



education

Department:  
Education  
PROVINCE OF KWAZULU-NATAL

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**GEOGRAPHY P1**

**COMMON TEST**

**JUNE 2018**

**MARKS: 225**

**TIME: 3 hours**

This question paper consists of 13 pages and  
a 11 page Annexure.

**INSTRUCTIONS AND INFORMATION**

1. This question paper consists of THREE questions.
2. Answer ALL THREE questions of 75 marks each.
3. ALL diagrams are included in the ANNEXURE.
4. Leave a line between subsections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number the answers correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of your ANSWER BOOK.
8. Where possible, illustrate your answers with labelled diagrams.
9. Write clearly and legibly.

**QUESTION 1****SECTION A: CLIMATE, WEATHER AND GEOMORPHOLOGY****QUESTION 1**

- 1.1 Study FIGURE 1.1 indicating a certain climatic condition in the atmosphere and answer the following questions. Only select the correct answer between brackets.
- 1.1.1 The climatic condition illustrated in the valley is termed (conversion / inversion).
- 1.1.2 At night time a (katabatic / anabatic) wind will develop along the valley slope.
- 1.1.3 The bottom layer of the atmosphere shows a/an (increase / decrease) in temperature.
- 1.1.4 The temperature usually decreases by (1°C / 10°C) for every 100 metre increase in height.
- 1.1.5 This climatic condition can easily lead to the formation of (frost / fog) if the dewpoint temperature is below 0°C.
- 1.1.6 This condition mainly occurs at (night / day).
- 1.1.7 The (nocturnal belt / thermal belt) is the warmer air layer that is trapped above and beneath the cool air. (7 x 1)(7)
- 1.2 Refer to FIGURE 1.2 and give the term for each of the following descriptions. Only write down the word next to the question number in your ANSWER BOOK, e.g. 1.2.9 drainage.
- 1.2.1 The course of a river where most waterfalls occur.
- 1.2.2 The type of flow as indicated by **A**.
- 1.2.3 Name the river course at **2**.
- 1.2.4 The smooth flow of the river in course **1**.
- 1.2.5 Vertical erosion is dominant in this course.
- 1.2.6 This type of flow is responsible for large scale erosion.
- 1.2.7 The river course where deposition is dominant.
- 1.2.8 The course of the river which has a wider V-shape. (8 x 1)(8)

**TRAVELLING DISTURBANCES**

- 1.3 Refer to FIGURE 1.3 showing travelling disturbances.
- 1.3.1 Label the winds at **A** and **B** respectively. (2 x 1)(2)
- 1.3.2 Describe the temperature of the winds at **A** and **B**. (2 x 1)(2)
- 1.3.3 Name front **C**. (1 x 1)(1)
- 1.3.4 This travelling disturbance will result in line thunderstorms.  
Explain how line thunderstorms are formed. (2 x 2)(4)
- 1.3.5 Line thunderstorms can be a blessing and a curse to farmers.  
Evaluate this statement. (3 x 2)(6)

**URBAN CLIMATE**

- 1.4 Study the FIGURE 1.4 based on urban climate.
- 1.4.1 Define the term *urban heat island*. (1 x 1)(1)
- 1.4.2 Give ONE reason for the development of an urban heat island. (1 x 2)(2)
- 1.4.3 Give TWO reasons why the mayor is concerned about the urban heat island issue. (2 x 2)(4)
- 1.4.4 The increase in the rate of urbanisation has an effect on the intensity of a heat island. Refer to FIGURE 1.4 and write a report based on the findings of the thermal efficiency experts, suggesting strategies to the Mayor that could be implemented to reduce the effects of an urban heat island. (4 x 2)(8)

**DRAINAGE PATTERNS**

- 1.5 Refer to FIGURE 1.5 which shows drainage patterns.
- 1.5.1 Name the drainage pattern in diagram **B**. (1 x 1)(1)
- 1.5.2 Determine the stream order at the waterfall labelled **3** in diagram **A**? (1 x 2)(2)
- 1.5.3 Give ONE characteristic of the drainage pattern in diagram **A**. (1 x 2)(2)
- 1.5.4 Explain the significance of the waterfall labelled **3** in diagram **A**? (1 x 2)(2)
- 1.5.5 Describe the underlying rock structure that influenced the development of the drainage pattern in diagram **B**. (2 x 2)(4)
- 1.5.6 Discuss any TWO factors that may result in a high drainage density in a drainage basin. (2 x 2)(4)

**REJUVENATION**

- 1.6 FIGURE 1.6 shows the process of rejuvenation.
- 1.6.1 Define the term *rejuvenation*. (1 x 1)(1)
- 1.6.2 Identify the landform at **A** which formed due to rejuvenation. (1 x 1)(1)
- 1.6.3 Explain how this landform, (the answer to QUESTION 1.6.2), changes the longitudinal profile of the river. (2 x 2)(4)
- 1.6.4 Mention ONE other landform that is associated with rejuvenation. (1 x 1)(1)
- 1.6.5 Write a paragraph (approximately 8 lines) in which you discuss the possible environmental impacts that rejuvenation will have on the area downstream. (4 x 2)(8)

**SECTION B: CLIMATE AND WEATHER AND GEOMORPHOLOGY****QUESTION 2**

2.1 Study FIGURE 2.1 based on cyclones of the temperate latitudes. Choose the correct answer that best suits the introductory sentence or statement. Write down only the correct letter next to the question number in your answer book. (e.g. 1.1.9 B).

2.1.1 The air pressure at **A** is low because of the ...

- A convergence of horizontally moving air.
- B circulation of air in the Hadley cell.
- C divergence of air moving vertically.
- D effect of Coriolis force.

2.1.2 The latitude at **A** is approximately ... south.

- A  $0^{\circ} - 5^{\circ}$
- B  $70^{\circ} - 90^{\circ}$
- C  $55^{\circ} - 65^{\circ}$
- D  $25^{\circ} - 35^{\circ}$

2.1.3 **A** is known as a/the ... front.

- A warm
- B moisture
- C cold
- D polar

2.1.4 The winds at **B** are known as the ... winds.

- A subtropical easterly
- B tropical easterly
- C polar westerly
- D subtropical westerly

2.1.5 The mid-latitude cyclone developing in FIGURE 2.1 is in its ... stage of development.

- A occlusion
- B warm sector
- C initial
- D mature

2.1.6 The air mass at **D** is ...

- A cold and moist.
- B cold and dry.
- C warm and moist.
- D warm and dry.

2.1.7 A cold front occlusion developing in the region represented by FIGURE 2.1 will occur because the air ... the cold front is ....

- A behind; very cold.
- B ahead; very cold.
- C behind; warm.
- D ahead; very cold.

