



THE REPUBLIC OF UGANDA

Ministry of Education  
and Sports

# HOME-STUDY LEARNING

SENIOR  
3

## GEOGRAPHY

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This material has been developed as a home-study intervention for schools during the lockdown caused by the COVID-19 pandemic to support continuity of learning.

Therefore, this material is restricted from being reproduced for any commercial gains.

National Curriculum Development Centre  
P.O. Box 7002,  
Kampala- Uganda  
[www.ncdc.go.ug](http://www.ncdc.go.ug)

## FOREWORD

Following the outbreak of the COVID-19 pandemic, government of Uganda closed all schools and other educational institutions to minimize the spread of the coronavirus. This has affected more than 36,314 primary schools, 3129 secondary schools, 430,778 teachers and 12,777,390 learners.

The COVID-19 outbreak and subsequent closure of all has had drastically impacted on learning especially curriculum coverage, loss of interest in education and learner readiness in case schools open. This could result in massive rates of learner dropouts due to unwanted pregnancies and lack of school fees among others.

To mitigate the impact of the pandemic on the education system in Uganda, the Ministry of Education and Sports (MoES) constituted a Sector Response Taskforce (SRT) to strengthen the sector's preparedness and response measures. The SRT and National Curriculum Development Centre developed print home-study materials, radio and television scripts for some selected subjects for all learners from Pre-Primary to Advanced Level. The materials will enhance continued learning and learning for progression during this period of the lockdown, and will still be relevant when schools resume.

The materials focused on critical competences in all subjects in the curricula to enable the learners to achieve without the teachers' guidance. Therefore effort should be made for all learners to access and use these materials during the lockdown. Similarly, teachers are advised to get these materials in order to plan appropriately for further learning when schools resume, while parents/guardians need to ensure that their children access copies of these materials and use them appropriately. I recognise the effort of National Curriculum Development Centre in responding to this emergency through appropriate guidance and the timely development of these home study materials. I recommend them for use by all learners during the lockdown.



**Alex Kakooza**  
Permanent Secretary  
Ministry of Education and Sports

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## **ACKNOWLEDGEMENTS**

National Curriculum Development Centre (NCDC) would like to express its appreciation to all those who worked tirelessly towards the production of home-study materials for Pre-Primary, Primary and Secondary Levels of Education during the COVID-19 lockdown in Uganda.

The Centre appreciates the contribution from all those who guided the development of these materials to make sure they are of quality; Development partners - SESIL, Save the Children and UNICEF; all the Panel members of the various subjects; sister institutions - UNEB and DES for their valuable contributions.

NCDC takes the responsibility for any shortcomings that might be identified in this publication and welcomes suggestions for improvement. The comments and suggestions may be communicated to NCDC through P.O. Box 7002 Kampala or email [admin@ncdc.go.ug](mailto:admin@ncdc.go.ug) or by visiting our website at <http://ncdc.go.ug/node/13>.



**Grace K. Baguma**  
Director,  
National Curriculum Development Centre

## ABOUT THIS BOOKLET

Dear learner, you are welcome to this home-study package. This content focuses on critical competences in the syllabus.

The content is organised into lesson units. Each unit has lesson activities, summary notes and assessment activities. Some lessons have projects that you need to carry out at home during this period. You are free to use other reference materials to get more information for specific topics.

Seek guidance from people at home who are knowledgeable to clarify in case of a challenge. The knowledge you can acquire from this content can be supplemented with other learning options that may be offered on radio, television, newspaper learning programmes. More learning materials can also be accessed by visiting our website at [www.ncdc.go.ug](http://www.ncdc.go.ug) or [ncdc-go-ug.digital/](http://ncdc-go-ug.digital/). You can access the website using an internet enabled computer or mobile phone.

We encourage you to present your work to your class teacher when schools resume so that your teacher is able to know what you learned during the time you have been away from school. This will form part of your assessment. Your teacher will also assess the assignments you will have done and do corrections where you might not have done it right.

The content has been developed with full awareness of the home learning environment without direct supervision of the teacher. The methods, examples and activities used in the materials have been carefully selected to facilitate continuity of learning.

You are therefore in charge of your own learning. You need to give yourself favourable time for learning. This material can as well be used beyond the home-study situation. Keep it for reference anytime.

Develop your learning timetable to cater for continuity of learning and other responsibilities given to you at home.

**Enjoy learning**



## TERM 1

### **Instructions**

- You will be studying one lesson each day. Try to do all activities programmed for each day.
- Remember that some activities may take you more than one hour to complete.
- Read the instructions carefully before you begin doing each activity.
- In case you find an activity difficult, ask an older person around you for assistance.

## TOPIC: THE DEVELOPMENT OF TOWNS AND PORTS IN EAST AFRICA

### Lesson 2: Growth and development of Ports and Town in EastAfrica

#### Learning Outcomes:

By the end of this lesson you should be able to:

- i) explain the factors that led to the growth of ports and towns in EastAfrica.
- ii) locate the major urban centres of East Africa on a map.

#### Materials you need:

Photographs showing towns or ports, pen, pencil, notebook, atlas or map of EastAfrica showing major towns and ports

#### Introduction

You have probably ever seen a town or trading centre atleast in your home district. That town or trading centre is somewhat similar to a larger town elsewhere. There are special factors which enabled it to develop in the place where it is found. Have you also ever seen or visited a landing site on a lake or river. If you have everseen one, its features and the factors that led to its development are also closely similar to those of a port. In this lesson you are going to learn about the major towns and ports of East Africa, and factors which have led to their development.

#### Activity1

Look at **Figure 2.1** and do the following tasks:

1. Copy the map into your notebook.
2. With the help of the atlas or any other map showing urban areas in East Africa, name:
  - a) Towns marked O, P, R, S, T, U, Vand W.
  - b) Ports marked 1to4.

3. Describe the distribution of major urban centers in East Africa.

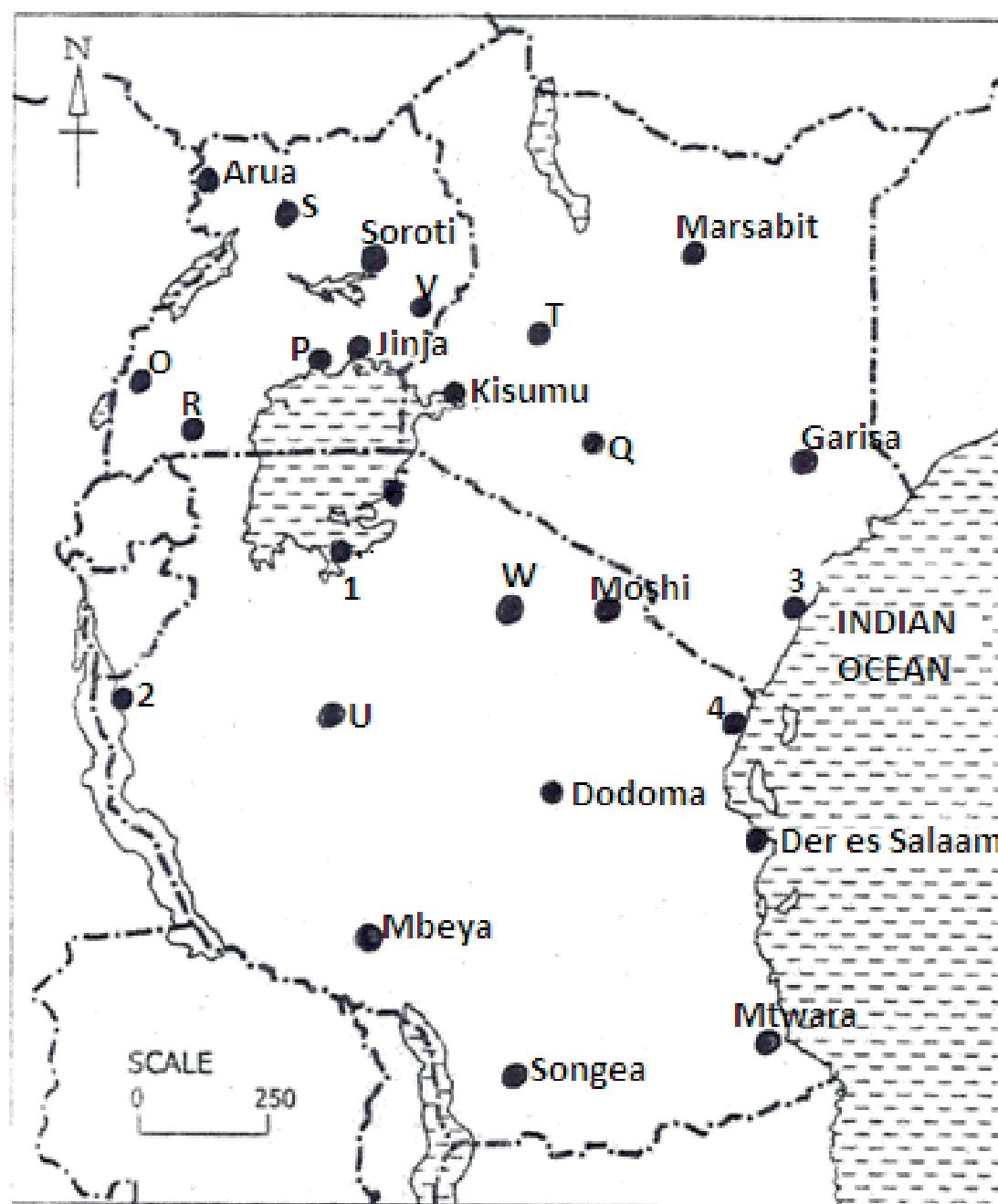


Figure 2.1: Map showing major urban centres and ports in East Africa

## Factors that led to the growth and development of towns and ports in East Africa

### Activity 2

Visit the town or trading centre nearest to your home and do the following:

- Draw a sketchmap to show the physical and human features in the town and its immediate surroundings.
- Find out stages in the development of the town from the people living in the area.
- Ask people living in the town whether they were born in that area or not. If not, find out where they came from.
- Find out the activities carried out in the town.
- Ask people where they get the things they use in everyday life and how they get them.
- Find out the factors which have led to the development of the town.
- Look around and find out the problems people living in the town face.

You could have found out that the town you have studied started as a small Trading post where the local people used to bring their products for sale. It Could also have been a local administrative centre? Many towns in other parts of East Africa started in a similar way and expanded overtime. Again, you have probably found out that the majority of the people living in the town were not born there, they came from other places. Do you remember the name given to the process whereby people move from villages to live permanently in towns?

Have you realized that most of the people in the town are involved in providing services such as selling goods, hair salons and barber services, mechanical repairs and the like? In all towns people are mainly employed in such services.

### Activity 3

Copy the table below into your notebook and use it to divide the factors which led to the development of the town you visited as natural and human.

Natural factors	Human factors

## Activity

4

Using your knowledge of New York City–Port, and the knowledge of the town you have studied in your home area, explain how each of the following factors could have led to the development of Mombasa port.

- Relief
- Rich hinterland
- Climate
- Presence of a natural harbor
- Presence of minerals
- Strategic location
- Government policy
- Improvement in transport network
- Early contacts with foreign traders
- Administrative functions

## Summary

In this lesson you have learnt

that:

- Towns and ports develop through several stages starting as small trading posts or service centres.
- Towns in East Africa have developed as a result of several factors including relief, presence of water supplies, good transport network, reliable supply of food and goods from the hinterland, security and stability and others.

- Most towns have developed at junction points for transport routes such as roads, water-ways, and railway lines. Other towns have developed along major transport routes. This is called strategic location.

### Follow - up Activity

Study the Table below showing percentage of urban population in East Africa and do the tasks that follow.

**Table 1: Percentage of urban population in East Africa**

Country	Percentage of urban Population
Uganda	12
Kenya	36
Tanzania	22

- Draw a pie chart, to represent the information in the table above.
- Suggest reasons why Kenya has a bigger percentage of urban population compared to other East African countries.

## LESSON3: Functions of ports and towns

Learning Outcomes:

By the end of this lesson, you should be able to:

- explain the functions of ports and towns.
- draw sketch maps to show the major towns and ports of East Africa.

**Materials you need:**

Photographs showing towns or ports, pen, pencil, notebook, atlas or map of East Africa showing major towns and ports

### Introduction

In lesson 2 you visited the town in your home area and found out the things that people living in the town do. List some of those things which you remember. The things or activities carried out in a town are called the functions of the town. Different towns have different functions depending on where they are found. In this lesson you are going to learn more about the functions of major towns in East Africa.

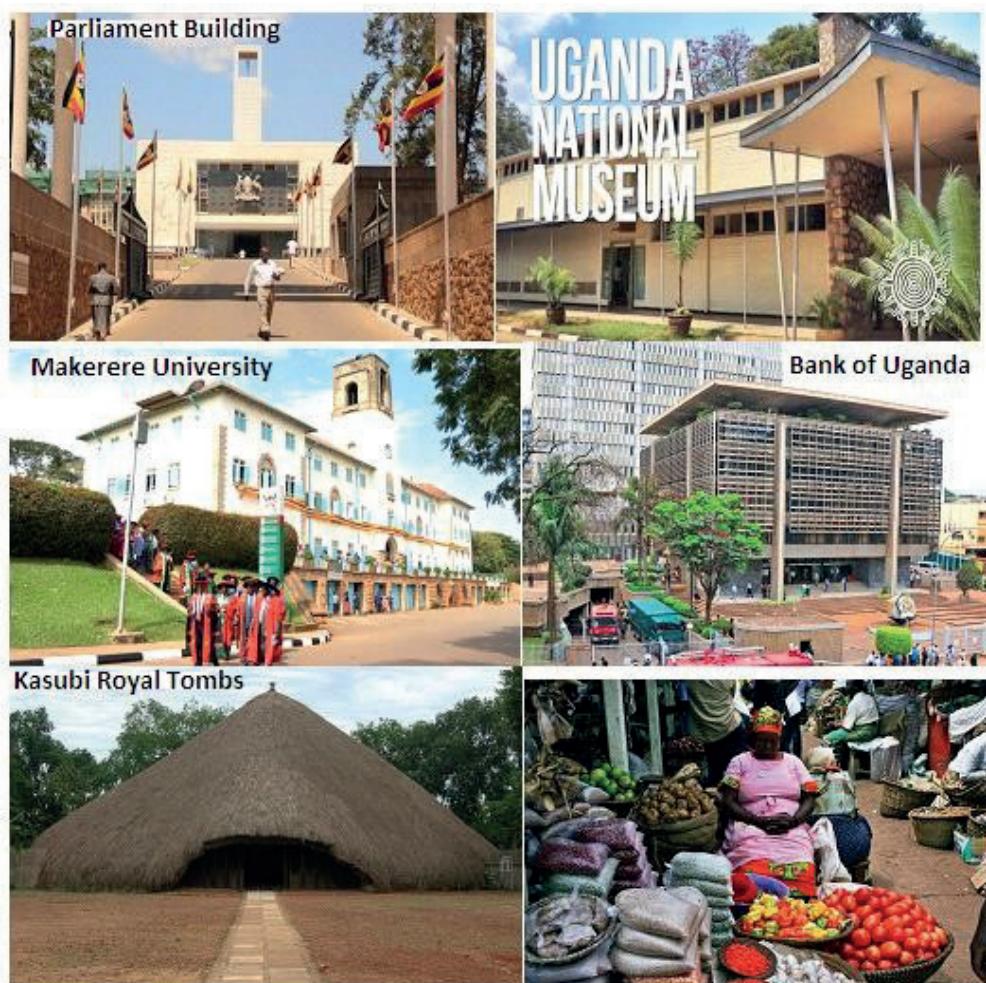
### Functions of Kampala City

In Senior One, you learnt about New York City and Port. Think of at least five functions of New York City. Kampala City and other cities of East Africa also perform functions which are somewhat similar to those of New York. To understand this better, do the following Activity.

