

PRACTICING GEOGRAPHY

IN

MAP READING, PHOTOGRAPH INTERPRETATION AND FIELD WORK

A LEVEL

REVISED EDITION 2023

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PREFACE

This book has been written to offer complete solution to compulsory numbers in Geography i.e. map reading, photographic interpretation and fieldwork.

ABOUT MAP READING

Several map extracts have been enclosed in this book for learners to get exposed to different geographical phenomenon and a wide range of questions. About map reading. **Lake Nakivali ; Nyarweyo and Masaka** map extracts have been used to illustrate worked out examples on how students are expected to answer questions. There are trial exercises in the manuscript on every map extract for students to try out.

ABOUT PHOTOGRAPHIC INTERPRETATION

Possible areas where the photograph could have been taken plus a number of economic activities and the subsequent examinable question and answer have been put in this manuscript. There several well worked out examples to arouse desire for student to attempt the many questions provided at the end of the chapter.

ABOUT FIELD WORK

Case studies of Kasenyi landing site, kajjansi clay works, Namulanda daily market and Mpamize mixed farm. The above cases have been used to answer all possible questions on field work.

At the end of each topic trial questions are given to enhance learning process.

Any error encountered during the course of reading this book is a sole responsibility of the author who will be grateful if noticed and reported immediately.

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DEDICATION

I dedicated this book to my parents **Mr. KUGONZA EDWARD** and **LATE AIDAH KUGONZA** (may her soul rest in peace), my husband **Rev. AHIMBISIBWE MOSES**, my daughters **Faith Linda, Leticia Jazmyne** and **Martha Bariine** and to all Geography teachers most especially madam **Asiimwe Racheal** and students of Geography, who love and take the subject with passion.

ACKNOWLEDGEMENT

It's a pleasure to acknowledge debt I owe to the many friends and colleagues who have helped me in producing this particular book, especially

- | | |
|--------------------------------------------|------------------------------------------------|
| 1. Miss Nakalo Doreen | Ebenezer Christian school Entebbe |
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| 3. Mr. Wadria Jimmy | Ombatini s.s.s Terego District |
| 4. Mr.Ahimbisibwe Edison | Trinity senior academy Entebbe |
| 5. Mr. Okot Innocent | Atapara sss Oyam District |
| 6. Mr. Adupa ceasor | Lira Town College. Lira District |
| 7. Mr ochola Felix | Kitgum town college. Kitgum District |
| 8. Mr. Agaba patrick | St. Mary's secondary school Rushoroza kabale |
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kitgum. | st. Daniel comboni vocational secondary school |
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| 12. Mr. Osman swalleh | Arua secondary school Arua District |

Special gratitude and appreciation goes to **Mrs. Asiimwe Racheal** a former teacher at **Bigyera S.S (2006)** who instilled in me the love for the subject during my A 'level at **Bigyera senior secondary school**. She laid a cemented and consolidated foundation on which this manuscript is written. Without you teacher I could not have the passion in the subject and therefore this booklet would not have seen the light of this world. May the almighty God grant you the best in life.

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Practicing Geography

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CHAPTER ONE

MAP READING

A map is a representation of something drawn as seen from above usually on a flat surface like a sheet of paper as a whole or part of an area showing physical or human features or a combination of both.

Map reading therefore is a skill and ability to identify, analyze and interpret geographical information from maps.

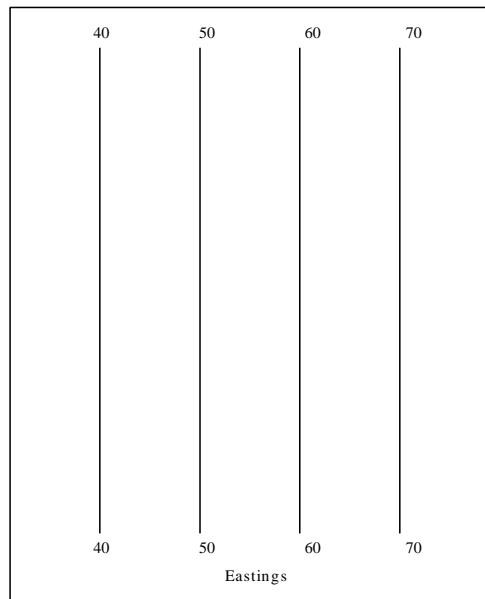
Essential features of a map

- ❖ A **title** interprets what the map is all about.
- ❖ The **frame** (boundary) is the outer skirt line drawn along the map to show the demarcations.
- ❖ The **key** interprets symbols used on the map.
- ❖ The **scale** is the ratio between the length on the map and actual ground.
- ❖ The **compass** direction shows the direction on a map in terms of North, West, East and South.