2.1.8 When a mid-latitude cyclone approaches, the air pressure and temperature will respectively ... and ...

- A decrease; decrease
- B increase; decrease
- C increase; increase
- D decrease; increase

(8 x 1) (8)

2.2 Study FIGURE 2.2 based on river capture and write down only the correct word from list provided that matches the statements below next to the question number (2.2.1 - 2.2.7) in the ANSWER BOOK, for example 1.2.8 rapid.

wind gap	waterfall	captured stream	elbow of capture
captor stream	watershed	misfit stream	headward erosion

2.2.1 The point where the stream piracy has taken place [1]

2.2.2 The stream that has more energy and is rejuvenated [2]

2.2.3 The river that had its water diverted [3]

2.2.4 The river valley is dry with river gravel [4]

2.2.5 The stream which flows in a valley that is too big for the stream [5]

2.2.6 The river feature that can develop at **F** because of a difference in height

2.2.7 The feature at **G**.

(7 x 1) (7)

**TROPICAL CYCLONE**

- 2.3 Study FIGURE 2.3 which shows a satellite image and an article on tropical cyclone Berguitta.
- 2.3.1 Define the term *tropical disturbance*. (1 x 1) (1)
- 2.3.2 With reference to the satellite image of tropical cyclone Berguitta, state why it is in its mature stage of development. (1 x 1) (1)
- 2.3.3 State the general direction in which tropical cyclone Berguitta tracked. (1 x 1) (1)
- 2.3.4 Give a reason for your answer in QUESTION 2.3.3. (1 x 2) (2)
- 2.3.5 Explain what is meant by the phrase “ it continued to feed off the warm open waters of the Indian Ocean”. (1 x 2) (2)
- 2.3.6 Explain what you understand by a *category 4 storm*. (2 x 1) (2)
- 2.3.7 Suggest a possible reason for the drastic reduction in the storm Intensity of tropical cyclone Berguitta on the 21 and 22 of January 2018. (1 x 2) (2)
- 2.3.8 Discuss the importance of using satellite images to track cyclones. (2 x 2) (4)



**BERG WINDS**

- 2.4 Refer to **FIGURE 2.4** showing a Berg wind.
- 2.4.1 Define the term *local wind*. (1 x 1)(1)
- 2.4.2 Name the high pressure and low pressure cells labelled **A** and **B** respectively. (2 x 1)(2)
- 2.4.3 Explain the temperature characteristics of the Berg wind that is being experienced along the west coast of the country. (2 x 1)(2)
- 2.4.4 Discuss how the approaching cold front south west of the country will change the current weather conditions caused by the Berg winds. (2 x 1)(2)
- 2.4.5 Explain the impact of the Berg wind conditions on:
- (a) People along the west coast of South Africa.
- (b) The environment. (2 x 2)(4)
- 2.4.6 Suggest TWO preventative measures that could be introduced by farmers to reduce the devastating impact of berg winds on farmlands. (2 x 2)(4)

**RIVER PROFILES**

- 2.5
- 2.5.1 Define the *term cross profile*. (1 x 1)(1)
- 2.5.2 Name the shape of the cross profile represented by the letters **A** and **C**. (2 x 1)(2)
- 2.5.3 Explain the reasons for the different shapes of each of the valleys of the cross-section at **A** and **C** respectively. (2 x 2)(4)
- 2.5.4 Flooding is likely to occur at **C**. Give TWO reasons why this is the case. (2 x 2)(4)
- 2.5.5 Discuss TWO ways in which flooding will impact on the lives of people living in the lower stages of this river. (2 x 2)(4)

**HUMAN IMPACT ON DRAINAGE BASIN**

2.6 FIGURE 2.6 illustrates features of a drainage basin before and after the influence of human activities.

2.6.1 Define the term *drainage basin*. (1 x 1)(1)

2.6.2 Mention ONE negative impact on water quality at the mouth of the river after development in the drainage basin. (1 x 2)(2)

2.6.3 Identify TWO changes to the drainage basin in FIGURE 2.6 as a result of human activities. (2 x 2)(4)

2.6.4 Due to the human activities in FIGURE 2.6, the natural balance in the river and the surrounding drainage basin has been disturbed and degraded. In a paragraph of approximately EIGHT lines, discuss the importance of managing drainage basins. (4 x 2)(8)

**[75]**

**SECTION B: RURAL AND URBAN SETTLEMENT****QUESTION 3**

- 3.1 Refer to FIGURE 3.1 which shows different types of rural settlements. Match the type of settlements in the diagram with the descriptions below. Write only the letter (A – H) next to the question number (3.1.1 – 3.1.8) in your ANSWER BOOK. You may **NOT** use the same letter for more than one question.
- 3.1.1 A settlement with farming practiced intensively.
- 3.1.2 A traditional settlement practiced by a certain tribe in South Africa.
- 3.1.3 Settlement showing pastoral farming.
- 3.1.4 A settlement formed because of forestry.
- 3.1.5 A highly accessible settlement with roads forming a cross shaped pattern.
- 3.1.6 A largest rural settlement.
- 3.1.7 A dispersed rural settlement.
- 3.1.8 A linear settlement associated with a man-made feature. (8 x 1) (8)
- 3.2 Refer to FIGURE 3.2 showing an urban prolife with the different land-use zones. Match the letters A, B and C with each of the descriptions below. Write only the letter next to the question number (3.2.1 – 3.2.7) in your ANSWER BOOK.
- 3.2.1 Area of low cost housing.
- 3.2.2 Zone with the highest land value.
- 3.2.3 The land-use zone characterized by dilapidated buildings.
- 3.2.4 Mostly high-order functions are found here.
- 3.2.5 Industries are located close to this land use for labour force.
- 3.2.6 Zone that is characterised by mixed functions.
- 3.2.7 Zone with the highest building density. (7 x 1) (7)

**RURAL SETTLEMENT**

3.3 Refer to FIGURE 3.3 to answer the following questions.

- 3.3.1 Define the term *small scale farming*. (1 x 1)(1)
- 3.3.2 Select from the article a reason why small-scale farming can be classified as part of the land reform initiative. (2 x 1)(2)
- 3.3.3 Describe **TWO** challenges faced by small scale farmers. (2 x 2)(4)
- 3.3.4 Explain how the South African government can contribute towards turning small scale farming into a more sustainable practice. (2 x 2)(4)
- 3.3.5 Evaluate the future potential of small scale farming to the economy of the country. (2 x 2)(4)

**RURAL SETTLEMENT ISSUES**

3.4 Study FIGURE 3.4 based on cycle of rural decline and answer the questions that follow.

- 3.4.1 Define the term *rural urban migration*. (1 x 1)(1)
- 3.4.2 Identify TWO reasons, mentioned in FIGURE 3.4, for the decline in employment in the agricultural sector. (2 x 1)(2)
- 3.4.3 Explain why HIV/AIDS has accelerated rural urban migration. (2 x 2)(4)
- 3.4.4 There is a view that quality housing and employment opportunities are pull factors to urban areas. In a paragraph of approximately 8 lines, critically evaluate the extent to which this is true. (4 x 2)(8)

**URBAN LAND-USE ISSUES**

3.5 Study FIGURE 3.5 based on Urban Problems.

- 3.5.1 Define the term *urban blight*. (1 x 1)(1)
- 3.5.2 With reference to the article, identify the term that suggests that Johannesburg is under-going a process of regeneration. (1 x 1)(1)
- 3.5.3 What do the 'green lungs' in the article refer to? (1 x 1)(1)
- 3.5.4 Suggest TWO advantages of 'green lungs' to a city. (2 x 2)(4)
- 3.5.5 Explain why "gentrification is further displacing the poor." (2 x 2)(4)
- 3.5.6 Suggest TWO reasons why the provision and the quality of services to the inner city of Johannesburg is steadily declining. (2 x 2)(4)