#### Activity 1

Look at **Figure 3.1** and do the following tasks:

- a. Identify the functions of Kampala City in each picture and write them in your notebook.
- b. In about two sentences, explain what each function involves.
- c. Briefly explain how each function identified in the figure has attracted people to Kampala City.

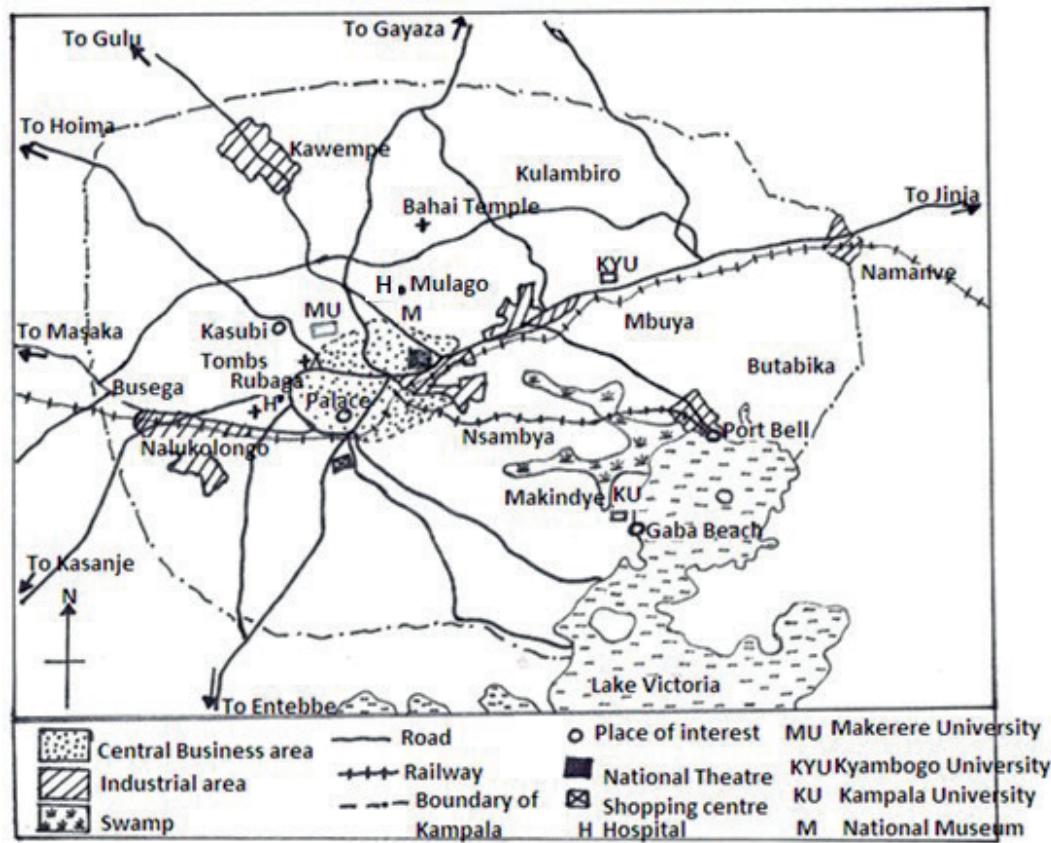


**Figure 3.1: Some of the functions of Kampala City**

In the above activity, you could have found out that Kampala is a commercial center, cultural centre, administrative centre and so forth. You have also learnt that each of the functions attract more people to the city. This is one of the reasons why Kampala is the largest urban area in Uganda. However, there are several other functions of Kampala City which are not shown in Figure 2. To learn more about these functions, do the following activity.

### Activity 2

Look at Figure 3.2 and do the tasks that follow.



**Figure 3.2: Map of Kampala City**

- Copy the map in **Figure 3** into your note book.
- Using the map, you have drawn and your knowledge of New York City or any other town, identify the functions of Kampala City which are not shown in Figure 2.1 in Lesson 2 above.
- Briefly explain how each of the activities you have identified in (1) above, might attract more people to live in Kampala City.

### Summary

In this lesson, you have learnt that:

- The towns and ports in East Africa are collecting centres for people who carry out a wide range of social, cultural, commercial and administrative activities. The activities carried out in these areas are called the functions of towns.

- Most towns in East Africa are commercial, administrative, residential, industrial, recreational and tourist centers.
- The functions of a town mainly depend on its location, historical background, size of the population and government policy.
- The functions of towns are the major factors attracting more people to migrate from rural areas to towns. This leads to an increase in urban population which in turn leads to the expansion of towns.

### Follow-up Activity

Carry out textbook or internet research about the functions of Mombasa and Dares Salaam.

- For each town, draw a sketch map to show its major features and layout.
- Explain what each function involves and how it has led to the development of the town.
- Draw a table to summarise the functions of urban areas in East Africa under the following categories: Social functions, Cultural functions, Commercial functions, and Administrative functions.

## Lesson 4: Problems of Urbanization

### Learning Outcomes

You should be able to:

- i) describe the problems of urbanization.
- ii) explain the possible solutions to problems that result from urbanization.

### Materials you need:

textbook, photographs, diagrams, notebook, pen, pencil and rubber

### Introduction

In lesson 1, you learnt about the problems people living in the town nearest to your home face. Again, in Senior Two, you learnt about the problems facing New York City. Do you remember those problems? List them in your notebook.

In this lesson you are going to learn about problems that result from the growth of urban areas and the ever-rising urban population in East Africa.

### Activity1

Look at Figure 4.1 and do the following:

- a. Identify the problems shown in each of the pictures.
- b. Explain how each problem may affect people living in the urban areas.
- c. For each problem, suggest at least one reason why it occurs.
- d. Suggest measures which can be undertaken by both the governments of East African countries and urban authorities to solve the problems you have identified above.



**Figure 4.1: Some of the problems of urban areas in East Africa**

The problems which you have identified in the previous Activity are faced in almost all the urban areas of East Africa. However, some problems are more severe in some towns than in others. For example, due to poor dumping of solid domestic, market and industrial wastes, floods have become more severe in Kampala City. This is because the poorly disposed wastes block drainage channels and natural streams making them unable to accommodate runoff water whenever it rains.

## Activity 2

Imagine you have visited Nairobi or Mombasa town.

- a) Apart from the problems which you have found, out in **Activity 1** above, which other problems do you think you would most likely find people in the town facing?
- b) Write them down in your notebook and explain how each of them would be affecting both the people and natural environment.

Have you realized that most of the problems facing the urban areas of East Africa result from the rapid increase of urban population? The number of people living in urban areas increases faster than we can plan. For example, in most towns of East Africa, people lack access to clean water, social services such as schools and medical facilities, housing, and enough jobs to employ the ever growing population.

However, there are some problems which result from the mixing of people from different cultures. These include loss of traditional cultural values and language, growth of tribal cells such as "Kifumbira", "Acholi quarters", "Kiteso" and others, in the case of Kampala. Such tribal cells are centres of social discrimination, and rapid spread of diseases which can be caught through direct contact.

## Summary

In this lesson, you have learnt that:

- The growth of urban areas can lead to greater poverty. This comes about when local governments are unable to provide services for all people.
- The burning of fossil fuel as a source of energy leads to greater air pollution which in turn affects human health.
- Urban development increases the risk of environmental hazards such as

flooding and outbreak of water borne diseases.

- These problems of urbanisation can be reduced or even solved through better planning of towns, enforcing of laws relating to housing, waste disposal, traffic and conservation of green belts in towns.

### **Follow-up Activity**

- Carry out a textbook or Internet research about the benefits associated with the growth of towns in East Africa.
- Imagine you have been invited to take part in a debate on the motion "East Africa needs to develop rural areas more than towns in order to realise fast development".

In your note book, prepare the points which you will present at the debate and clearly show your side.

### **References:**

- Gladys Hickman (1994): Lands and People of East Africa. (Pp44-66)
- Carol M. Serwanga, Kaggwa H., and Isanga E. (2011): MK Ordinary Level Geography. East Africa, Student's Book3 (pp.289-312)
- MacMillan /Moran Uganda Secondary School, Atlas

**TOPIC: TRANSPORT, COMMUNICATION AND TRADE IN EAST AFRICA****Lesson 5: Major types of Transport and Communication in East Africa****Learning Outcomes**

By the end of this lesson, you should be able to:

- i) describe the major types of transport and communication.
- ii) explain the factors influencing the development of transport and communication in East Africa.
- iii) draw a map showing the major transport networks in East Africa.
- iv) identify the different types of transport and communication on photographs.

**Introduction**

Transport and communication are important services in promoting the activities people do. Such activities may include trade, tourism, farming, mining, and fishing. Did you know that the need to move raw materials, goods and people results in the creation of transport and communication networks?

In this lesson, you are going to learn about major types of transport and communication in East Africa.

**Activity1**

Look at Figure 5.1 and do the following tasks:

- In about three sentences, describe each one of the types of transport shown in the figure.

- Which one of the types of transport shown in the figure have you ever used?
- Explain the advantages and disadvantages of using the type of transport which you have ever used.
- Which is the most commonly used type of transport in your home area and why?
- Explain what you understand by transport?



Figure 5.1: Types of transport

In the previous, Activity you have learnt that the choice of the type of transport to be used mainly depends on the nature of goods to be moved from one place to another, the cost involved in using the means, and the relief of the area. For example, many mountain dwellers in East Africa mostly use human portage and animal transport because it is not easy to use vehicles in such areas.

Heavy and bulky goods are conveniently transported by rail since it is cheaper. Similarly, it is cheap to transport petroleum and natural gas in large amounts using pipeline.

### **Activity2**

- Imagine you are a trader dealing in the goods listed below.
- Cutflowers and vegetables for export
- Iron ore from the mine to the factory
- Fresh milk from Mbarara to Kampala
- Maize grain
- Heavy machinery
- For each type of goods, decide the type of transport you would use.
- Give reasons for your choice in each case.

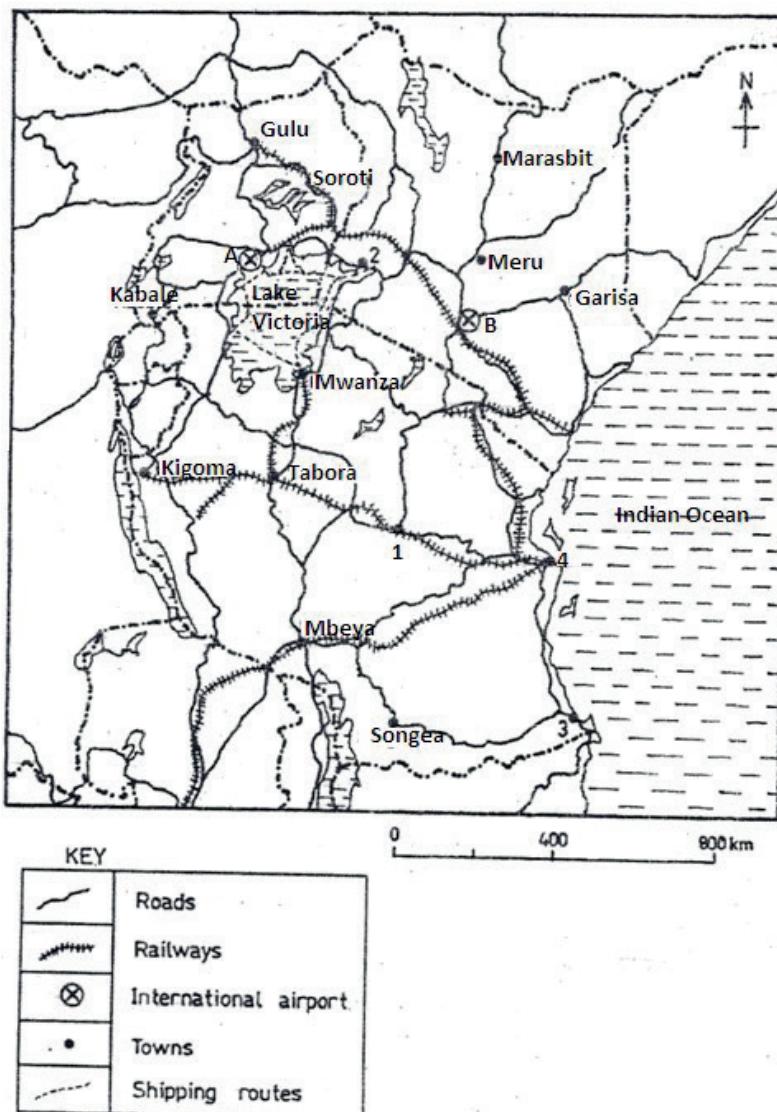


Figure 5.2: Major transport networks in East Africa

### Activity 3

Look at Figure 5.2 and do the following tasks:

1. Draw Figure 5.2 into your notebook.
2. Using the knowledge you got and in the previous topic, name the:

(i) Towns marked 1 and 2

(ii) Port Marked 3, and

(iii) The airports marked A and B.