GRID REFERENCE SYSTEM

A grid reference is a network of vertical and horizontal lines on a topographical map therefore,

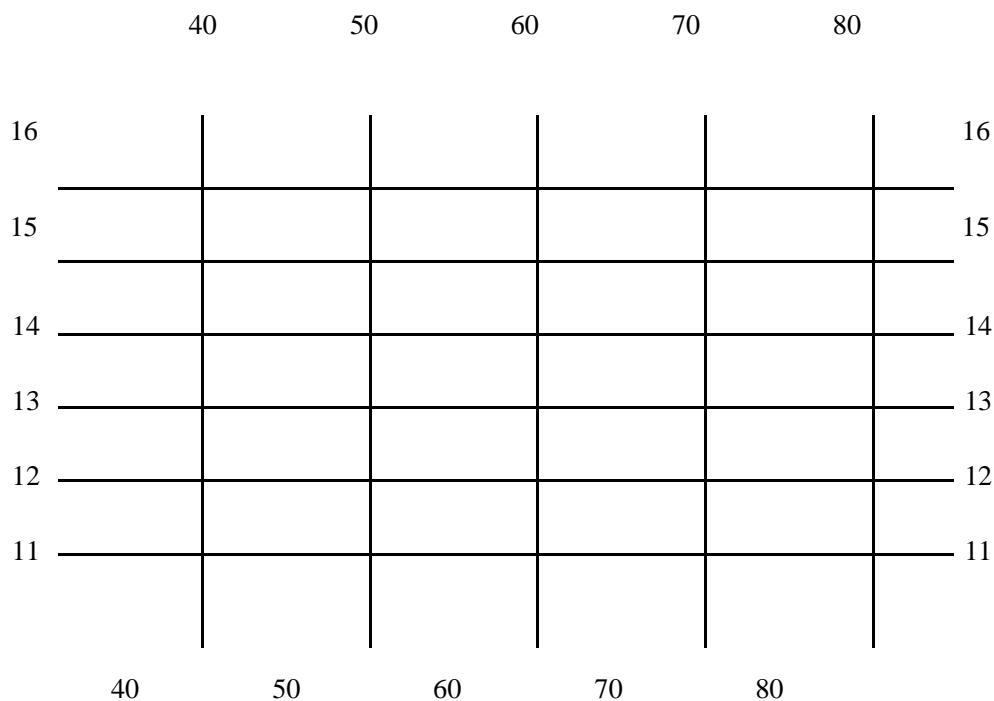
Grid reference is a combination of Easting's and Northing's drawn on a given map. Where, Easting's are the vertical lines running from west to East numbered increasingly in East wards on the map.



Northings are horizontal lines running from south to north numbered increasingly in value Northwards on a given map.



A COMBINATION /NETWORK OF EASTINGS AND NORTHINGS.



There are two ways grid reference is used to locate places on a map extract;

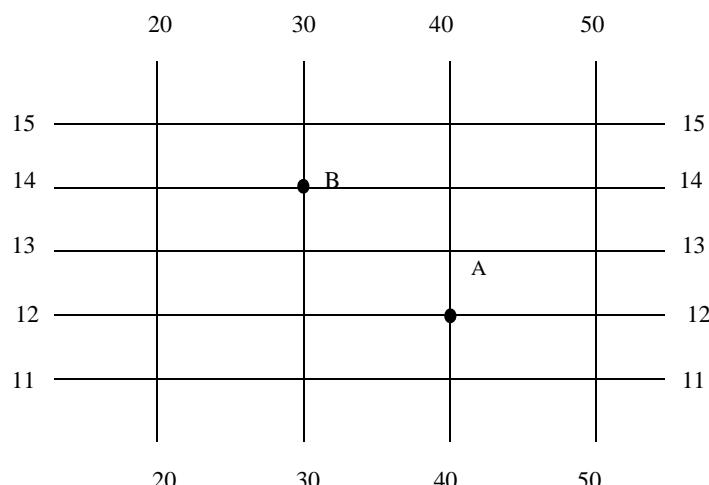
1. Four grid reference (grid square).
2. Six grid reference.