**URBAN HIERARCHY**

3.6 Study FIGURE 3.6 showing a central place

- 3.6.1 What is the main function of a central place? (1 x 1)(1)
- 3.6.2 Explain why a city would have a higher sphere of influence than a town. (1 x 2)(2)
- 3.6.3 Explain TWO differences between high-order services and low-order services. (2 x 2)(4)
- 3.6.4 Threshold population is the minimum number of customers required to support a service function. In a paragraph of approximately 8 lines, assess the impact of locating a high-order service in an area of low threshold population. (4 x 2)(8)

[75]

**TOTAL MARKS: 225**





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**GEOGRAPHY P1**

**ANNEXURE**

**COMMON TEST**

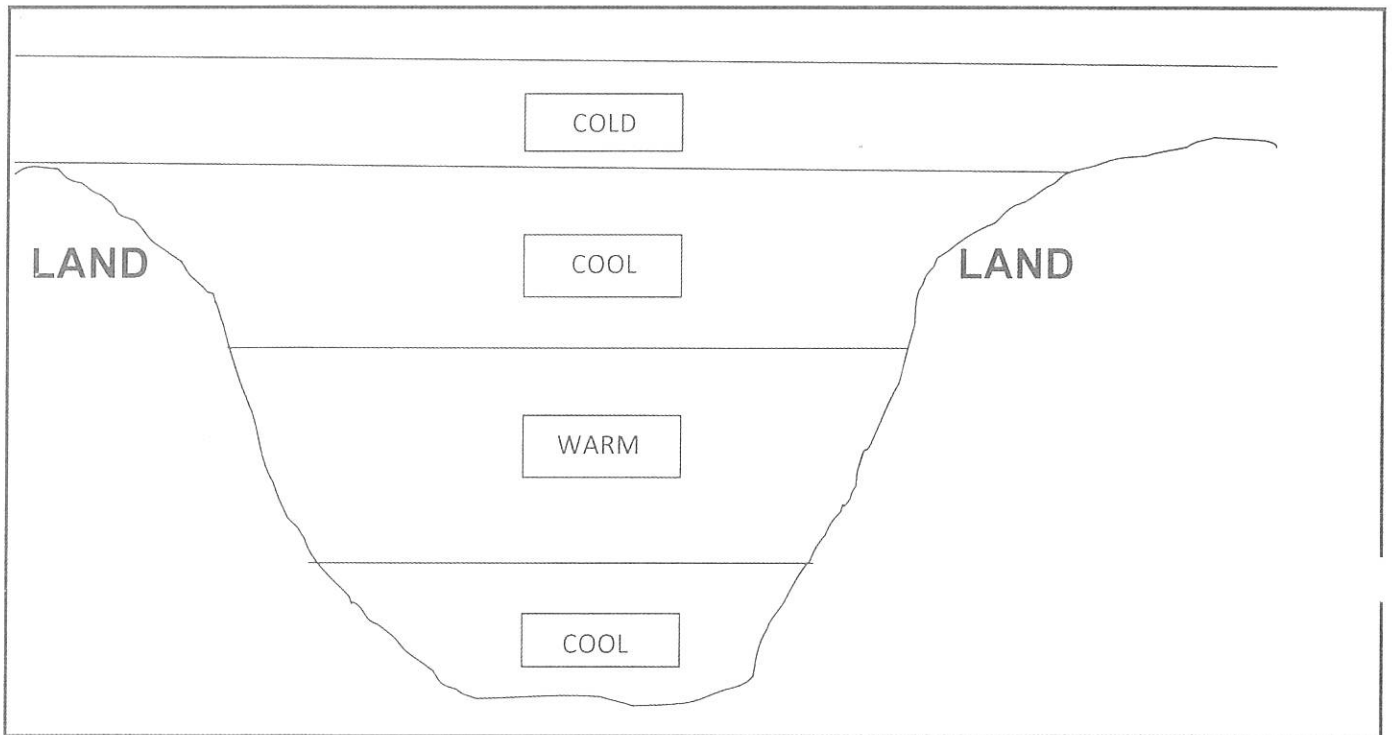
**JUNE 2018**

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**GRADE 12**

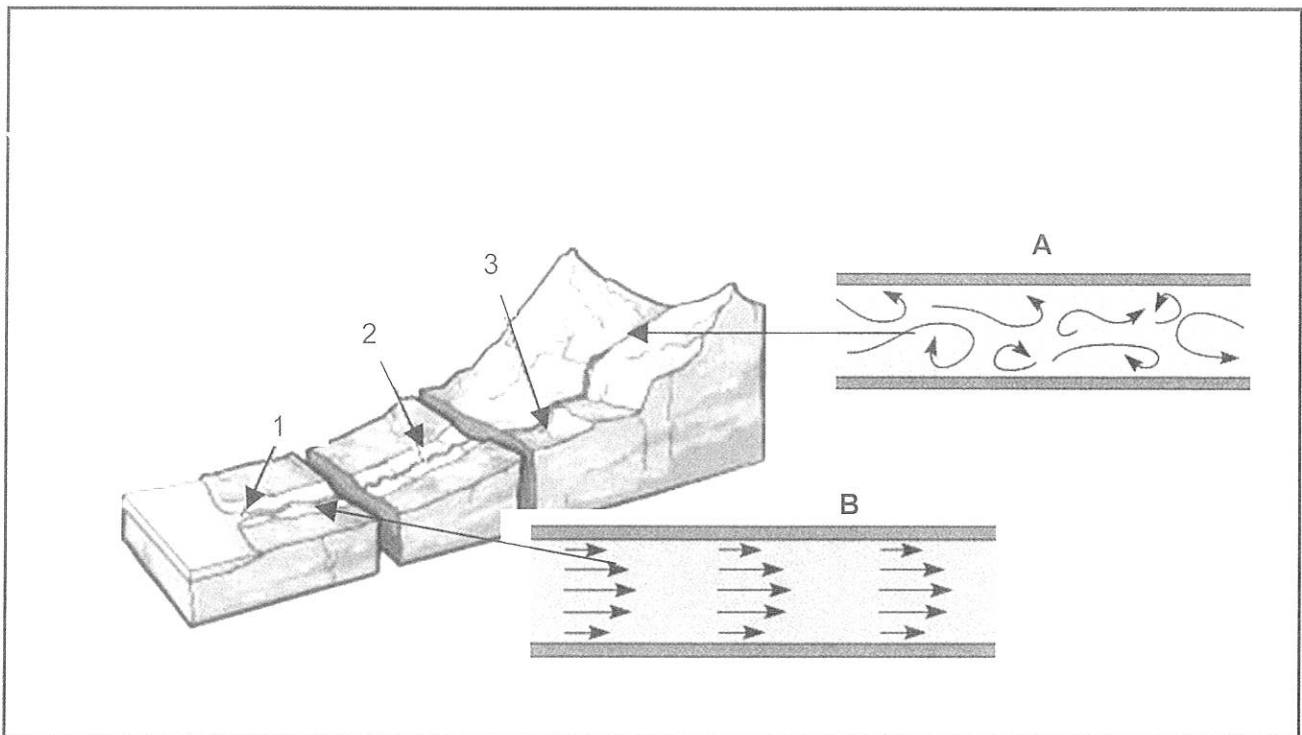
This Annexure consists of 11 pages.