3. With the help of the atlas, name the roads and railway lines on your map.

4. Briefly explain how factors such as relief, government policies and technology have led to the development of the transport networks above.

5. Identify the type of transport which is least used in East Africa.

6. Suggest reasons why the type of transport you have identified in (4) above is the least used.

## **Major types of communication**

### **Activity4**

Look at Figure 5.3 and do the following tasks:

1. Identify the types of communication shown in the figure. In case you fail to identify any one of them, ask the people around you for assistance.
2. Explain how each one of them is used.
3. Suggest the advantages and disadvantages of using each type of communication identified above.
4. Which type of communication is most commonly used in your home area? Suggest reasons why it is the one used most commonly.
5. Which one is least used? Why?
6. In about two sentences, explain what is meant by communication.



Figure 5.3: Types of Communication

In the previous Activity, you have learnt what communication is, the main types of communication, the advantages and disadvantages of each type of communication. You have also found out the things we consider to choose the type and means of communication we use.

### Factors influencing the development of transport and communication

Uganda, unlike Kenya and Tanzania, has no direct access to the sea. It is a landlocked country. Because of her location, she faces a number of problems in transporting her goods to and from the coast.

## Activity4

1. Carry out a textbook or internet research and find out the factors influencing transport networks in East Africa.
2. Draw a table with two columns and classify the factors you have found out in(1) above.

### Summary

In this lesson, you have learnt that:

- Transport is the movement of people and goods from one place to another.
- Communication involves the transmission of ideas and information between people and places.
- The major types of transport are water, air, human portage, animal, railway, and road. Pipeline transport is used in the transportation of petroleum, natural gas and copper powder.
- Road transport is the most commonly used type of transport in East Africa.
- The most commonly used means of transport depend on the nature of the area. For example, mountainous areas often use human portage, areas with water bodies use boats, ships and ferries. Similarly bicycles are used in rural areas to carry people

and light load.

- Factors influencing the development of transport and communication are both physical and human. They include relief, drainage, level of technology reached and government policy.

### Follow up Activity

Study the table below showing the types of transport used in Uganda by percentage and do the tasks that follow.

Types of transport	Percentage of transport type
Own vehicle	5.7
Public transport	39.3
Motor bike	1.4
Non-motorised bikes	15.0
On head/shoulder/back	17.1
Other	2.1
Hired vehicle	20.0

- i) Draw a bar graph to represent the above information.
- ii) Road accidents are very common in East Africa. Explain the causes of road accidents.
- iii) Imagine you have been appointed an officer in charge of traffic in your home area. What advice would you give to the road users in order to reduce accidents?

References:

- Gladys Hickman (1994): Lands and Peoples of East Africa (pp 154-155; 178-181)
- Carol M. Serwanga, Kaggwa H., and Isanga E. (2011): MK Ordinary Level Geography. East Africa, Student's Book 3(pp.313-327)
- Young and Lowry (1977): Acourse in World Geography; East Africa.

## TOPIC: TRADE IN AFRICA

### Lesson 6: Trade Patterns in East Africa

Learning outcomes:

- By the end of the lesson, you should be able to explain the trade patterns in East Africa.

#### What is trade?

##### Activity1

Look at Figure 6.1 and do the tasks that

follow.



Figure 6.1: Trade in Uganda

1. Which of the places of trade shown in Figure 6.1 have you ever visited?
2. What kind of activities did you see people there carry out?
3. Describe your experience while at the place of trade you visited.

You could have realised that at the place you visited some people were selling goods or services while others were buying. Many other places in EastAfrica carry out similar activities. That is called trade. Trade carried out within the country is called local trade. People involved in local trade usually pay for goods and services using local currency.

Have you ever heard people say that Uganda exports goods to other countries? in EastAfrica and elsewhere in the world? In the same way, Uganda buys goods from other countries. The kind of trade where goods are exchanged

between countries is called **international trade** or foreign trade. In foreign trade, we use foreign currency to pay for goods. We are also paid foreign currency for the goods we sell to other countries.

You could also have seen people exchanging goods for goods, services for services, or goods for a service. Such people were carrying out a type of trade known as **barter trade**.

## Activity 2

In your notebook, do the following tasks:

1. What types of trade are carried out in your home area? Give evidence to support your answer.
2. List the goods which Uganda sells to other East African countries.
3. List the things which Uganda buys from other East African countries.
4. In about two sentences, explain the meaning of the term trade.

## What is visible trade?

In the previous Activity, you identified the items the people of EastAfrica Trade in. You have probably listed things like, fish and fishproducts, minerals, Flowers, maizegrain, beans, bottled water, hides and skins, timber, bananas, motor vehicles and others. All these are items which we can see and touch.

The type of trade involving exchanging these items is called **visible trade**.

On the other hand, East Africa trades in services like tourism, education, Insurance, consultancy work, entertainment, and health services. That is known as **invisible trade**.

The nature of EastAfrica's Export and Import trade

### Activity3

1. In your note book draw a table with two columns, one for exports and the other for imports.
2. In the column for exports, write the goods exported by East Africa to other countries.
3. In the column for imports, write the goods imported into East Africa.

Did you know that Kenya imports 12% of manufactured goods from Uganda and 43% from Tanzania while Uganda imports 34% of manufactured goods from Kenya and 71% from Tanzania?

Tanzania imports, 57% of manufactured goods from Kenya and 17% from Uganda.

## What is visible trade?

In the previous Activity, you identified the items the people of East Africa trade in. You probably listed things like, fish and fish products, minerals, flowers, maize grain, beans, bottled water, hides and skins, timber, bananas, motor vehicles and others. All these are items which we can see and touch. The type of trade involving exchanging these items is called **visible trade**.

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## The nature of East Africa's Export and Import trade

### Activity3

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Did you know that Kenya imports 12% of manufactured goods from Uganda and 43% from Tanzania. Uganda imports 34% of manufactured goods from Kenya and 71% from Tanzania?

Tanzania imports, 57% of manufactured goods from Kenya and 17% from Uganda.

## Activity4

1. Suggest reasons why Uganda exports less manufactured goods too the East African countries.
2. Explain why there is little trade amongthe EastAfricancountries.

East Africa heavily depends on the export of primary products and semi-processed minerals for her foreign income. All East African countries are making great efforts to diversify the range items they export. They are also trying to find new markets for their products.

The difference between the money value of exports and imports of a country over a certain period is referred to as **balance of trade**. On the other hand, the summary of all financial dealings between one country and the rest of the world over a period of time, usually a year, is referred to as **balance of payments**.

## Summary

In this lesson you have learnt that:

- Trade involves the purchase and sale of goods and services for profit.
- Interregional trade has provided market for the manufacturing sector in East Africa, particularly for Kenya because of her strong industrial base.
- Uganda exports fish fillets, coffee, tobacco, tea and gold.
- Kenya exports coffee, tea, cut flowers and vegetables.

- Tanzania's exports are fish fillets, coconuts, Brazil nuts, cashewnuts, coffee and gold.

### **Follow-up Activity**

1. From your own experience of trade or what you have read and heard about trade, why do you think countries should trade with one another?
2. What problems do traders in East Africa face?
3. Suggest steps which can be taken to promote trade in EastAfrica.

### References

In order to learn more about the topics we have covered, read the following books:

1. Gladys Hickman (1994): Lands and Peoples of East Africa (pp154-155; 178-181)
2. Carol M. Serwanga, Kaggwa H., and Isanga E. (2011): MK Ordinary Level Geography. East Africa, Student's Book3 (pp.313-327)
3. Young and Lowry (1977): Acourse in World Geography; East Africa.

## TOPIC: MAP WORK

### Lesson 7: CALCULATING AREA OF FEATURES ON A MAP

Learning Outcomes:

- By the end of this lesson, you should be able to estimate areas of features on a map.

#### Introduction

In Senior One, you learnt about the types of scale, measurement of distance on a map, and locating features on a map. In this lesson you are going to learn how to calculate area of features on a map using the linear scale.

When using a map, we maybe interested in knowing how big certain features are, for example, a forest, farm, swamp, or an air field. Some of these features have shapes which are similar to those of polygons, which you have learnt about in mathematics. These are called features with regular shapes. Other features have shapes which do not resemble any polygon. These are called features with irregular shapes.

#### Calculating area of features with regular shapes

These features may have shapes like circles, semi circles, squares, triangles or rectangles. In this case, we use mathematical formula to calculate the area of such features.

In order to calculate their areas follow the steps below:

- (i) Identify the feature whose area you are going to calculate.

(ii) Measure the length and width of the feature. You may use a pair of dividers, thread or a straight edge of a piece of paper.

(iii) Transfer the measurements to the linear scale and then take readings of the number of kilometers covered by the feature.

(iv) Use the mathematical formula for calculating area of the polygon which the feature resembles. For example, multiply the length of the feature by its width, if it is rectangular or a square.

(v) State the area of the feature in square kilometers.

Some times you may find that features are not perfect polygons. Still we can estimate their area. We do this by dividing the feature into regular polygons. We calculate the area of each polygon and add them up to get the total area covered by the feature.

## Activity 1

Look at the Figure 7.1 and do the tasks that follow

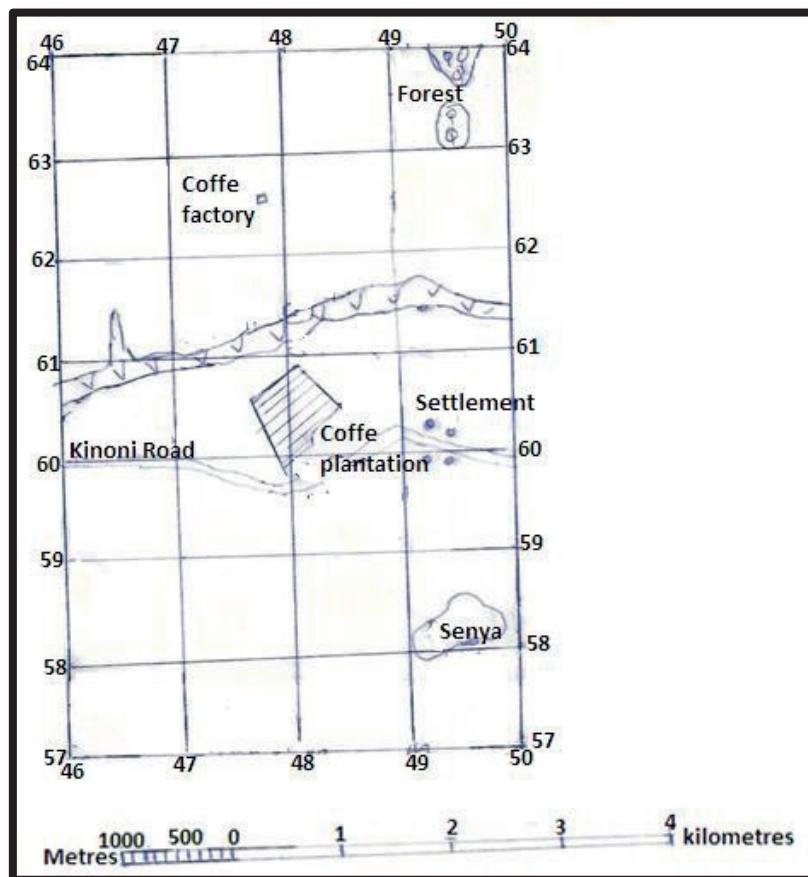


Figure 7.1: A Sketch map of Bukoto

1. Divide the feature into figures of regular shapes or polygons. Give each shape a number for easy identification.
2. Measure the dimensions of each polygon using the linear scale of the map.
3. Using a suitable formula, calculate the area of each polygon.
4. Add the areas of all polygons to get the total area of the feature.

## Calculating area of features on a map with irregular shapes

In your home area you have seen physical and human features that have irregular shapes. Can you give examples of such features? If you want to find out the areas of such features on a topographical map you use the map grid.

On most topographical maps, each grid square is usually 1square kilometer ( $1\text{km}^2$ ).

Therefore, the total number of squares covered by the feature is equal to the area of the feature.

To understand this, do the following Activity.

### Activity2

Look at Figure 7.2:and do the following tasks:

1. Identify the area covered by Lake Nakivali.
2. Count all grid squares which are fully covered by the lake. Remember each grid square is 1square Kilometer.
3. Write the number of squares which are fully covered by the lake in your notebook.
4. Count all squares which are touched but not fully covered by the lake and write down their number.
5. Divide the number squares which are not fully covered by the lake by 2.

Write down the result in your notebook. Why do you think we divide the number of squares not fully covered by the lake by 2?

6. Add the value you have got to the number of full squares you got in Step (2) above. The total value you get is the area covered by Lake Nakivali.