FOUR GRID REFERENCE (GRID SQUARE)

It derives its name from a square whose sides are four. Therefore grid square has the first two digits which are Easting's and the last two which are Nothing's.

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For example;



The grid square of:

$$A = 4012$$

$$B = 3014$$

SIX GRID REFERENCE.

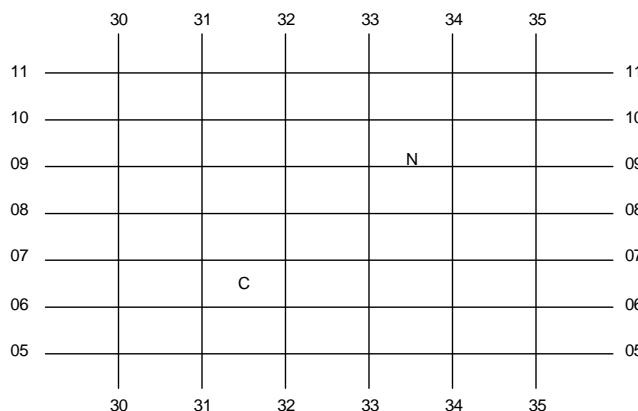
It is made of six digits where the first three are easting and last three are northing. The third digit is got by dividing the grid square into ten equal parts; This can be simplified using a number of techniques but the simplest of all is.

Using a straight edge paper.

- ❖ Place the straight edge of paper along the linear scale, mark off the number of small white and black boxes/closed squares.
- ❖ Place the straight edge of paper horizontally from the bold Easting (grid line) near the geographical feature in question to get the third Easting digit.
- ❖ Place the straight edge of paper vertically from the bold Nothing (grid line) to the feature in question to get third northing digit.

NB: Always write down the two bold large figures of the geographical feature asked directly from the grid lines and ignore the small constant figures.

The division can be seen below for one square box.



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Therefore if writing the six grid reference of;

N; major Easting is 33 and minor easting is 7

Major Northing is 09 and minor northing 1

Therefore the grid reference of N is 337091

C. =315065

However if the QUESTION requires to state the grid reference without specifying whether six or four grid references. Students are required to only write the six grid reference.

Study of the key on a map extract

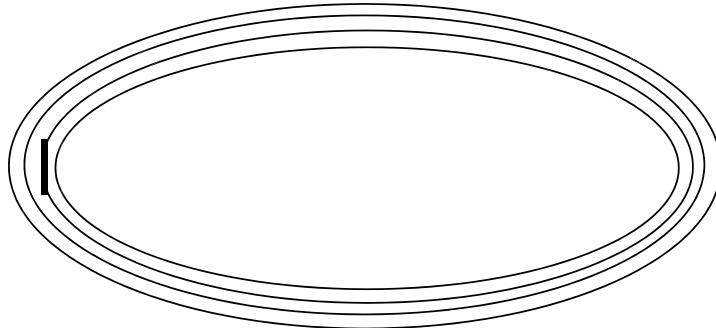
This is the identification of features both physical and man-made on a topographical map.

These features are clearly described by a key on the lower south parts of the map extract provided.

Example of such a key is provided on each and every map extract provided in the manuscript.

However there are some symbols that are not indicated on the key but a learners must be able to identify them by their appearance and not that all symbols that appear on the key appear on the map, its ever a general key for all maps therefore the map should be read thoroughly e.g.

Flat topped hill



NB: It is always the first question in map reading to;

- ❖ Identify physical/ human features with help of grid reference in question.
- ❖ Writing down grid reference to the physical/human features in question. Therefore a candidate is required to use the key to identify or write grid reference to the respective question.

Example: Using lake nakivali map extract provide.

- ❖ Identify;
 - i. The man made feature at grid reference 556159
Bore hole.
 - ii. Physical feature at grid reference 513136 River
confluence

State the grid reference of the (i) Road junction at kabingo+ trading center.

