher, petrol station, corner shop (convenience store)
B. specialist hospital, theatre, High Court, university
C. dry-cleaner, fast-food outlet, newspaper stall, sweet/cool drink stall
D. hairdresser, informal trader, grocery store, flower seller

5.6 Low-order centres have:
A. large populations
B. large market areas
C. few services on offer – mainly low-order
D. a wide selection of low- and high-order services

5.7 Suburban business parks are becoming popular because they:
A. are located in the CBD
B. are affected by urban blight
C. are accessible from heavy industrial areas
D. offer safe parking, landscaped surroundings and less traffic congestion

5.8 ‘Invasion and succession’ is an example of:
A. urban renewal
B. globalisation
C. central place theory
D. informal trading usually in informal settlements.
6. Study the photograph, Figure 4.85, showing a part of a city.

6.1 Referring to the photograph as a source of geographical evidence, give reasons why:
   6.1.1 this is part of a third world city
   6.1.2 this area is found in the zone of transition.

6.2 Copy and complete the table below.

<table>
<thead>
<tr>
<th>Urban problems evident in the photograph (Fig. 4.85)</th>
<th>Suggest a possible solution to each urban problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Housing shortage</td>
<td>1.</td>
</tr>
<tr>
<td>2. Overcrowding</td>
<td>2.</td>
</tr>
<tr>
<td>3. Inadequate service provision</td>
<td>3.</td>
</tr>
</tbody>
</table>

7. Study the photograph, Figure 4.86, showing an informal settlement in South Africa.

Write a short essay (approximately one A4 page) using these subheadings:

- Why informal settlements exist in cities around the world
- Problems faced by people living in informal settlements in South Africa
- Management of social, economic and environmental challenges in informal settlements

(14)

[40]

Total: 60 marks
Refer to the 1:50 000 map extract of Zeerust (Figure 1.26, page 24), the orthophoto map (Figure 1.45, page 39) and the aerial photograph (Figure 1.27, page 25). Unless otherwise indicated, the block references (for example, D6) refer to the 1:50 000 map extract.

**Mapwork skills – rural settlement**

1. Calculate the distance between the Reservoir in C3 and the windpump in F3. (3)
2. Measure the bearing from the middle of the dam wall in D2 to the reservoir in H1. (2)
3. This area of South Africa experiences seasonal rainfall. Supply evidence from the map to support this statement. (6)
4. Study the settlements in the area covered by the alphanumeric grid F1–4, G1–4, H1–4.
   4.1 What type of settlement occurs in this area? (2)
   4.2 By referring to distance describe the settlement pattern of this area. (2)
   4.3 Describe the factors that may have influenced the development of this settlement pattern. (4)
   4.4 Describe the predominant economic activity that occurs in this area. (2)
   4.5 Suggest reasons why this economic activity is occurring here. (4)
5. Study the map and the vertical aerial photograph. Locate the area north of the Marico River, north of the N4 and west of the town of Zeerust.
   5.1 Describe this area, by referring to all features. (6)
   5.2 Describe the possible land use of this area. (4)

**Mapwork skills – urban settlement**

6. What is the road distance (km) from the T-junction (H6) along the N4 to Lobatse? (2)
7. What is the approximate area (m²) of one of the town blocks found in E7? (2)
8. Refer to the orthophoto. What is the distance (m) around the track following the edge of the stadium east of Gerrit Maritz Street? (2)
9. Suggest a reason why the N4 and railway line follows the route they do south of the Klein-Maricopoot Dam (E13 to D16). (1)
10. Give a reason for the route followed by the R49 in A6 and A7 on its way to Kopfonteinhek. (1)
11. Study the cross-section on page 247, drawn from trigonometrical station 295 (E6) to trigonometrical station 124 (F12). Identify the following features indicated on the cross section:
   11.1 A – land use zone
   11.3 C – urban feature
   11.5 E – infrastructure
   11.7 G – infrastructure
   11.2 B – land use zone
   11.4 D – infrastructure
   11.6 F – municipal service
12. Using the cross section (Figure 4.87) suggest a reason for the site of Zeerust. (1)
13. Suggest an advantage and a disadvantage of the street pattern found in
   Zeerust.
14. Referring to the orthophoto, what is the approximate altitude (m) of:
   14.1 Church Street/Kerkstraat? (1)
   14.2 the cemetery (E10 on the photo)? (1)
15. The dam wall of the Klein-Maricopoort Dam is just visible on the map (C16).
   Suggest a reason why engineers decided to build the dam at this location. (1)

Geographical information systems (GIS) – rural settlement

16. Identify three line features in block C13. (6)
17. Identify a polygon feature in D5. (2)
18. Data integration and decision-making.
   18.1 Explain what is meant by data integration. (2)
   18.2 Discuss three types of data that a farmer in block A14 will consider before
       cultivation or introduction of livestock. (6)
   18.3 Name one problem that was experienced with data integration prior to
       the introduction of GIS. (2)
   18.4 Of what importance is data integration to a geographer? (2)

Geographical information systems (GIS) – urban settlement

19. Imagine this scenario: Zeerust is experiencing increased urbanisation due to
    migration from surrounding rural areas. The demand for water has increased.
    Engineers have decided to raise the height of the Klein-Maricopoort Dam wall
    (C16 on the map) in order to increase the size of the dam.
   19.1 Trace an outline of the Klein-Maricopoort Dam. It is estimated the
       enlarged dam will flood up to the 1 160 m contour. On your tracing, draw
       a GIS buffer strip (or line) to indicate the outline of the enlarged dam. (4)
   19.2 Study the new dam outline. What would the implications of the enlarged
       dam be for the areas north and south of the dam? (4)
   19.3 Suggest any other GIS data layer that would assist planners in assessing
       other implications of the enlarged dam on the population of Zeerust. (1)

Total: 85 marks