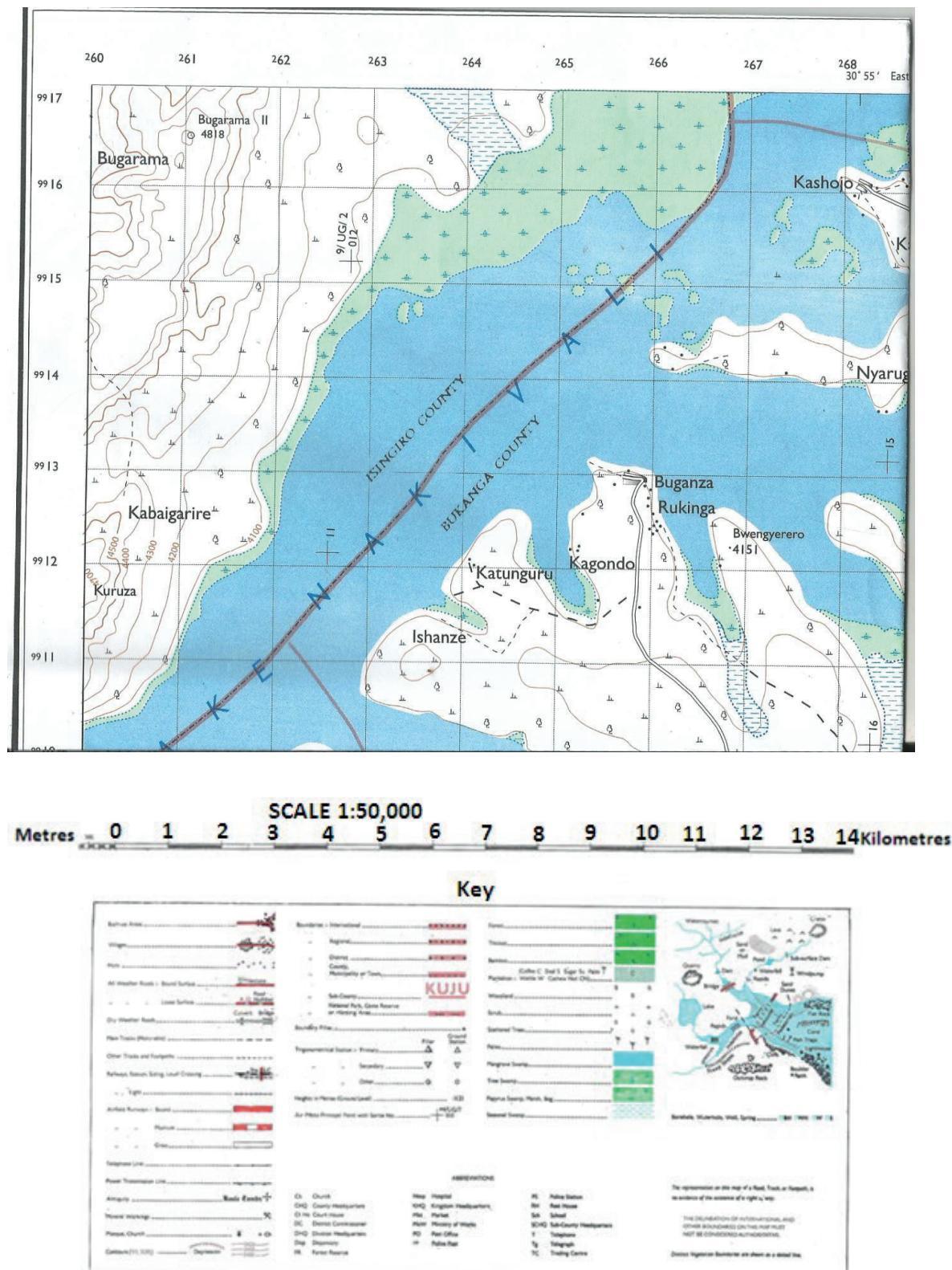


Figure 7.2: Part of Lake Nakivale map Extract, series Y732, Sheet 86/4, Edition 4-U.S.D

## Summary

In this lesson you have learnt:

- How to estimate the area of features shown on a map using the linear scale of the map.
- That we can estimate the area of features with regular shapes, such as rectangular, circular, or square features by using mathematical formulae.
- That the area of features with irregular shapes can be estimated by using the map grid.

## Follow-up Activity

Look at Figure 7.2 again and do the following tasks:

1. Calculate the area covered by the lake including the swamp between Eastings 63 and 67.
2. Calculate the area covered by the seasonal swamp in the northern part of the area shown on the map.
3. Imagine your friend has bought a piece of land in a well planned and mapped town and he wishes to know the size of his plot. Which method of estimating area would you advise your friend to use? Give reasons to support your answer.

## Lesson 8: Drawing a sketch of a topographical map

Learning Outcomes:

By the end of this lesson, you should be able to:

- Explain the steps followed when drawing sketch maps from a survey map.
- Draw a sketchmap from a survey map.
- Introduction

If you look at the maps you drew in Lesson 2, you realise that they do not show everything in the areas they represent. This is because they were drawn to show only a few selected features. Those are called sketch maps. Many maps we use in life are sketch maps. This is because they show us only a few features which we are interested in. In this lesson, you are going to learn how to draw a sketch map from a topographic survey map.

### Important points to note when drawing a sketchmap from a topographic map

- The sketch map should have the qualities of a good map like a title, key, frame, and a compass rose or direction finder.
- The sketch should be of the same shape as the map or part of the map from which it is drawn. For example, if the map is rectangular, the sketch map should also have a rectangular shape.

- Measure the length and width of the map and reduce each by a certain amount (or number of times) in order to fit the map on paper.
- The sketch map should have only a few selected feature of the original map. Each feature on the sketch map should be marked accurately and named.
- In order to place features on the sketch map in their right positions on the original map, draw faint pencil lines to divide the outline of the sketch into four equal parts. Then draw the features on the sketch map in their approximate positions.

### **Activity1**

Look at Figure 8.1 and do the following tasks:

1. Draw a sketch map of Figure 8.1 and on it mark and label:
  - (i) Dry weather roads,
  - (ii) Nabajuzi and Nakaiba swamps,
  - (iii) The coffee plantation, and
  - (iv) The power transmission line east of Nakaiba swamp
2. Summarise the steps which you have followed to come up with the sketchmap.

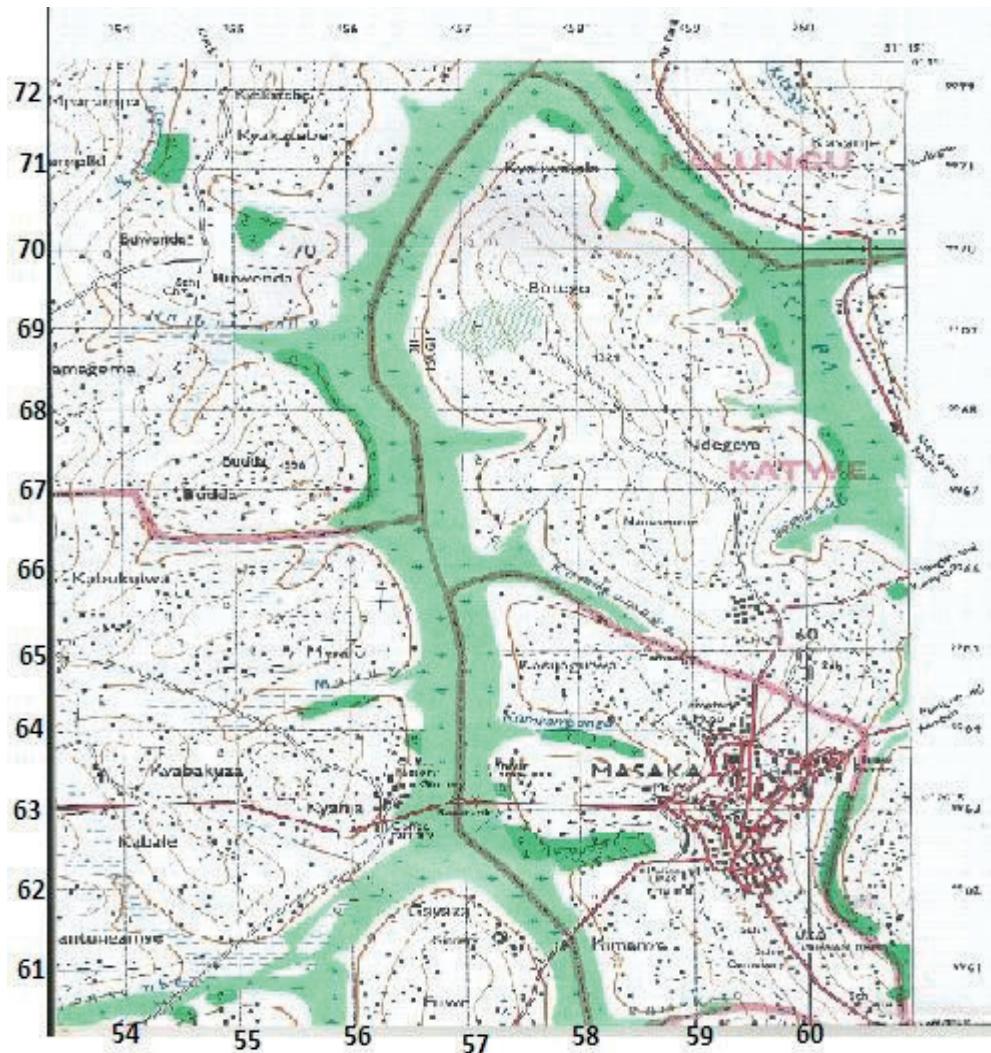


Figure 8.1: Part of (1:50,000) Uganda map extract of Masaka Series Y732, Sheet 79/3, Edition 3-U.S.D

You now know how to draw a sketch map from a survey map. You can try drawing sketches of many other maps you may come across.

### Summary

In this lesson, you have learnt:

- How to draw a sketch map of a large topographic survey map.
- That a sketch map is a representation of the actual area or part of the actual area shown on a given map.
- That on a sketchmap we show only a few selected features of the area shown on the original map.
- That a sketch map should have the qualities of a good map, namely a title, frame, key or labels, and a compass rose or direction finder.

### Follow-up Activity

Get a map extract of any place in EastAfrica and do the following:

1. Draw a sketch map of the whole map and on it mark and name the:

- i. Major roads
- ii. One administrative boundary
- iii. Main drainage features
- iv. One major relief feature

2. Divide the map into four equal parts. Draw a sketchmap of one of the

Quarters and on it mark and name:

- i. Drainage features,
- ii. Natural vegetation,
- iii. Communication lines,
- iv. At least one settled area
- v. Any one social service

## TOPIC: MAP WORK

### Lesson 9: Describing Economic activities on a map

#### Learning Outcomes

By the end of this lesson, you should be able to:

- Identify economic activities carried out in the area shown on a map.
- Describe economic activities on a map.
- 

#### Introduction

In your home district people carry out several activities in order to earn a living. Some of those activities enable the people to get food while others fetch income. List those activities in your notebook. The things you have listed are called economic activities. Since maps represent real places on earth, they also show economic activities by means of symbols. In this lesson, you are going to learn how to identify and describe economic activities from a map.

#### Activity1

1. Look at Figure 9.1 and do the following tasks:
2. Identify the economic activities carried out in the area shown on the map. List them in your notebook.

3. For each one of the activities which you have listed above, mention the things that enabled you to identify it.
4. Draw a table with two columns to summarise the economic activities carried out in Masaka.
5. In the left hand column, write the economic activities which you have identified in (1) above.
6. In the right hand column, write the evidence showing the existence of each economic activity. You may use names of places where they exist, grid references or directions

In the above activity you have found out that the things that on maps different economic activities are shown using different symbols. For example, the presence of a ginnery indicates that cotton is grown in that particular area. It also shows that there is processing of cotton or ginning. Plantations indicate that there is large scale commercial farming in the area. The crop grown on the plantation is indicated by a letter inside the shade for a plantation for example, C for coffee, S for sugarcane, S for sisal and others. Always study the key to identify the activities carried out in the mapped area.

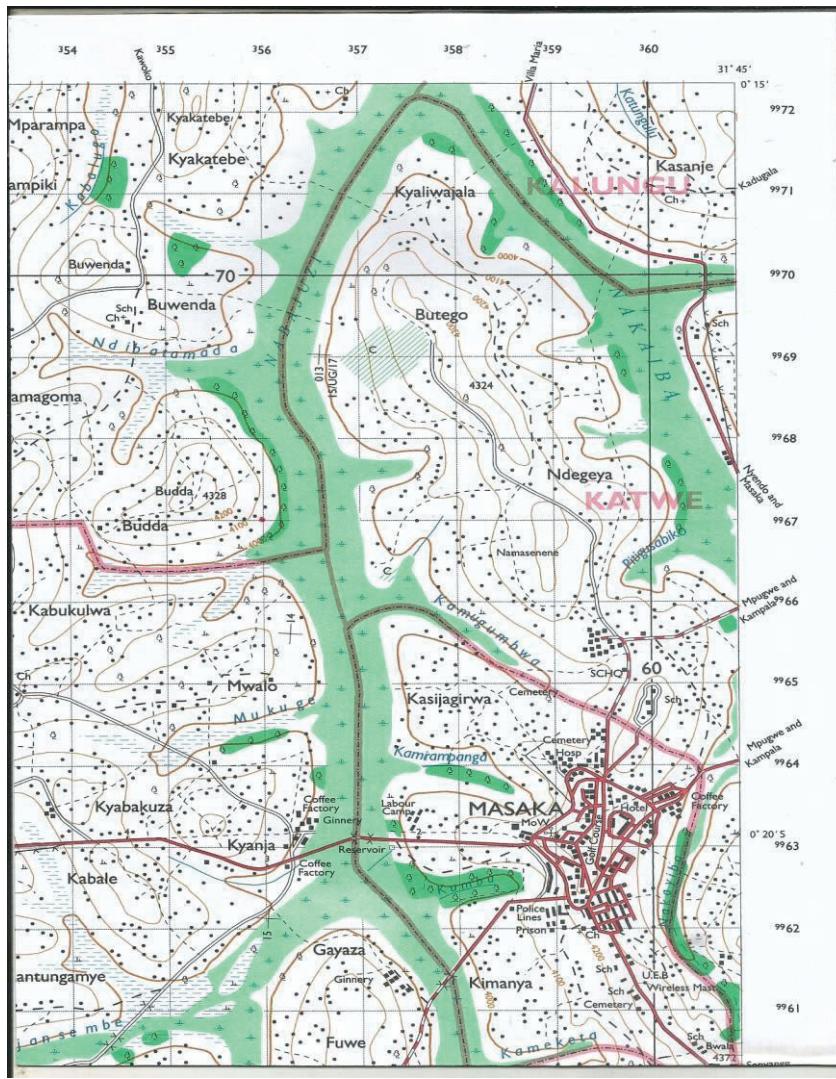


Figure9.1: Part of (1:50,000) Uganda map extractof Masaka SeriesY732, Sheet 79/3, Edition3-U.S.D  
Activity2

1. Imagineyouare givenamap on acertain area with thefollowing Features: Fish ponds, Cattle dip, Township, Cattle market, Valleydams, Forest reserves, National park, Saw mills, Brick yard, Rest house, and Fish traps.
2. Suggest the likely economic activities associated with each feature.

By reading a map we can know the economy of an area or country.

### Summary

In this lesson, you have learnt:

- How to identify economic activities on maps.
- On maps economic activities are shown using symbols which include colours, shades, signs and abbreviations.
- When we identify an economic activity on a map, we give evidence of its occurrence.