4
553143

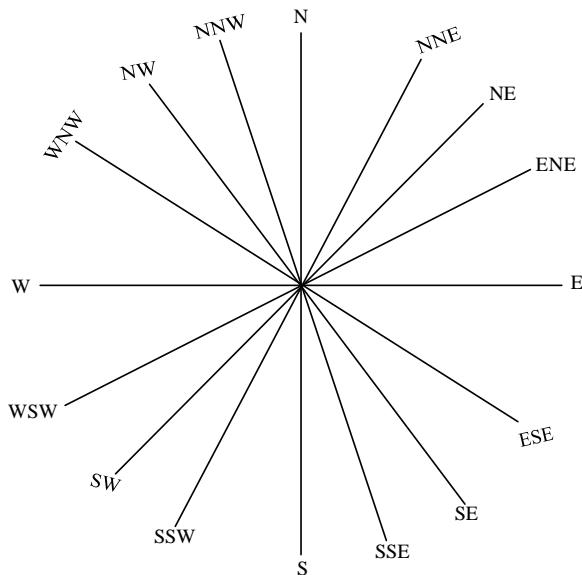
(ii)Spot height in the grid square 6612
668124

(iii) Air photo principle point with sortie number 012

FINDING DIRECTIONS AND BEARING ON MAP EXTRACTS.

All **directions** are given by the four main points of the compass [cardinal points] Which include North, East, South and West.

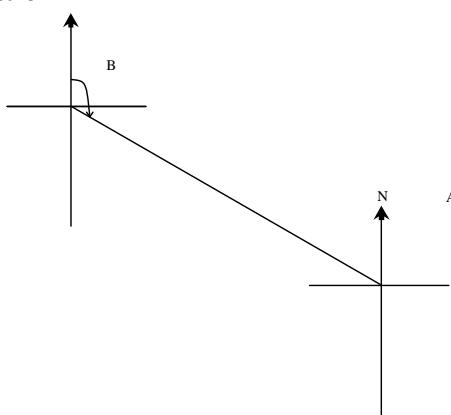
Illustration of a compass



Steps taken while finding directions

- ❖ Read the question and understand it in depth
 - ❖ Locate the two points used in a question. Sometimes the points may be in form of features or grid reference.
 - ❖ Mark the identified points.
 - ❖ Join the two points using a well sharpened pencil.
 - ❖ Draw the compass directions on both points.
-
- ❖ Consider the word **FROM** which the direction is required. That is a stand point in finding directions.

Illustration



PROCEDURE /STEP TAKEN WHEN DETERMINING BEARING

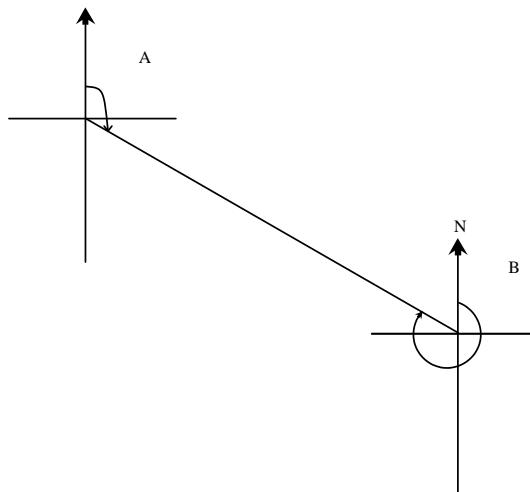
- ❖ Identify the two points /places between which the bearing is located.
- ❖ Draw a pencil straight line joining the two points or places.
- ❖ Draw a compass direction at the points or place **from** which the bearing is required.

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- ❖ Measure the degrees in a clockwise direction using a protractor starting from the North up to the line joining two points. EXAMPLE
 - ❖ Find the bearing of A from point B.
 - ❖ Remember to write figures in three digits e.g. 56 write as 056° , 8 as 008° and put degrees on your answer as units.
- N.B. Candidates loose marks whenever they don't put units so take care.

illustration

N



Answer

The bearing of A from B is ----- °

The bearing of point B from A is----- °

NB: Angles should be measured using a protractor but not simply guessing or estimating.

Exercise;1 using Lake Nakivale map extract determine the bearing of borehole near Busega from road junction at Musirira.

FINDING DISTANCE ON THE MAP

- ❖ Distances on maps are obtained using a scale.
- ❖ A linear scale provided below the map extract is the convenient scale used to find ground distances directly without calculations.
- ❖ Distance is the length measured between two given points.
- ❖ Measurements must be taken from the map extract first and then use the linear scale to get than actual ground distances.