**FIGURE 1.1: TEMPERATURE INVERSION**



Source: Adapted from Google

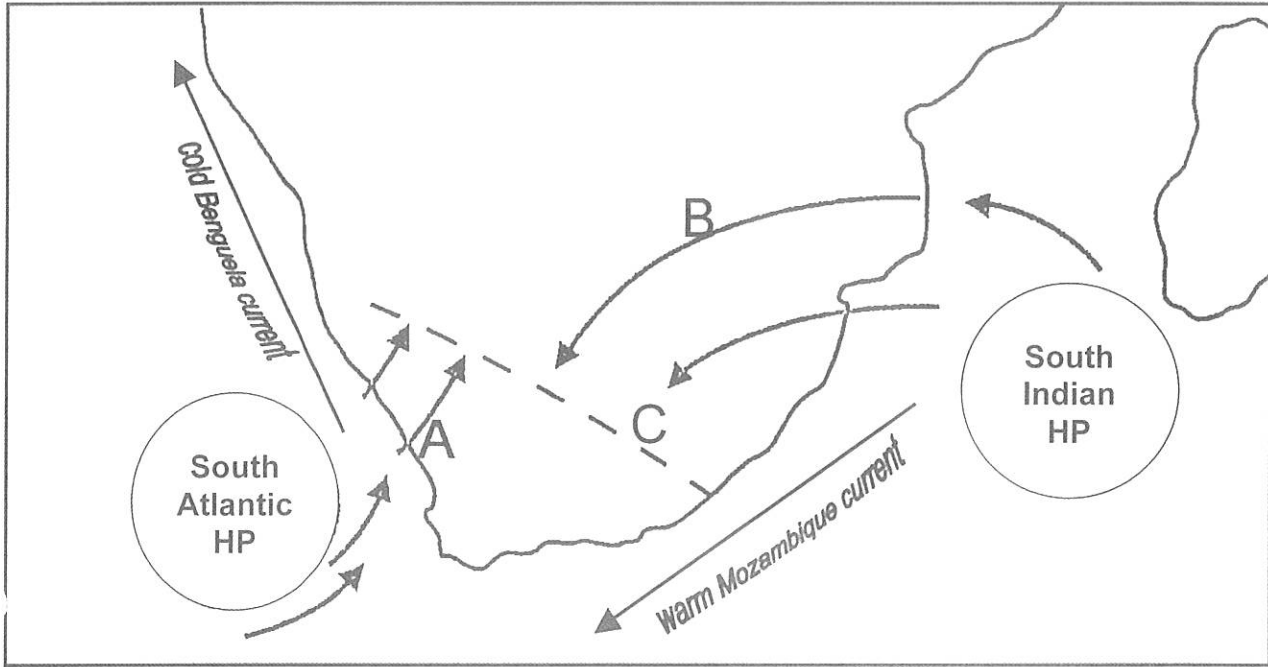
**FIGURE 1.2 FLOW DISCHARGE**



Source: Adapted from Google



FIGURE 1.3: TRAVELLING DISTURBANCES



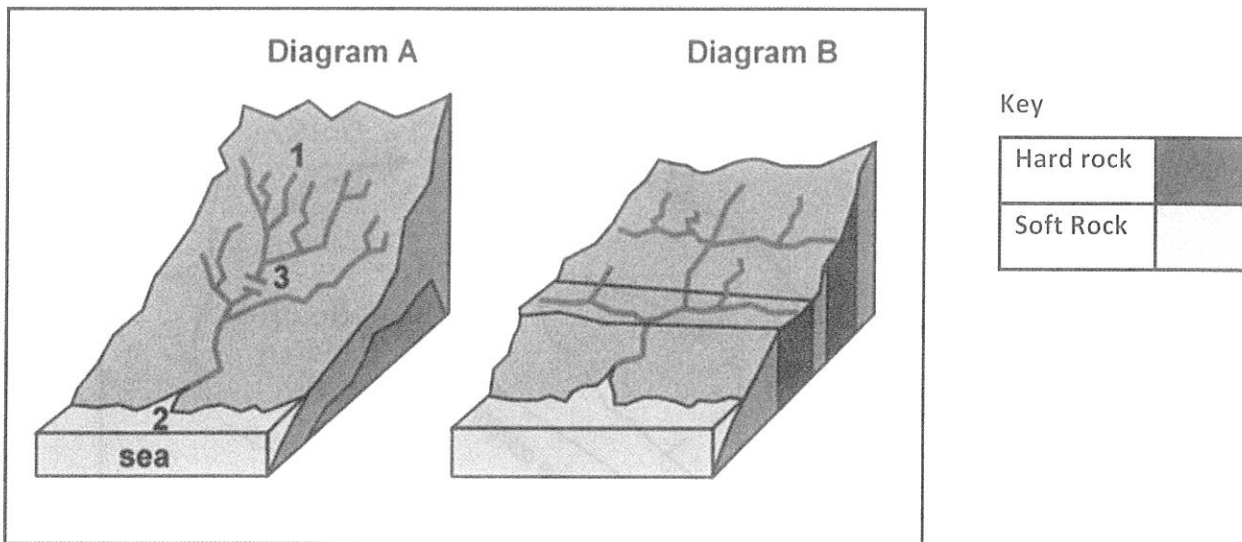
Source: Adapted from South African Weather Patterns

FIGURE 1.4: URBAN CLIMATE



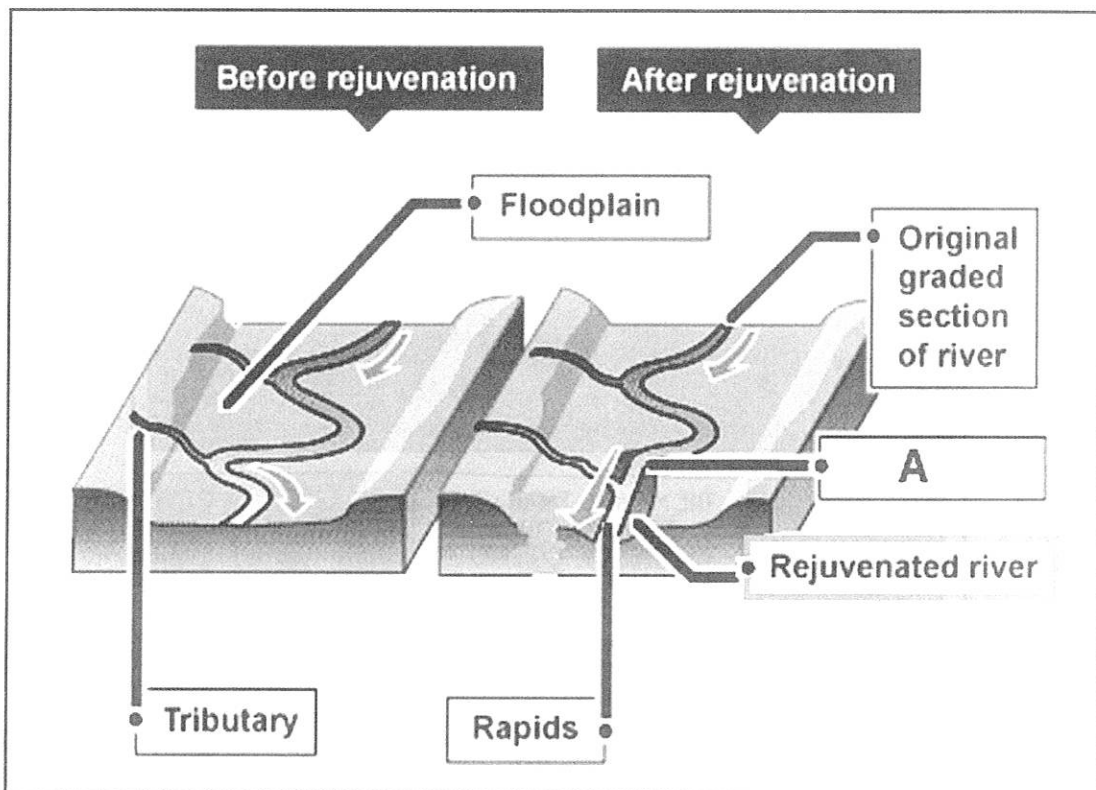
Source: Adapted from Google

FIGURE 1.5: DRAINAGE PATTERNS



[Source: [http://drainage basin/patterns Images](http://drainage%20basin/patterns/Images)]