### Follow up Activity

Get a map extract of any place for example Masaka and do the following tasks:

1. Identify the economic activities carried out in the area shown on the map.
2. Identify the social services found in the area shown on the map.
3. Describe the distribution of economic activities in the area.
4. What is the major economic activity carried out by the people living in the area shown on the map? Give reasons for your answer.
5. If you were appointed a planner for the area shown on the map, suggest other economic activities which you would encourage people to carry out. Give at least one reason to support each activity.

## Lesson10: Describing relief on contour maps

Learning objectives:

By the end of this lesson you should be able to:

- Describe relief on topographical maps

Materials you need

Part of Nyarweyo Map Extract, Series Y732, Sheet 48/4, Edition1-U.S.D, pen, pencil, notebook.

### Introduction

We are all familiar with relief features such as valleys, hills, and bays. But these are not the only relief features we should know and be able to recognize.

Maps show many kinds of relief features. In this lesson you are going to Learn how do we describe of relief on the map.

When describing relief on a map, we study the pattern of contour lines.

### What are contours?

The brownlines and sometimes black lines drawn on maps joining places of equal altitude are known as contours lines. Contour lines do not cross one another since each joins places with a fixed height. The distance between two nearby contour lines is called the vertical interval. The vertical interval is usually constant throughout the map. On maps it is usually indicated as V.I. Sometimes, the vertical interval may not be shown on a map. To find out the Vertical interval of a map, read the heights written along any two nearby

contour lines. Then subtract the smaller value from the bigger one. The result is the vertical interval which was used to print contours on the map.

The arrangement of contour lines shows the relief and nature of landscape in the area represented by the map. To help you understand this, look at Figure 10.1.

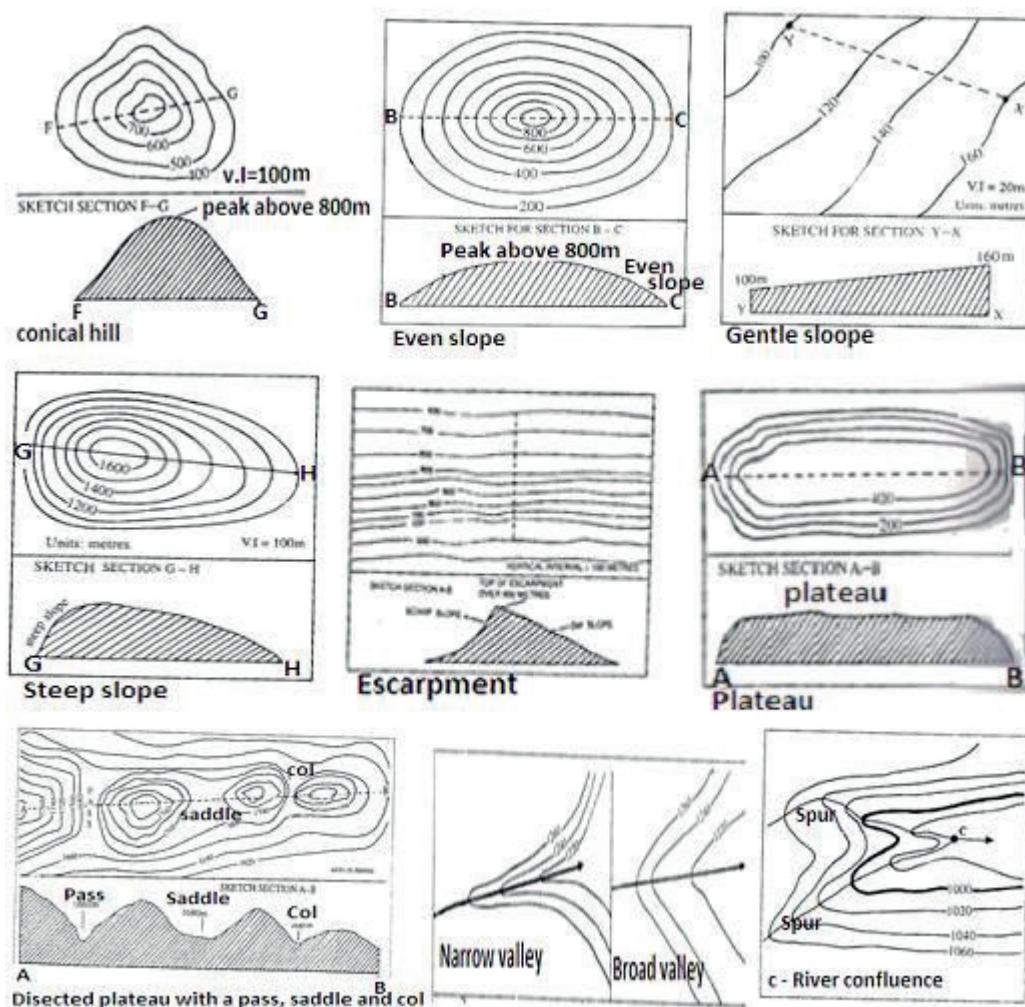


Figure 10.1: Some of the relief features on contour maps

## Activity1

Study Figure 10.2 and do the following tasks:

- Describe the relief of the area shown on the map giving the specific location where the various relief features are found.
- Identify the highest point in the area shown on the map.
- Identify the lowest point in the area shown on the map.
- Calculate the vertical interval of the map.
- Draw a sketchmap of Figure 10.2 and on it mark and label: Two relief features, a swamp and a county boundary.

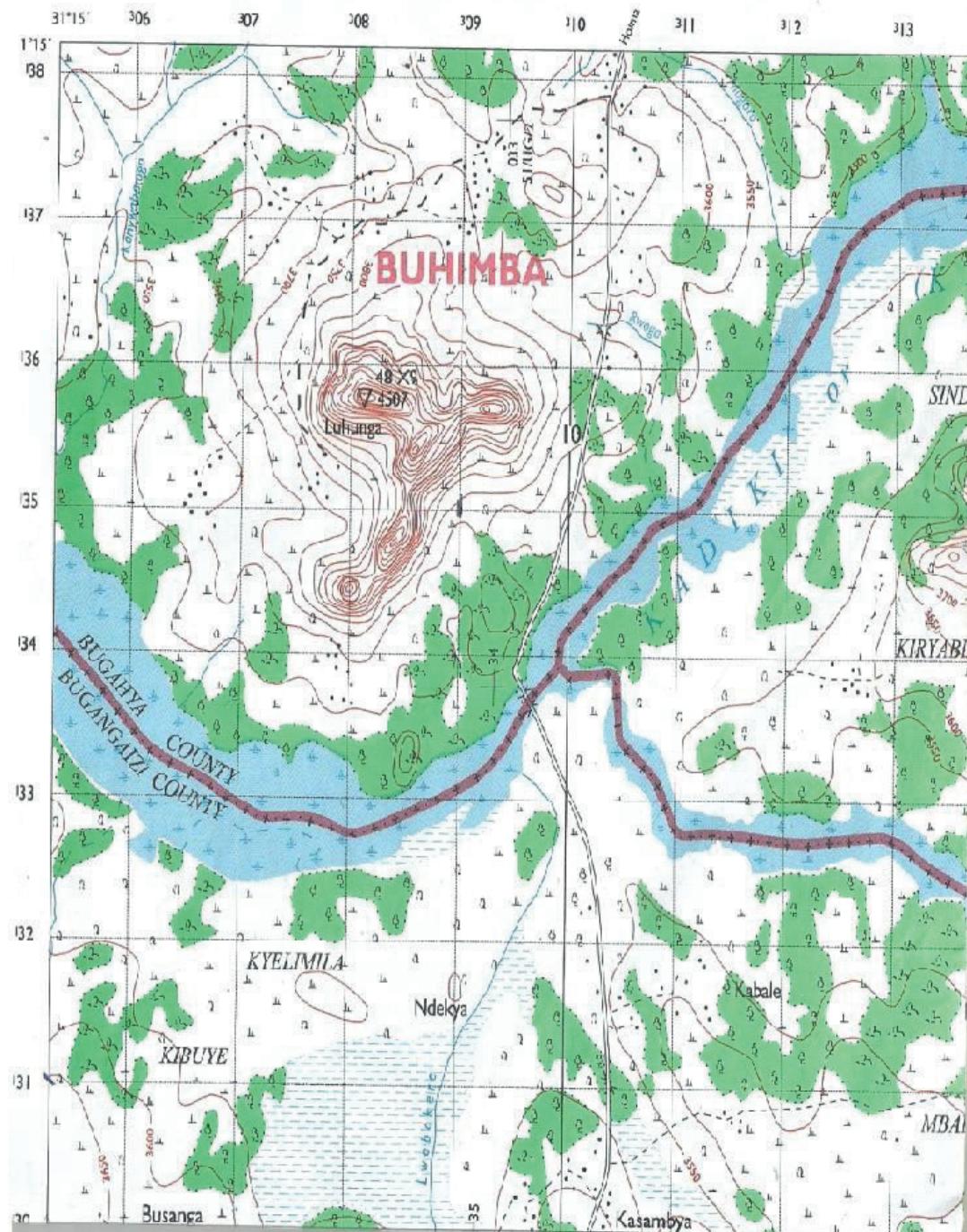


Figure 10.2: Part of Nyarweyo Map Extract, Series Y732, Sheet 48/4, Edition 1-U.S.D

We can also tell the highest and lowest points in an area from a map. The lowest area is usually shown by the contour line marked with the lowest value.

Many times, however, the highest point is higher than the highest marked contour line. In this case, such points are indicated with a black dot with the actual height written against it. This is known as the spot height. It is the height of the spot marked as a dot.

On hill or mountain peaks spot heights are usually written against trigonometrical station pillars. Find these on all maps with a standard key.

### Summary

In this lesson, you have learnt:

- How to describe the relief of an area from a contour map.
- That we can describe the relief of an area from a map by studying the Arrangement of contour lines. Slopes, hills, valleys, plateaus and other Features are shown on maps by the pattern of contour lines.
- That places with height rising above the contour interval are shown on Maps using spot heights.
- That low points are usually found near lakes or rivers valleys and swamps.
- That on a map the average height of an area can be obtained by Subtracting the value of the lowest from the value of the highest Contour, and then divide by two.

## Lesson 11: Drawing across section from a contour map

Materials you need:

Pen, pencil, notebook, footruler, map extract of Kakuto

Learning Outcomes By the end of this lesson you should be able to:

Draw a cross / relief section from a map.

- Explain what across section is.
- Calculate the vertical exaggeration of a cross section.

### Introduction

If you walk across your village in a straight line, you possibly walk down the valley, climb a hill, and then walk on nearly flat land. Along the way you see different physical and human features. If you drew your journey on paper, it will look like a cross section of your village. In this lesson, you are going to Learn how to draw a cross section from a contour map.

Drawing a cross section from a map

### What is a cross section?

### Activity

1. In about two sentences, explain what is meant by a cross section of an area.
2. List at least three features of a cross section.
3. Suggest reasons why we need to draw cross sections from maps.

To be able to draw a cross section of an area shown on a map, follow the steps below:

Step1: Identify the two points between which the cross section is required to be drawn using dots.

Step2: Using a straight edge, draw a faint pencil line to join the two end points.

Step3: Observe carefully the major contours and geographical features crossed by the line.

Step4: Place a straight paper edge along the pencil line joining the two end points. On the piece of paper mark the end points.

Step5: Mark with small vertical lines and number the major contours crossed by the pencil line. Make simple notes to show the geographical features along the line.

Step6: Transfer the straight edge paper onto the notebook or graphpaper.

Step7: Place the piece of paper containing the information from the map on the paper where you are going to draw the cross section. Then mark the end points of the pencil line on your paper.

Step8: Draw a straight horizontal line joining the end points which you have marked on your paper. This is the base line of your cross section.

Step9: Choose a suitable vertical scale for the cross section.

Step 10: Draw the vertical lines at both ends of the baseline and along them indicate the vertical scale. While choosing the vertical scale, use the highest and the lowest contour lines to guide you.

Step 11: At the end points indicate the grid references of the places between

which the cross section is being drawn.

Step 12: Place the straight edge paper along the baseline of the cross section between the two end points. Then transfer the contours in your notebook and mark the positions of the major contours against the base line and the vertical scale using small dots.

Step 13: Draw a smooth pencil line joining the dots which you have plotted using a free hand.

Step 14: Shade the area under the line uniformly. That is now the cross section.

Step 15: Mark the features along the cross section in their respective positions and use labeling arrows and carrying brackets to name them horizontally.