Measuring distance along a straight line Or Finding the shortest distance between two given points

STEPS

- Join the two points using a straight line
- Take piece of paper with a straight edge or a thread and place it firmly below the line joining the two points.
- Put mark on the paper or thread where the distances begins and ends.
- Then directly transfer the measurement (thread or paper) to the line or scale in order to obtain the actual ground distances usually given in km. Example

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Using Lake Nakivale map extract. Measure and state in Kilometers the distance covered by the all-weather loose surface road.

Using Lake Nakivale map extract measure and state in meters the distance covered by sub county boundary.

CALCULATING AREA OF IRREGULAR SHAPES ON MAP EXTRACT.

The irregular shapes may include lakes, swamps and forests.

There are a number of methods used while calculating the area of irregular shapes.

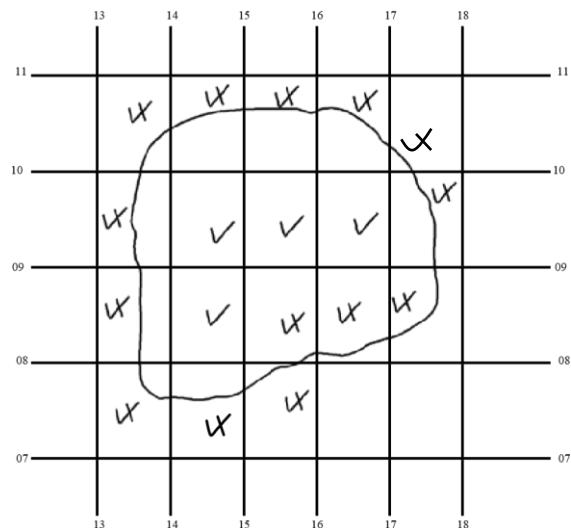
However the commonly and simpler method is the grid square counting method.

THE GRID SQUARE COUNTING METHOD (STEPS)

- Identify the area to be calculated
- Count the number of completely covered squares or full squares ➤ Count the number of partly covered grid squares (half squares).
- Convert the partly covered or half squares into full squares by dividing by two.

FOR EXAMPLE 1

Calculate the area covered by the lake in the figure below.



✓ = Full Boxes

X = $\frac{1}{2}$ Boxes

(Number of completely covered squares) is represented by capital M
Number of incompletely covered squares is represented by small n.
Therefore the formula will be;

$$\text{Area} = M + \frac{n}{2}$$

Example 2

Using Lake nakivali map extract provided. Calculate the area covered by Lake Nakivali.

$$\text{Area} = (\underline{M+n}) \times 1 \text{ km}^2$$

2

Complete squares = 4 Incomplete
squares $\frac{46}{2} = 23$

$$4 + 23 = 27 \text{ km}^2$$

Accept the range between 27- 29 km².

Exercise .

Using Masindi map extract calculate the area covered by budongo forest reserve.

CALCULATING /DETERMINING AVERAGE HEIGHT FOR THE AREA SHOWN ON THE MAP.

Highest contour (point) + lowest contour

2

For example. Using lake nakivali map extract. Calculate the average height of the area north of the northing 08

Highest contour (point) = 5300ft around kyabirikwa ridge

Lowest contour (point) = 4100ft around kabaigarire along lake nakivali

(Highest contour + lowest contour)

2

$$= \frac{(5300 + 4100)}{2}$$

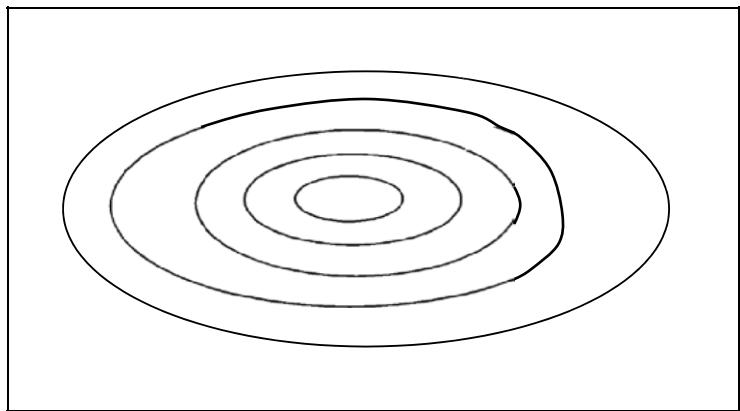
ANSWER = 4700ft (we are using ft because the height is in feet on lake nakivali map extract. Therefore height can be also in meters on other maps)

HOW CONTOUR LINES SHOW DIFFERENT RELIEF FEATURES.