FIGURE 1.6 REJUVENATION



Source: <http://sageography.myschoolstuff.co.za/wiki/grade-12-caps/geomorphology/fluvial-processes>

FIGURE 2.1: ORIGIN OF A MID-LATITUDE CYCLONE

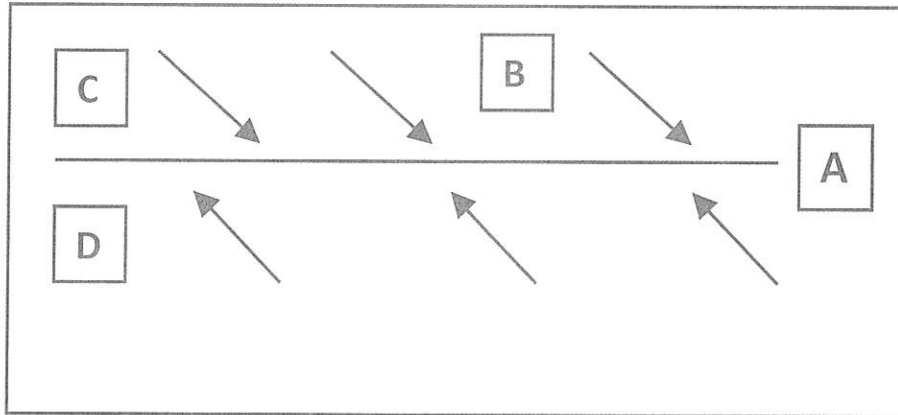
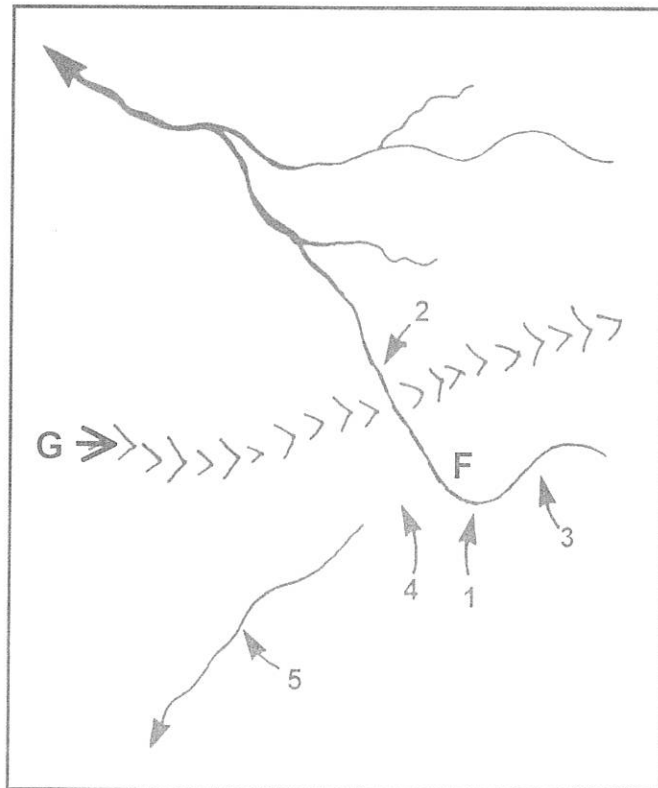
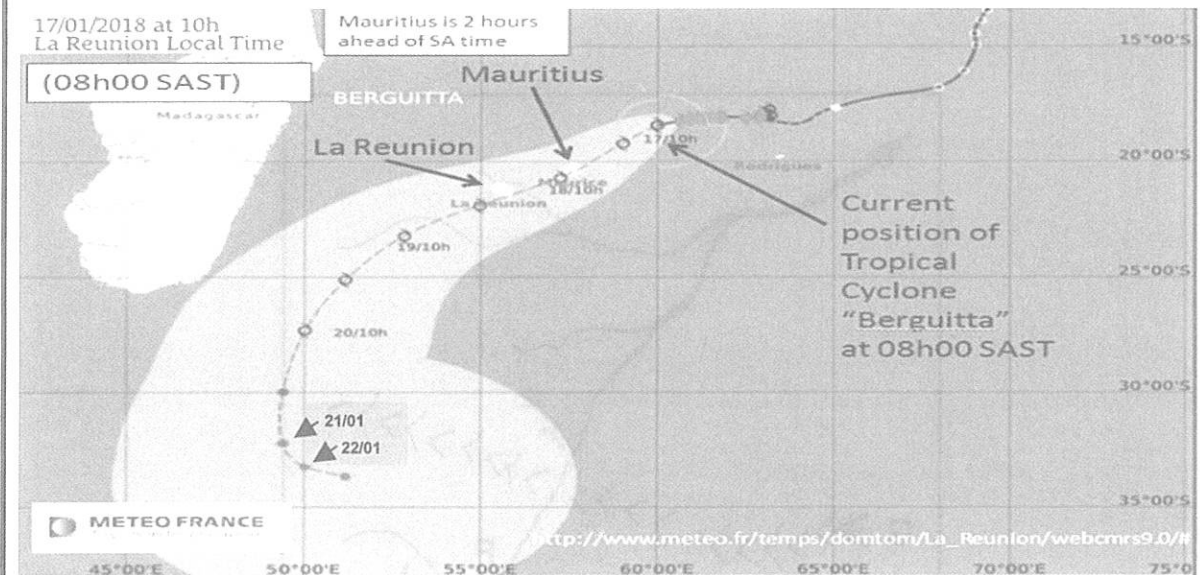
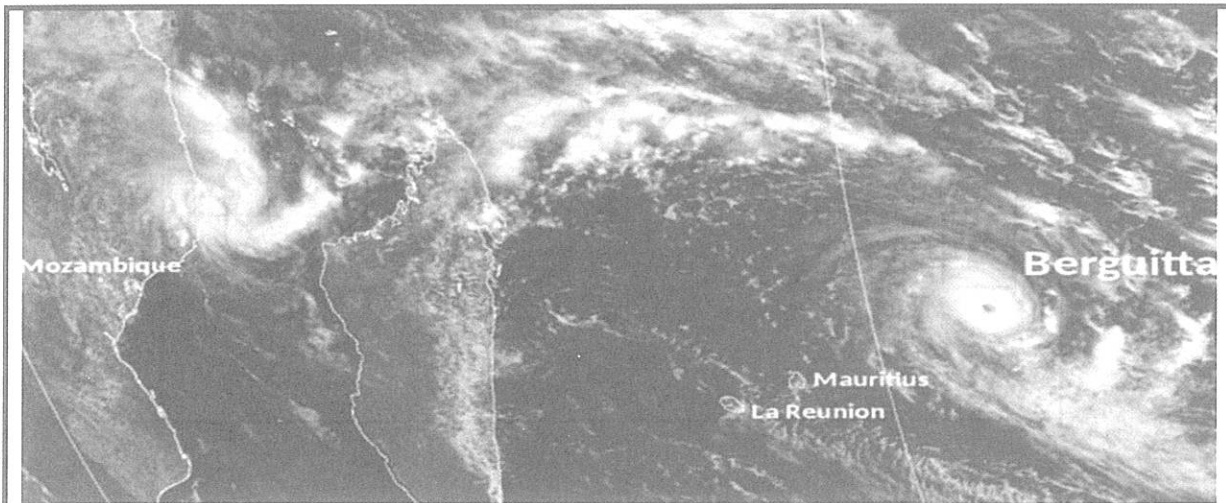