## Activity2

Study Figure 11.1 and do the following tasks:

Draw a cross section of the area between Nkoni (grid reference 260058) and Nambabi (grid reference 303020) and on it mark and name the:

- (i) Hill
  - (ii) Flatland
  - (iii) Roads
  - (iv) Rivers
- Settlements

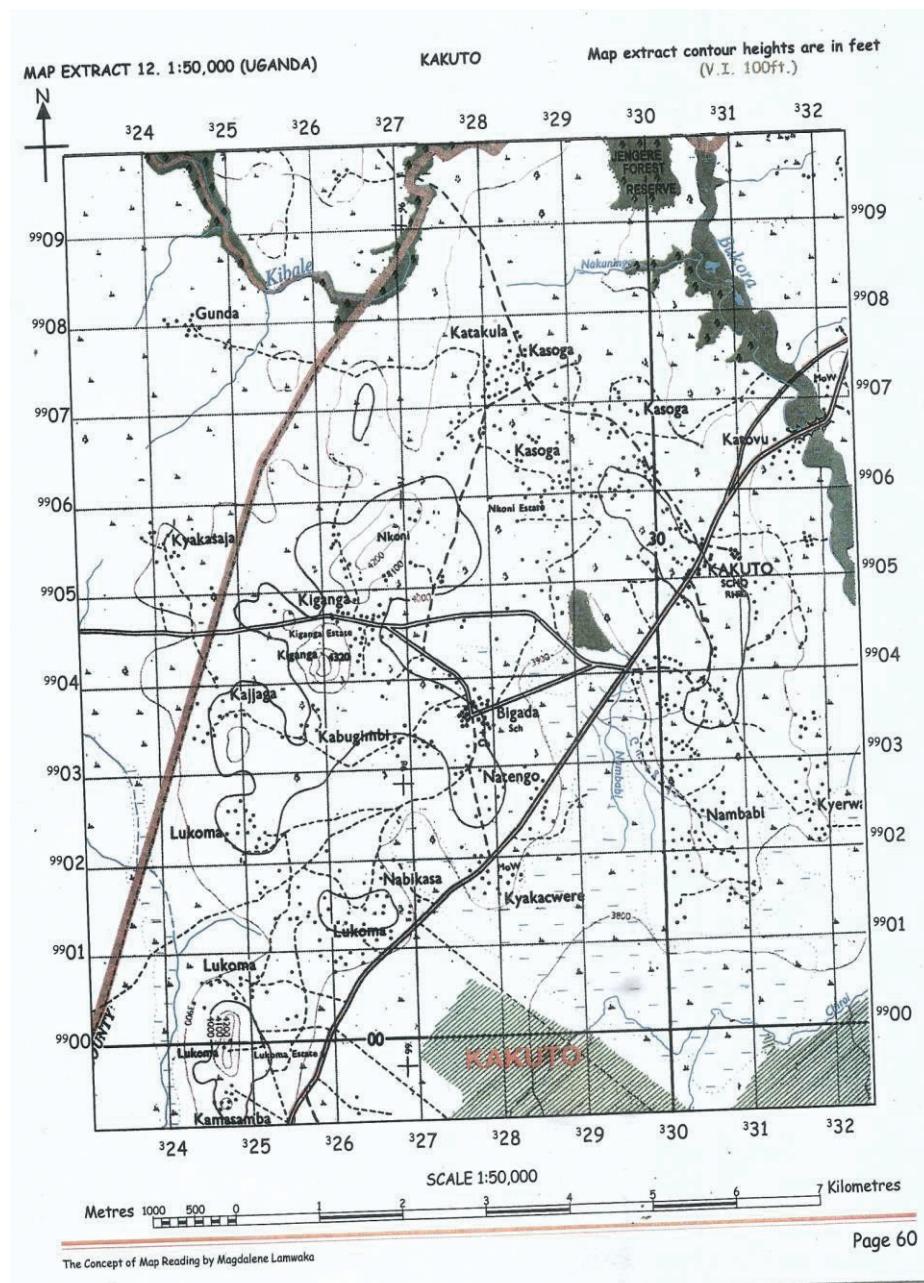


Figure 11.1: Map Extract of Kakuto

What is vertical exaggeration?

When you drew the cross section in Activity 1. above, you could have seen that the hill looks sharper than a real hill. This is because the vertical scale you

used is greater than the horizontal scale of the map by a certain amount. So The heights of features on the cross section are exaggerated. The amount or

number of times the vertical scale of the cross section has been made greater than the horizontal scale of the map is called the vertical exaggeration of the cross section. It is expressed as:

$$\text{Vertical exaggeration} = \frac{\text{Vertical scale of the cross section}}{\text{Horizontal scale of the map}}$$

Whereby:

Vertical scale is the scale that you use on the vertical axis of a cross section e.g. 1cm represents 100feet.

Horizontal scale is the original scale stated on the map e.g.

1:50,000

NB: The vertical and horizontal scales should be stated in the same units.

To help you understand this, follow see this example:

If the vertical scale of the cross section is 1cm represents 100feet, convert the 100feet to centimeters. It is known that 1foot equals 30cm.

Therefore, 100feet is expressed in centimetres as:  $100\text{feet} \times 30 = 3000\text{cm}$

100feet are equivalent to 3000cm.

The vertical scale of the cross section is 1:3000

The Horizontal scale of the map is 1:50,000

Therefore, the vertical exaggeration of your cross section can be got as follows:

$$1/3000 \div 1/50000 = 16.6 \text{ times}$$

This means that the vertical scale of the cross section is 16.6 times larger than the horizontal scale of the map from which the cross section was drawn.

### **Calculating amplitude of relief**

When you look at a map you cannot tell easily how much the land it represents rises or falls. This is because all features on the map appear flat on the ground. To be able to find out how much land rises or falls, we calculate the difference between the highest and lowest points on the map. This difference is called the amplitude of relief. Therefore, Amplitude = Height of the highest point - Height of the lowest point in the mapped area.

### **Follow up Activity**

Maina, a Senior Three student in Unga High School, Arusha, drew cross sections for three different reasons the 1:50,000 (Tanzania) Map Extract of Arusha, 3/71/5207/OS. For each cross section, he used a different vertical scale as shown below:

- a) The Cross section between Ilboruhill peak and Kibwesi summit crater has a vertical scale of 1cm represents 50feet.
- b) The Cross section between EngareOlmotoniJuu has a Vertical scale of 1cm represents 200feet.
- c) The Cross section between Tanzania Parkers Factory and Suia has a

vertical scale of 1cm represents 25 feet.

1. Calculate the vertical exaggeration of each cross section.
2. On which cross section are the features exaggerated most? Give reasons to support your answer.

### Summary

In this lesson, you have learnt that;

- A cross section represents a straightline journey between two places on a map. The places are called end points.
- A cross section is drawn to scale. The scale is usually indicated against the vertical axes.
- When we draw across section of an area the features on it appear taller or sharper because we have multiplied them by a certain number of times. So their heights are exaggerated.
- The degree by which land rises from the lowest point to the highest point in the mapped area is called amplitude of relief.

## Lesson12: Describing Relationship from survey maps

Materials you need:

Map extract of Samia, pen, pencil, and notebook

Learning objective:

- By the end of this lesson you should be able to explain the influence of relief on other features from a map.

### Introduction

When you move around your country or village, you realize that streams and rivers flow following specific valleys, while swamps are found in lowlying valleys. In the same way, major roads have several bends since they dodge some features on the ground. This means that the physical and human features in your village are related in one way or the other. In this lesson, you are going to learn how to describe relationships between different things from a map. The following Activity will help you to get started.

### Activity1

Move around your village and find out the following:

1. On what kind of slopes are the roads and houses found?
2. Where is the water well or tank found?
3. If there is a swamp, where is it located?

4. Where are village shops found; along the road, at road junctions or somewhere else?

5. Where are telecommunication masts found?

What you have found out are the geographical relationships between the physical and human features in your home area. We can describe similar relationships from a map for example, relationship between relief, transport, and settlement

In order to understand the relationship relief has with other aspects follow the following steps:

- ¶ Identify the relief features and relief regions in the area shown on the Map. These may include highlands, broad valleys, and plains, dissected plateau, steep slopes and others.
- ¶ Identify other features in the area which you want to relate to relief. These may be transport infrastructure like roads, motorable tracks, foot Paths, canoe landing points, piers or railway lines. They may also be air fields and runways.
- ¶ Then explain how the other features identified are related to the relief features in the area.

## **Activity2**

Look at Figure 12.1 and do the following tasks:

1. Identify the drainage features in the area shown on the map.
2. Describe the relief of the area shown on the map.
3. Describe the relationship between the following aspects in the area

shown on the map:

- (i) Relief and drainage,
- (ii) Relief and settlement,
- (iii) Relief and transport network.

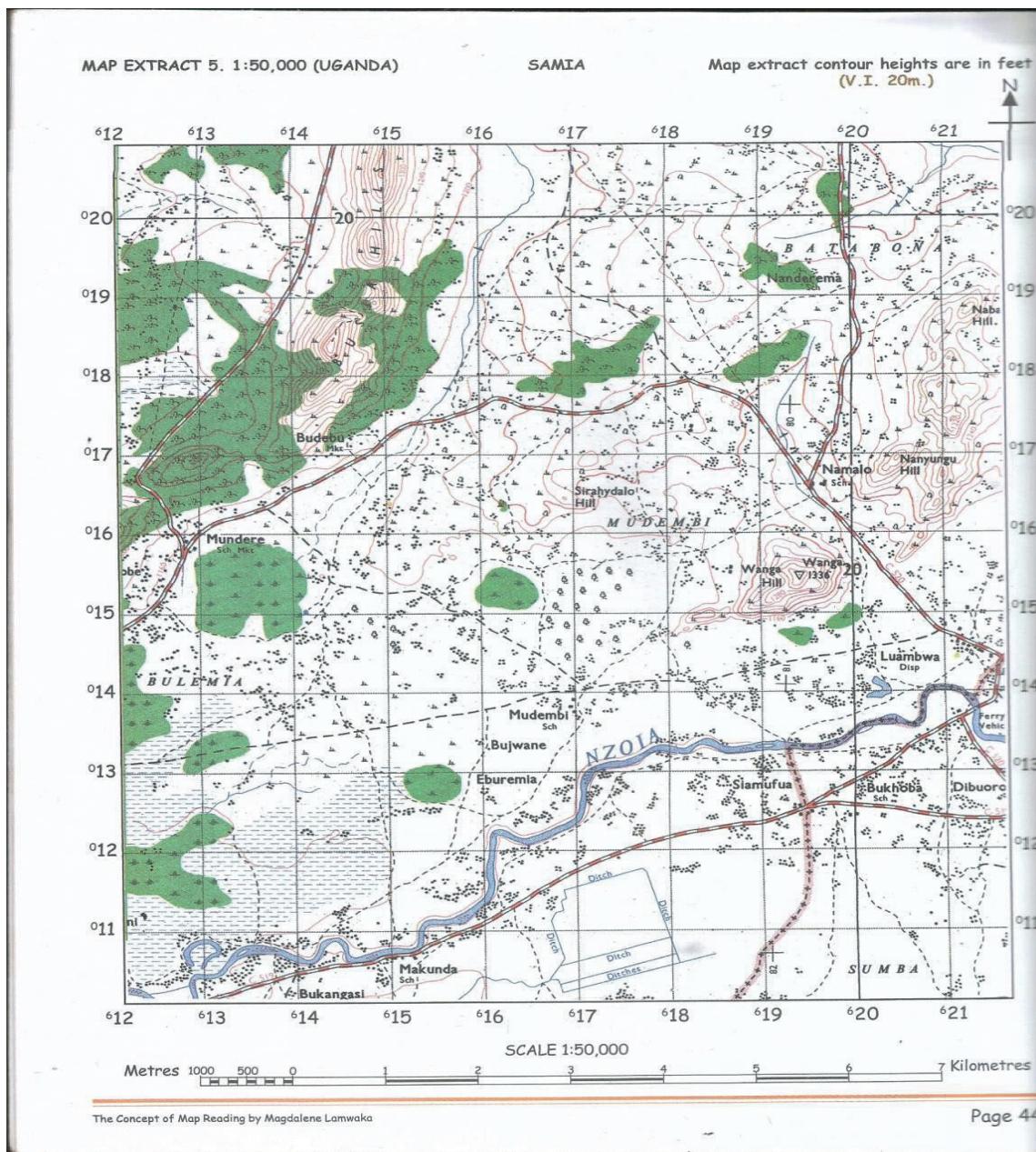


Figure 12.1: Part of Samia Map Extract

### Summary

In this lesson, you have learnt:

- ❑ How to describe geographical relationships between features from a map.

- Relief has a strong influence on other physical features and human activities in any given area.

### **Follow up activity**

Get a topographic survey map of any area and use it to:

1. Describe the relief of the area it represents.
2. Describe the drainage of the area shown on the map.
3. Explain the relationship between:
  - (i) Relief and settlement,
  - (ii) Drainage and settlement
  - (iii) Settlement and transport network.

### **References**

In order to understand this topic better and in great detail, you can use the following text books:

1. Irandu E. M. Secondary Geography; Form 2 student's book
2. M c Master D.N. Map reading for East Africa

**TOPIC: INTERPRETING PHOTOGRAPHS****Lesson 13:** Photographs and their types

Learning Outcomes:

By the end of this lesson you should be able to:

Explain what a photograph is.

- 
- Identify the types of photographs.
- Describe the characteristics of a photograph.
- Interpret photographs to find out information.
- 

Materials you need

Photographs, pen, pencil, note book, foot ruler

**Introduction**

In Senior One you learnt about the sources of Geography. Can you list at least four of them in your notebook? Do you remember that some of the sources of Geography can be used to learn about places which we can reach easily while others tell us the geography of places we have never been to? In this lesson you are going to learn how we can learn geography through interpreting photographs.

**Activity1**

Look at Figure 13.1 and do the following:

1. Decide which of the above drawings are photographs. Give reasons to support your views.
2. Decide which ones are maps.
3. Explain the difference between a photograph and a map.

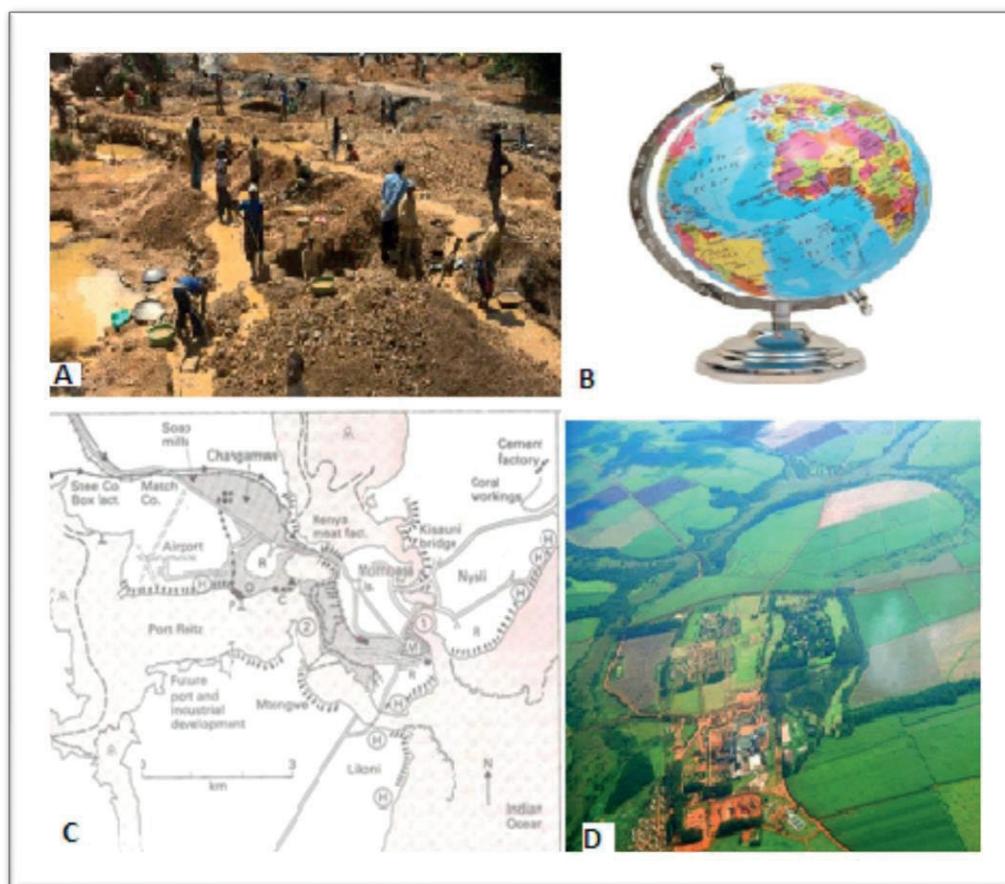


Figure 13.1: Geographical drawings

In the previous Activity, you realised that some of the geographical drawings shown in Figure 13.1 show real objects as they appear in the areas which the drawings represent. Those drawings are called photographs.