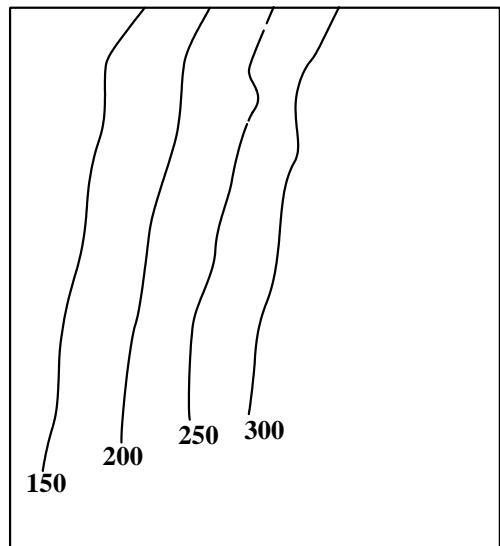
Relief refers to the physical appearance of the landscape i.e. it's the physical nature of the landscape.

Contours lines show different relief features considering their arrangement as follows;

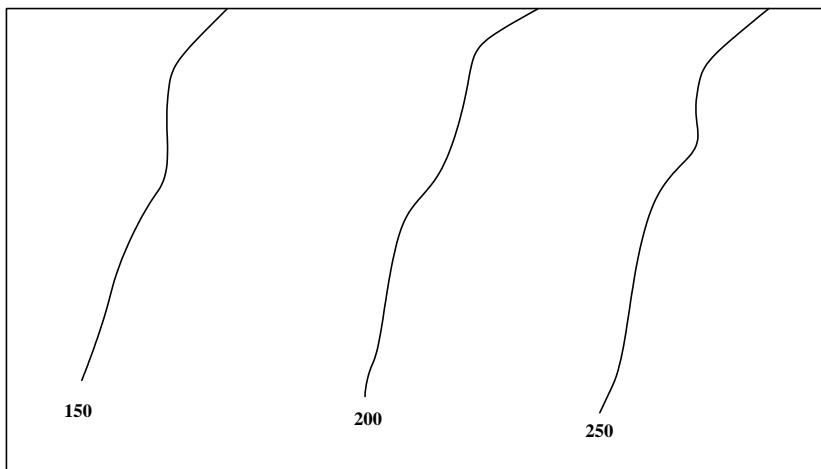
- **Circular/oval shaped** contour is usually showing highland /conical hill /upland or inselberg.



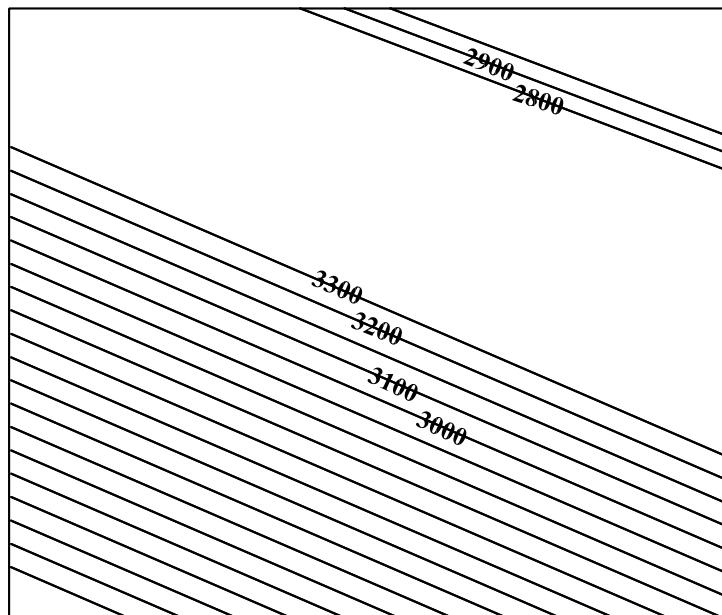
- When contours are near or close to each other they show a steep slope/ upland or highland.



- when contours are spaced away from each other they represent a gentle slope.