FIGURE 2.2: RIVER CAPTURE



Adapted from Focus geography by Dilley L et al

### 2.3 TROPICAL CYCLONE

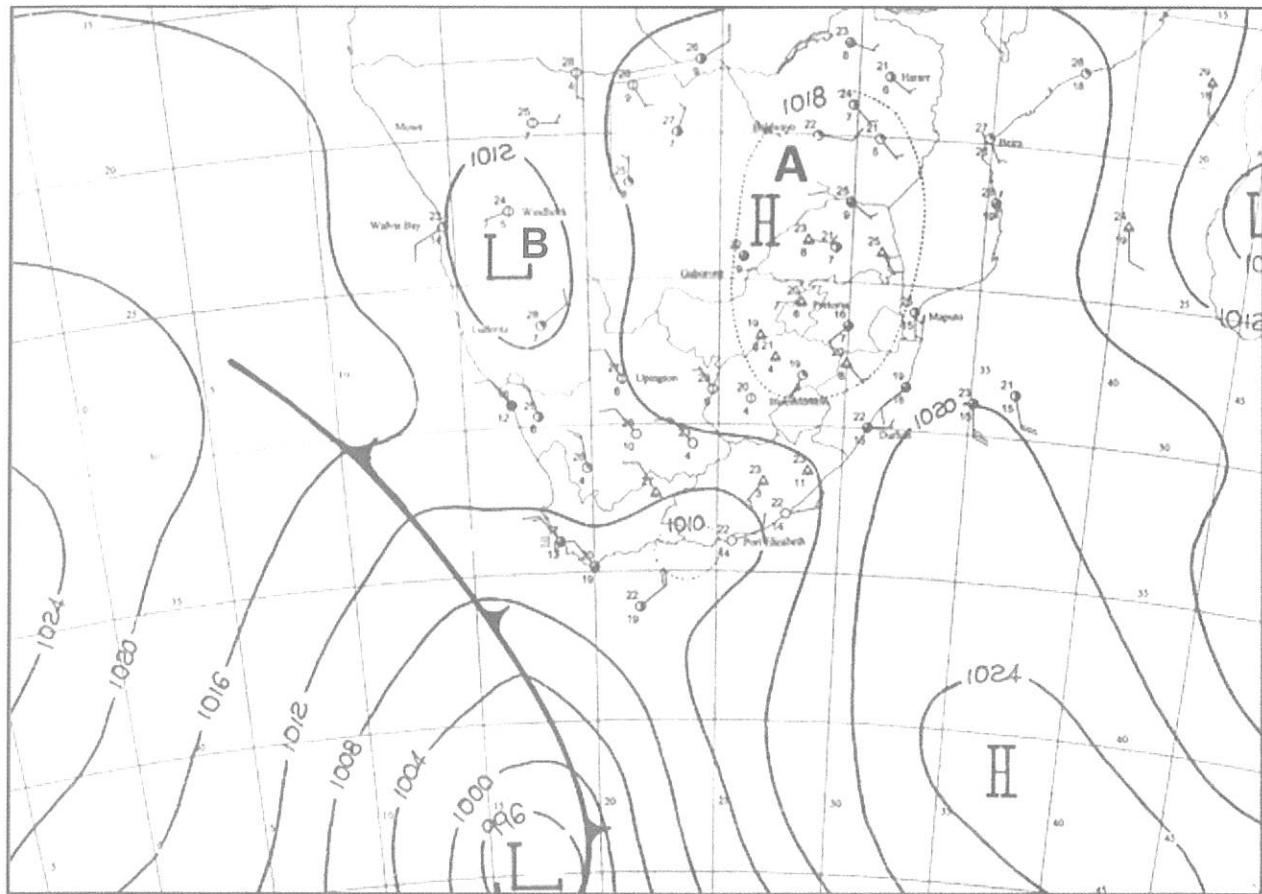


Tropical cyclone BERGUITTA, originated as a tropical disturbance north east of the island of Mauritius on 10 January 2018. As it moved in a south westerly, it continued to feed off the open warm waters of Indian Ocean. It then gradually intensified, with sustained winds of 230 kilometres per hour and wave heights of more than ten metres. BERGUITTA's satellite imagery suggested the tropical cyclone had the power of a category 4 hurricane.

On Monday 15 January 2018, a cyclone warning category 4 was issued for Mauritius. On 17 January BERGUITTA made landfall in Mauritius causing enormous damage to infrastructure, roads, houses and more than 5 000 people were displaced due to high water levels and strong winds in excess of 190 km per hour. On 18 January 2018 BERGUITTA continued to move in a general west south westerly track at about 10 km/hr. Active cloud bands passed over the island on the night of Wednesday 18 January 2018 and severe flooding and powerful winds continued to affect the island. On 19 January, Tropical Cyclone BERGUITTA, continued its path in a south westerly direction from Mauritius. BERGUITTA reduced its intensity and finally was downgraded as a Severe Tropical Storm.