Other drawings show objects as plan symbols. Photographs are of different types. You are going to learn about these types soon in this lesson.

#### Types of photographs

Photographs are of different types. Their types depend on the angle at which the photographer looks at the features on the ground through the camera. To help you understand these types, do the following Activity.

#### Activity 1

Look at Figure 13.1 and do the following:

1. Decide which of the above drawings are photographs. Give reasons to support your views.
2. Decide which ones are maps.
3. Explain the difference between a photograph and a map.



Figure 13.2: Types of photographs

## Activity 2

Look at Figure 13.2 and do the following:

1. Describe the characteristics of each of the photographs labeled (a) to (d).
2. Suggest what type of photograph each one is. Give reasons to support your opinion.

As you learnt earlier in this lesson, the characteristics of each photograph which you have described above are due to the angle at which each photograph was taken.

Those taken while the photographer is standing on the ground or on another feature connected to the ground are called ground photographs. Photographs can also be taken from the air, i.e. when the photographer is not directly connected to the ground. Such photographs can be taken from an aeroplane, a very tall building or a flight balloon. These are called aerial photographs.

Aerial photographs show only the top views of the features on the ground with all features appearing as flat objects.

Those photographs taken from air while looking at features at an angle less than  $90^\circ$  are called aerial oblique photographs.

## Activity 3

Look at Figure 13.2 again and;

1. Decide which of the photograph shown are aerial and which ones are not.
2. Carry out textbook or Internet research about ground photographs and their characteristics.
3. Summarise the types of ground photographs.

## Terms used to describe where things are on photographs

When describing features on the ground and aerial oblique photographs, you divide the photograph into regions depending on how far away from the observer the features are. These regions are foreground, middleground and background. The part of the photograph which shows the sky is called the horizon or skyline. Find the major divisions of a photograph on Figure 13.3.

LEFT BACKGROUND	CENTER BACKGROUND	RIGHT BACKGROUND
LEFT MIDDLEGROUND	CENTER MIDDLEGROUND	RIGHT MIDDLEGROUND
LEFT FOREGROUND	CENTER FOREGROUND	RIGHT FOREGROUND

Figure 13.3: Divisions of a photograph

If you want to describe the exact positions of features, you subdivide the three grounds into six regions. These are left foreground, right foreground, left middleground, left background and right background.

## Activity4

Look at Figure 13.4 and do the tasks that follow.



Figure 13.4: A Ground Oblique photograph

1. Get a tracing paper or a transparent paper and place it over the photograph.
2. Trace the photograph and then divide it into three regions.
3. Sub-divide the traced photograph further into nine regions.
4. Identify the features found in each region and write them down.

NB. You can also sketch the photograph without a tracing paper.

### Summary

In this lesson, you have learnt that:

- ❑ Interpreting photographs is one of the ways we can learn about places we have never been to.
- ❑ Photographs are of two main types namely, groundphotographs and aerial photographs. Each type depends on the angle at which the photographer looks at the features through the camera.
- ❑ In order to interpret photographs accurately, we sub-divide them into main divisions and sub divisions.

## Lesson14: Drawing a sketch from a photograph

Learning Outcomes:

By the end of this lesson, you should be able to:

Explain what a photograph is.

Draw sketches of photographs.

Materials you need:

photographs, pen, pencil, notebook, foot ruler, and tracing paper

### Introduction

In geography, we are sometimes interested in selected features to describe the area shown in a photograph. We can sort out these features by drawing a sketch of a given photograph. In this lesson, you are going to learn how to draw a landscape sketch of the photograph and use it to describe an area.

### How to draw a landscape sketch of a photograph

You do not need to show everything on a sketch of the photograph. Simply include the major things found in each area. For instance, vegetation areas of farming, swamps, rivers or lakes, flatland or hills. To understand this better, do Activity 1 below.

### Activity1

Study Figure 14.1 and do the following tasks:

1. Using a foot ruler, draw an outline frame of the same shape as the photograph in Figure 14.1.
2. Draw faint pencil lines to divide the photograph into the main divisions which you learnt in Lesson 3.
3. Draw the outline of each of the main features on the photograph in the outline frame. Use a free hand and place features in their respective positions.
4. Do not be artistic but bring out the appearance of each feature.
5. Label the features on the sketch which you have drawn.



Figure 14.1: Murchison Falls on River Nile

The drawing you have produced is the landscape sketch of the original photograph. You will perfect this skill through practice.

### Summary

In this lesson, you have learnt:

- How to draw a landscape sketch of a photograph.
- That a sketch of the photograph shows only a few selected features of the original photograph.

### Follow up Activity

Study Figure 14.2 and do the following activities:

1. What type of photograph is Figure 14.2? Give reasons to support your answer.
2. Draw a landscape sketch of Figure 14.2 and on it label the:  
(i) Snowcapped peaks,  
(ii) Forest areas, (iii) Valleys,  
(iv) Tourist cottages, (v) Playground.
3. Explain why the area shown in the photograph has developed as a tourism centre.



Figure 14.2: A Tourism resort in Switzerland

## STUDIES IN DEVELOPMENT

### TOPIC: INTRODUCTION TO THE RHINELANDS

#### LESSON 15: Location and size of the Rhinelands

Learning objectives:

By the end of this lesson, you should be able to:

- Identify the countries that make up the Rhinelands region.
- Draw a map to show the Rhinelands.

Materials you need:

Atlas, or map showing the countries of Europe, pen, pencil, rubber, ICT tool

#### Introduction

In Lessons 1 to 6, learnt about the geography of East Africa. Among the aspects you looked at were the physical regions of East Africa and the human activities carried out in the region. In your notebook, write two reasons why it is necessary to study the geography of East Africa. In this lesson you are going to explore another region in the developed world, the Rhine lands.

#### What are the Rhine lands?

#### Activity 1

Look at the Figure 15.1 and do the following tasks:

1. Copy them apinto your notebook.
2. Follow the Rhine River and identify the countries through which it

flows. List them in your notebook.

3. How many countries are in the basin of river Rhine?

4. Suggest areas on why those countries are referred to as the Rhine lands.



Figure 15.1: The Rhine Basin

## The Size of the Rhinelands

In terms of size or area the Rhinelands cover a much smaller region than East Africa. All the five countries in the region combined cover about half of Tanzania alone. You can understand this if you look at Figure 15.2.

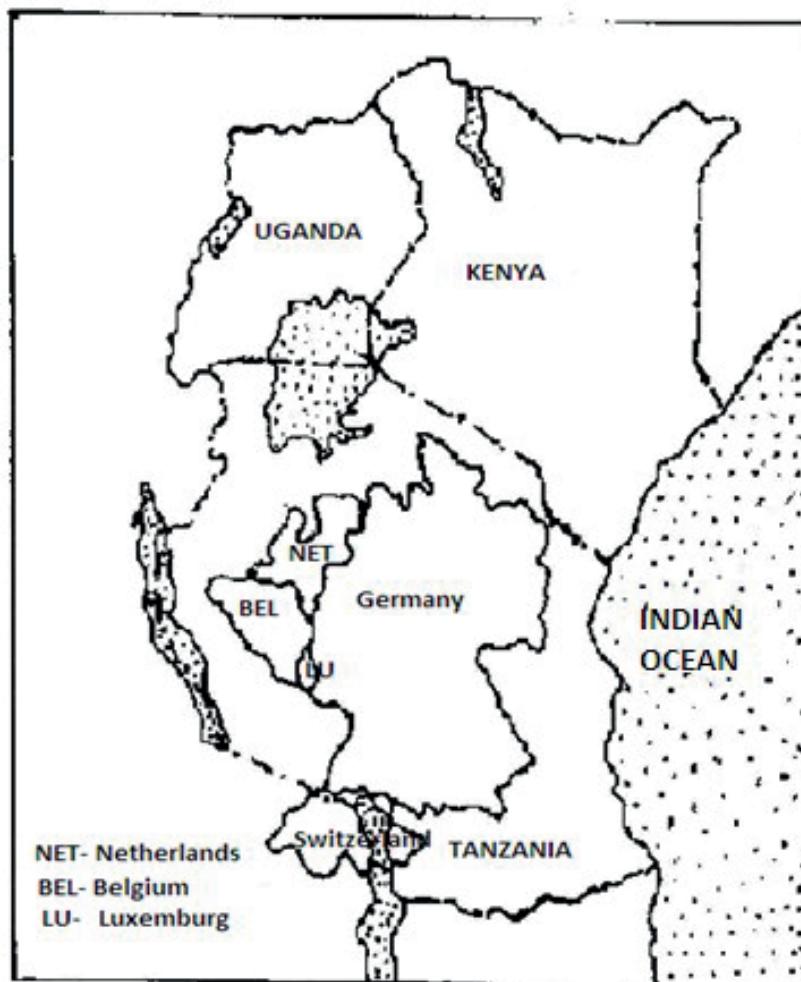


Figure 15.2: Comparison of areas of East Africa and the Rhinelands

## Population

Population is another aspect which we can use to describe the size of a country or region. Though smaller in size, the Rhinelands have a much bigger population than East Africa.

### Activity2

Look at Figure 15.3 and do the following tasks:

1. Copy the table into your notebook.
2. How many times is the population of the Rhinelands bigger than that of East Africa?
3. Draw a bar graph to represent the population figures in millions.
4. How much larger in area is East Africa than the Rhinelands?
5. Explain why the Rhineland countries have higher population densities than the East African countries.

country	Area(km <sup>2</sup> )	Population (in'000)	Population density
Netherlands	34,000	17,300	509
Belgium	31,000	11,600	374
Luxembourg	2,600	626	240
Germany	357,000	83,700	234
Switzerland	40,000	8,700	217
Kenya	583,000	54,800	94
Uganda	241,500	45,800	189
Tanzania	945,000	59,700	63

Figure 15.3: Area and Population of East Africa and the Rhine lands

Worldmeter (July, 2020)

## Summary

In this lesson, you learnt that:

- The Rhine basin consists of five countries namely Belgium, Germany, Netherlands, Switzerland and Luxembourg.
- The Rhine basin is located in Western Europe. It is the region drained by river Rhine and its tributaries, namely rivers Aare, Ruhr, Main, Rhone, Necker, Lippe, Waal and others.
- Most people in the Rhineland region live in urban centers.
- The Rhineland region is smaller than East Africa in size but more populated and productive than East Africa.

## Follow up Activity

Copy the following passage into your note books and complete it by filling in the blank spaces.

In terms of area the Rhine basin is much-----than East Africa, but in terms of population it is much----- Overall population density in the Rhine basin is----- As far as the distribution of population is concerned most people in the Rhineland live in-----areas while most of the people in East Africa live in-----areas. The distribution of population in both areas is -----, with high population densities in the-----regions. Elsewhere, high population densities are found in the-----areas of East Africa, and the-----of the Rhine basin. The major reason for this difference is-----.

**TOPIC: A HIGHLY DEVELOPED ECONOMY IN A LAND LOCKED COUNTRY WITH LIMITED NATURAL RESOURCES****Lesson 16: Location, Relief and Size of Switzerland****Learning Outcomes**

By the end of this lesson, you should be able to:

- Describe the location, position and size of Switzerland
- Describe the physical characteristics of Switzerland.
- Draw a map to show the relief regions and drainage of Switzerland.
- Relate economic activities in Switzerland to the physical environment.

Materials you need:

Notebook, pen, pencil, atlas or map of Switzerland showing relief, and a rubber

**Introduction**

Switzerland is largely a mountainous country in Europe. Only a quarter of the land in the country is cultivable and there are few minerals resources of importance. Foreigners think of Switzerland as a land of mountains inhabitants and dairy farmers, summer tourists and winter sportsmen.

But this is a very one-sided picture because the country is highly industrialized, a great centre of international finance and the home of many international agencies. Despite its disadvantages of position and lack of natural resources, Switzerland has a highly developed economy.

In your notebook suggest reasons why Switzerland is highly developed despite being a landlocked country. In this lesson you are going to explore more about the location, size, and relief regions of Switzerland.

## Location of Switzerland

You already know how to describe where things are found in a country, continent or the world. Now you are going to use that knowledge to describe the location of Switzerland. To help you with this, do the following Activity.

### Activity 1

Look at Figure 16.1 and do the tasks that follow.

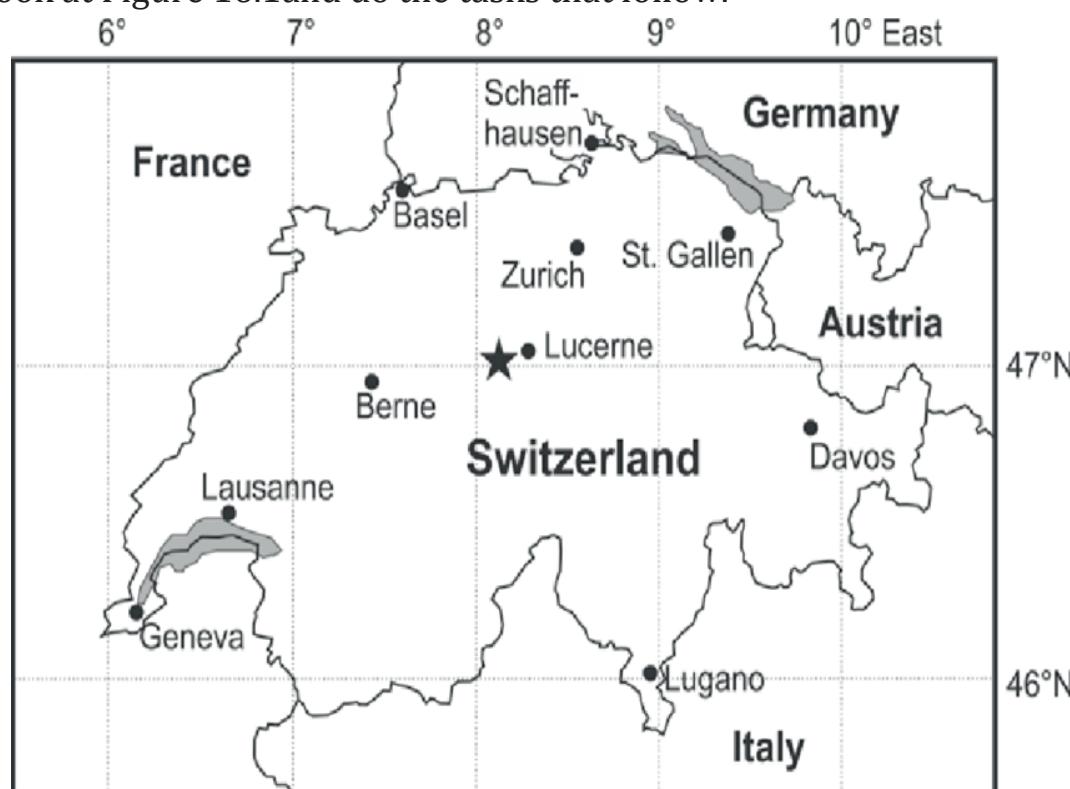


Figure 16.1: The Location of Switzerland

1. Copy the map into your notebook. Use appropriate shades to show the relief regions.
2. Which countries border Switzerland to the; (i) West,  
(ii) East, and  
(iii) South?
3. Identify the Latitude and Longitudes between which Switzerland lies.
4. Write atleast four sentences to describe the location of Switzerland.
5. In which way is the location of Switzerland similar to the location of Uganda?
6. Suggest the likely problems associated with the position of Switzerland in Europe.

You have probably found out that like Uganda, Switzerland is surrounded by other countries in all directions. She does not have direct connection to the sea. So Switzerland is a landlocked country. The only major passage the Swiss people use to reach the North Sea is river Rhine. Inspite of her position, Switzerland is very rich and highly developed. Infact, the Swiss are among the richest people in the world.

## Relief of Switzerland



Figure 16.2: Relief and drainage of Switzerland

### Activity 2

1. Draw the map in your notebook and on it use appropriate shades or other symbols to show the:
  - (i) Swiss Alps,
  - (ii) Swiss Plateau, and
  - (iii) Jura.
2. Identify the region which covers the:
  - (i) Largest,
  - (ii) Smallest part of Switzerland.
3. On the map also mark and name the major lakes and rivers in Switzerland.

4. In your notebook, list the rivers and lakes found in Switzerland. You may use the atlas or textbook map of Switzerland for this task.

The Swiss Alps, Swiss Plateau, and Jura which you have marked and named on your map are the relief regions of Switzerland. Each region consists of nearly uniform relief features extending over a large area.

Each relief region has its unique characteristics and economic activities. The Alps or Alpine region covers 60% of Switzerland, the Swiss Plateau 30% While the Jura covers only 10% of the country. What percentage of Switzerland is covered by mountains?

To understand the characteristics of the Alpine region or Swiss Alps, do the following Activity.

### **Activity 3**

Look at Figure 16.3 and do the following tasks:

1. In your notebook, draw a landscape sketch of Figure 16.3 and on mark and name the: mountains, lowland, river, vegetation, and settlement.
2. Suggest the likely source of the river shown in the photograph. Give evidence to support your suggestion.
3. Describe the characteristics of relief region shown in the photograph.
4. Describe the vegetation found in the region.
5. Suggest the likely economic activities carried out by the people living in each region.

6. Identify the season in which the photograph was taken. Give reasons to Support your answer.



Figure 16.3: Swiss Alps

In the previous Activity you found out that the Swiss Alps consist of a chain of mountains which cover the whole of southern Switzerland. The mountains are separated from one another by deep valleys. Being snow-capped mountains, the Alps are the source of many rivers. These rivers get their water from melting snow. So the Alps experience glaciation. What is

glaciation?

Look at Figure 16.2 again. List the rivers originating in the Swiss Alps.

You have also suggested that the Alps are a tourist attraction. You are right. Most tourist centres in Switzerland are found in the Alps. Other activities carried out in the Alps are animal rearing especially dairy farming, forestry activities such as lumbering, wood curving, and carpentry. Crops are grown in a few valleys with fertile moraine soils. Crops grown include cereals, orchards, hay and vines.

### Summary

In this lesson you have learnt that Switzerland is:

- A landlocked country surrounded by Germany, Austria, Italy, and France.
- A temperate country lying between  $46^{\circ}$  and  $48^{\circ}$  north of the Equator. It is also located between longitudes  $6^{\circ}$  and  $11^{\circ}$  east of the Prime Meridian.
- Divided into three relief regions, namely the Swiss Alps, Swiss Plateau and the Jura Mountains.
- Largely a mountainous country. Altogether the Alps and the Jura cover 70% of the country. Only 30% of the country is a plateau.

### Follow up Activity

Look at the Figures 16.4 and do the following tasks:

1. In your notebook, describe the characteristics of Jura relief region.
2. Describe the vegetation found in each region.

3. Suggest the likely economic activities carried out by the people living in each region.
4. What problems are likely to be facing the people living in the Jura?



Figure16.4: The Jura Mountains

## Lesson 17: The Swiss Plateau

### Learning Outcomes

By the end of this lesson you should be able to:

- Describe the physical characteristics of the Swiss Plateau.
- Locate the plateau on the map of Switzerland.
- Explain the economic activities carried out on the Swiss plateau.

Materials you need:

Notebook, pen, pencil, atlas or map of Switzerland showing relief, photographs of the Swiss plateau

### Introduction

In Lesson 16, you learnt about the relief of Switzerland. You specifically described the characteristics of two relief regions: the Alps and Jura. You also looked at the influence of the physical environment on economic activities in each region. In this lesson, you are going to look at the Swiss plateau in detail.

### Activity 1

Look at Figure 16.2 in Lesson 16 again. Then do the following tasks:

1. In which part of Switzerland is the Swiss plateau found?
2. What proportion of Switzerland is covered by the plateau region?
3. Identify the lakes and rivers found in the plateau region.
4. What are the likely economic activities carried out on the Swiss plateau?

In Activity 1 you have found out that the Swiss Plateau is located in the central part of Switzerland. It is bordered by the Alps in the South and the Jura Mountains in the north. Hence sometimes it is called the central plateau.

The plateau forms a low lying corridor between mountains. So it is an area where all the fertile soils eroded from the mountains are deposited. You have also found out that the largest lakes in Switzerland are found on the plateau. These include Lakes Geneva, Lucerne, Zurich, Constance and others. All these features affect the economic activities of the people living on the plateau.

## Activity 2

Look at Figure 17.1 and;

1. Describe the relief of the Swiss Plateau.
2. Identify, with evidence, the activities carried out on the Swiss Plateau.
3. Suggest reasons why the plateau has more settlements than the Alps and Jura.



Figure 17.1: The Swiss Plateau

From the photograph, you have probably identified activities like trade due to the presence of a large concentration of settlements; and tourism. Other activities include banking in the major banking centres like Zurich, Basel and Geneva, making of crafts which are sold to tourists, and manufacturing. Many families have cottage industries making watches, cameras, microscopes and other precious goods.

### Activity3

1. Suggest reasons why the Swiss plateau is famous for corn (maize), wheat, sugarbeet; and dairy farming.
2. What are the advantages for Switzerland of making precious goods?

## Summary

In this lesson, you have learnt that:

- The Swiss plateau forms a corridor between the Jura and Alps Mountains.
- The Swiss plateau is composed of sediments from the Alps, Jura and the Black forests
- The plateau experiences milder climate suitable for settlement, and fertile soils which have made it the most populated area in Switzerland.
- The Swiss plateau is the most productive part of Switzerland and has become the economic heart of the country.

## Follow- Up Activity

1. Carry out research on the formation of glaciers and the process of glaciation.
2. With the help of the internet or textbooks, write notes on the formation landforms due to glaciation.

## Lesson 18: Types of farming in Switzerland

### Learning Outcomes

By the end of this lesson, you should be able to:

- Describe the factors for development of arable and livestock farming in Switzerland.
- Recognise types of farming on photographs.

Materials you need:

Photographs showing farms and farm products, atlas, notebook, pen, pencil and rubber.

### Introduction

Though Switzerland is a mountainous country with limited farmland, agriculture has been developed. In this lesson you are going to learn about factors for the development of agriculture in Switzerland.

### Livestock farming in Switzerland

#### Activity 1

Look at the Figure 18.1 and do the following tasks:

1. Identify the type of animals shown in each photograph.
2. Describe the methods of farming used in each photograph.
3. Suggest a name which can be given to each type of farming.
4. What factors do you think have enabled the development of each type of

farming?



Figure 18.1: Livestock farms in Switzerland

In the previous Activity, you have found out the types of livestock kept by the Swiss farmers. You have probably suggested names like cattle rearing for photograph A, poultry farming for photograph B, and piggery for photograph C. That is wonderful. However, we can use more specific types like dairy farming for photograph A, and factory farming for photographs B and C. Most likely you know what dairy farming is. What is factory farming?

When you look at photographs B and C in Figure 18.1, you realise that the chicken and pigs are kept indoors. They are fed on manufactured foods called feed lots. This makes them grow very fast and get ready for sale to the urban markets. That type of farming is called **factory farming**. Is factory farming practiced in Uganda? If yes, in which parts of the country is it practiced?

## Arable or crop farming

You now know that the Swiss plateau and few places in the Jura are used for growing crops. This is known as arable farming. The crops grown include corn, wheat, grapes, vegetables, tobacco and others.



Figure 18.2: An extensive vineyard in Switzerland

1. What evidence is there on the photograph to show that Swiss farmers use a lot of capital in farming?
2. Suggest the relief region of Switzerland where the photograph could have been taken. Give reasons for your suggestion.
3. Explain the factors which have favoured farming in the area shown in the photograph.

## Summary

In this lesson, you have learnt that:

- The types of farming that are mainly carried out in Switzerland include: dairy farming, market gardening, poultry farming and factory farming.
- Swiss agriculture is characterised by the following; it is most developed on the Swiss plateau, it is scientific and requires a lot of capital, cattle are reared for dairy products, fodder crops are also grown to feed the live stock.
- Agriculture is least developed in the Swiss Alps because they are mountainous, glaciated, and also have cool temperatures that do not favour agriculture.
- Agriculture is most developed in the Swiss plateau because of the mild climate, gentle landscape, and the fertile soils that favour farming.
- The factors that have favoured agriculture in Switzerland include soils, climate, gently sloping landscape, rich pastures and the growing of fodder crops.

#### Follow up Activity

- Explain the problems facing the agricultural sector in Switzerland.
- (i) With the help of textbook or Internet search, draw a sketch map of
  - (ii) Switzerland showing the distribution of farming types.

## **Lesson 19: The tourism industry in Switzerland**

### **Learning Outcomes**

By the end of this lesson, you should be able to:

- Describe the tourist attractions in Switzerland.
- Locate the major tourist centres of Switzerland on a map.
- Explain the factors favouring tourism in Switzerland.

Materials you need

Notebook, atlas, pen, pencil, rubber, photographs of tourist centres and tourist sports in Switzerland.

### **Introduction**

Switzerland is probably best known in Europe as a holiday making country. In this lesson, you are going to explore the tourists centres and activities tourists to Switzerland do.

The Swiss holiday trade presents yet another attempt to utilize the otherwise unproductive features of Switzerland to bring wealth and prosperity to the country. The two main tourist attractions of Switzerland today are climate (warm summers and cold winters which are known for sporting) and the scenery (mainly the mountain peaks and snow fields).

## Activity 1

Look at Figure 19.1 and do the tasks that follow.



Figure 19.1: Winter sports in Switzerland

1. Identify the activities shown in each picture.
2. Are they winter activities or summer activities?
3. Suggest activities carried out by holiday makers in Switzerland during summer.
4. What tourist attractions do Switzerland and East Africa have in common?

5. What tourist attractions does Switzerland have that East Africa does not have?
6. Where do most tourists visiting Switzerland come from?
7. Suggest reasons why the tourism industry in Switzerland is much more developed than that of East Africa.

### **The contribution of the tourism industry to the development of Switzerland**

Switzerland's central position in Europe has enabled it to attract many foreign tourists from the surrounding countries particularly Germany. As the number of tourists visiting the country has expanded, the facilities have had to be expanded and improved upon.

#### **Activity**

- i) In your opinion, explain the contribution of the tourism industry to the development of Switzerland.
- ii) Suggest the problems facing the tourism industry in Switzerland and suggest how those problems can be solved.

### **Swiss tourist resorts**

#### **Activity 2**

Look at Figure 19.2 and do the following:

1. Draw the sketch map in your note book.

2. Draw a table to classify the winter resorts and summer resorts of Switzerland.
3. Suggest the factors which have favoured the growth of the tourism industry in Switzerland.



Figure 19.2: Tourist resorts in Switzerland

### Summary

In this lesson, you have learnt that:

- The major tourist attractions of Switzerland are climate and the beautiful scenery.
- Other tourist attractions in Switzerland include lakes, forests, Swiss culture, watch making industry, and chalet villages in the Alpine region.

- Swiss winter tourist attractions include ice skating, skiing, sight seeing and filming in the glaciated areas.
- Swiss tourist attractions in summer include; swimming, nature walk, mountain climbing, game fishing, watching clear blue lakes, sun-bathing, and hot air ballooning.
- The factors that have favoured the development of the tourism industry in Switzerland are both physical and human.

### Follow up Activity

1. Suggest the problems facing the tourism industry in Switzerland
2. Explain how Switzerland has managed to develop her tourism industry despite being a land locked country.

### References

In order to learn more about the topics covered, read the following books:

1. David Hughes and Tom Randle (1983), The Rhine basin.
2. Gibbs C. (1982), The Rhineland





National Curriculum  
Development Centre,  
P.O. Box 7002,  
Kampala.

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