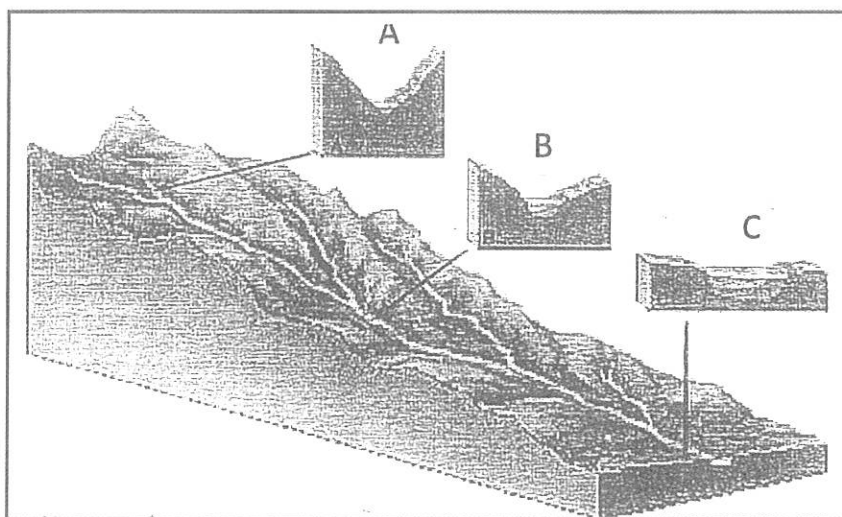
Source: Adapted from Google

FIGURE 2.4: BERG WINDS



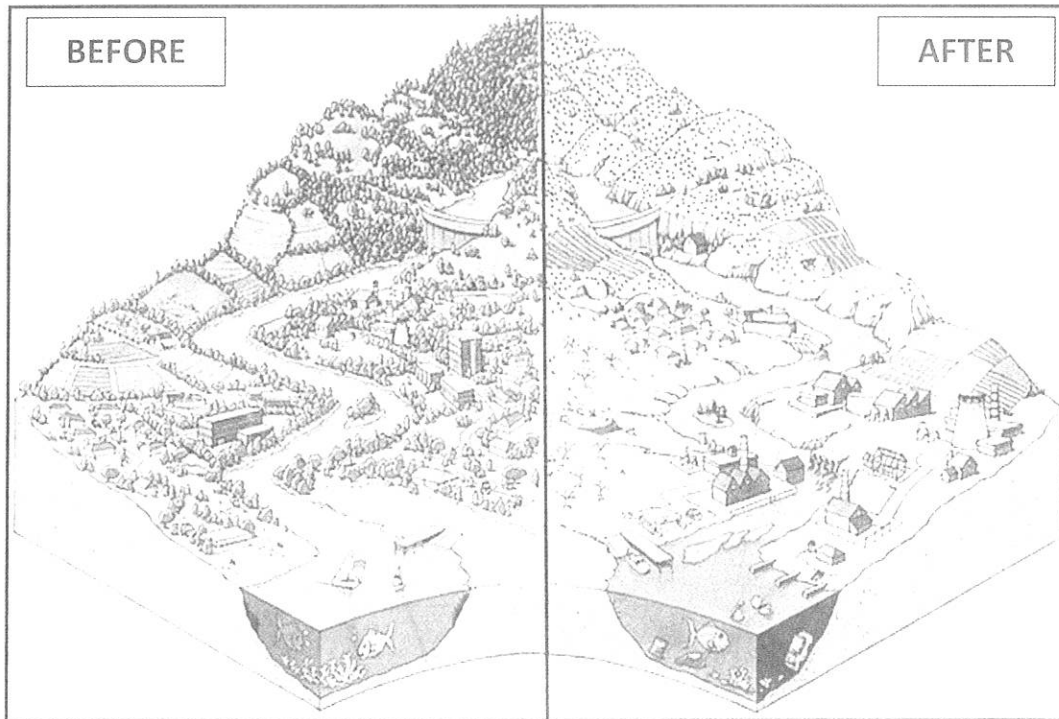
Source: South African Weather patterns

FIGURE 2.5: RIVER PROFILES



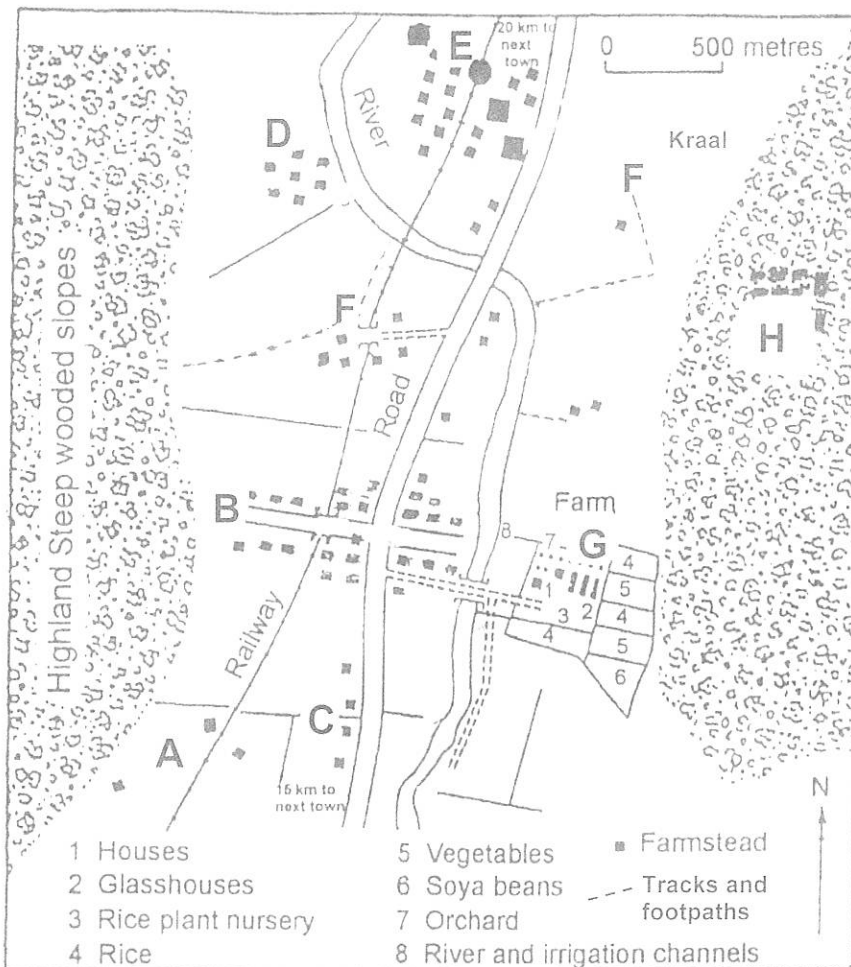
Source: <http://classconnection.s3>

FIGURE 2.6: DRAINAGE BASIN BEFORE AND AFTER HUMAN ACTIVITIES



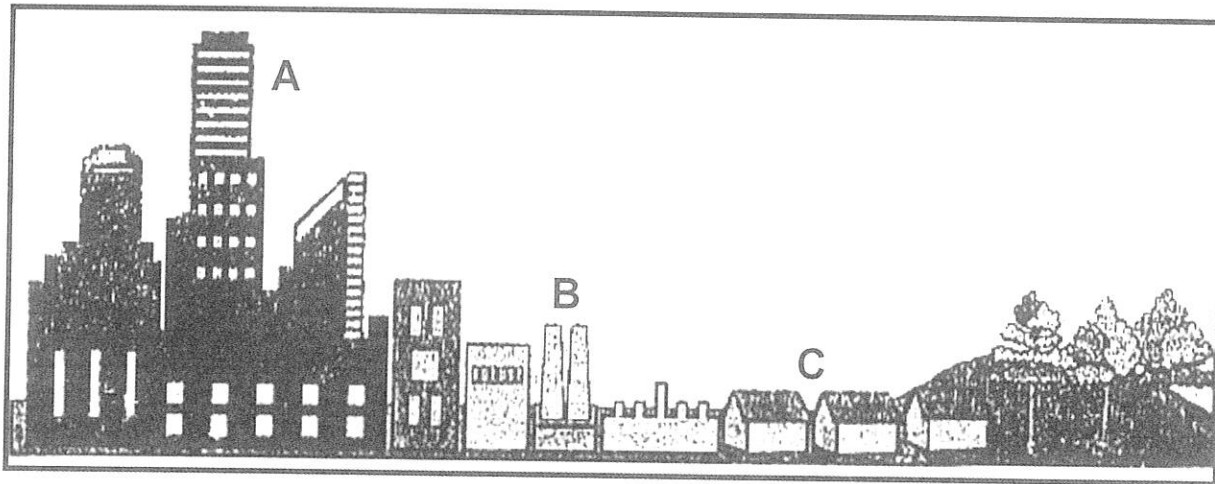
Source: <https://www.icpdr.org/main/issues/human-impacts>

FIGURE 3.1: DIFFERENT TYPES OF RURAL SETTLEMENTS



Source: Adapted from Themes in Human Geography

FIGURE 3.2: URBAN LAND-USE ZONES



Source: Adapted from Study Master

FIGURE 3.3: SMALL SCALE FARMING

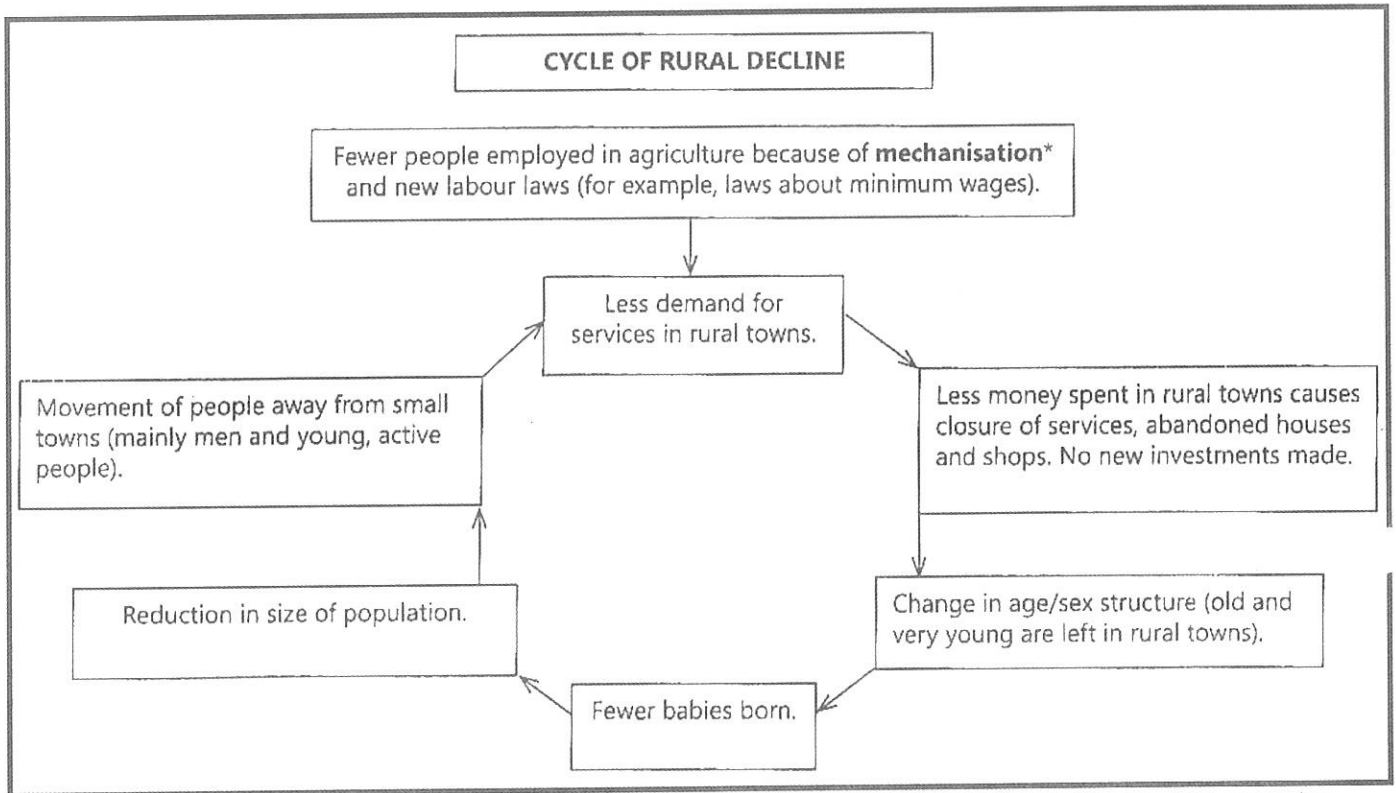
#### BODY LAUNCHED TO REPRESENT BLACK FARMERS IN SA SUGAR INDUSTRY

Bheki Cele, the Deputy Minister of Agriculture, Forestry and Fisheries, said: "Time for change has come. Grower capacity development will make a huge impact in industry where white farmers have been dominating." It is time for land to be returned to its rightful owners and that black farmers went into profitable partnerships which would help boost the South African Economy.

Siyabonga Madlala, chief of the organisation said that this was an opportunity for small-scale farmers to make a substantial contribution to the economy. However, this industry faces a number of challenges.

Source: Adapted from the Daily News January 29 2018

**FIGURE 3.4: CYCLE OF RURAL DECLINE**



Source: Top Class Geography

**FIGURE 3.5: URBAN PROBLEMS**

**JOHANNESBURG: The problem of urban blight**

The Johannesburg inner city's problems have resulted from a combination of factors. The continuing challenges to the city administration include the crime rate, enforcement of by-laws and management of informal trading. Currently the inner city is the main entrance point to immigrants with more than 200 000 now living there.

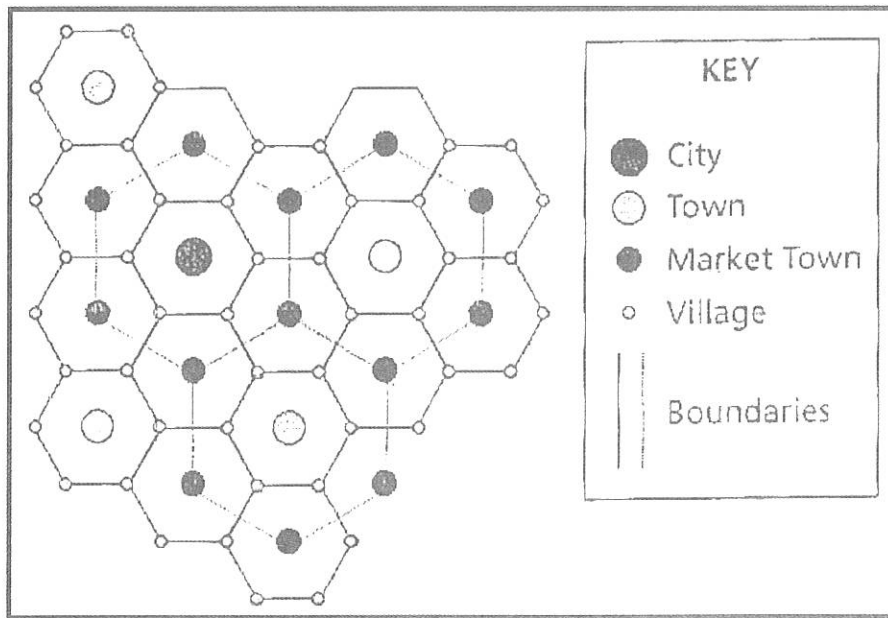
The city is in the midst of urban renewal. Gentrification is displacing the poor. More open space has been created around the inner city providing a 'green lung' to a healthy city.

*Source: Adapted from City of Johannesburg.org.za: Kagiso: Understanding Geography*



FIGURE 3.6

CENTRAL PLACES



Source: <http://www.watd.wuthering-heights.co.uk>