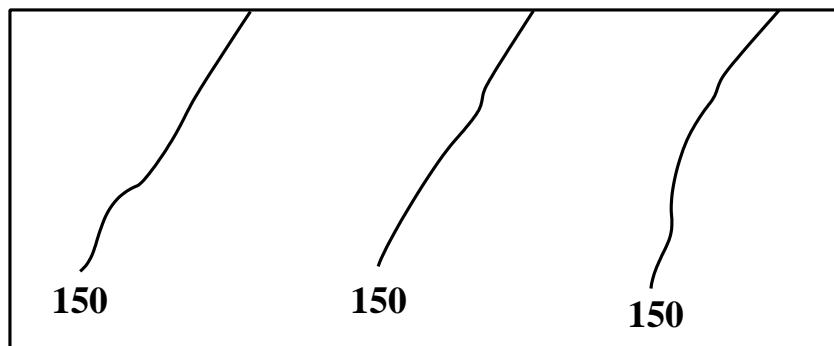


- An Escarpment is represented by contours that are very close at one end and wide

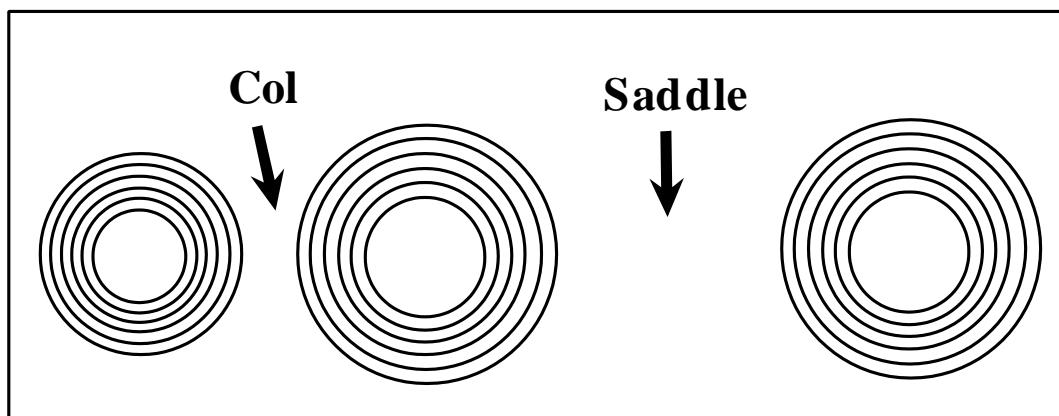


- **Divide or watershed.** This is a line or land separating two river systems. Or it's an Upland where rivers originate from.

A flat landscape is represented by uniform consecutive contour lines e.g. where each contour is numbered with the same digits for example 1000,1000, 1000.1000 such region is a flat landscape.



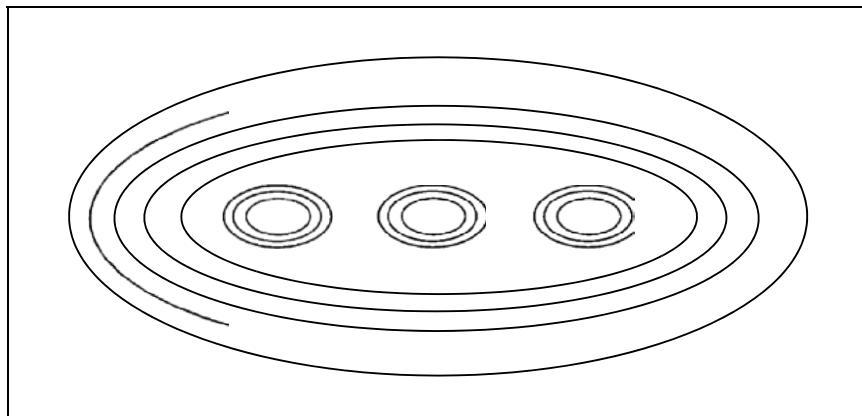
- **A saddle and a col.** A saddle is a low depression or gap between two hills or mountains. The only difference between a saddle and a col is that a saddle is wider or bigger than a col.



- **A ridge** is a continuous line of highland/ upland with steep slopes. The length is

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much greater than the width. Inside the contours of a ridge, there may be smaller. Circular contours representing minor peaks.



A pass. This is a narrow steep depression in a mountainous area often caused by two streams eroding their valleys in opposite directions. A pass allows communication to pass through like roads.

- **Knoll (hillock).** This is a single circular contour in spaced contours. It represents a small hill in gentle slopes or flat areas.



NB: Contours do not cross each other.

Other ways of showing features without use of contours; Basins /depression

These are occupied by lakes/water body.

Low lands

These are occupied by swamps.

There are also symbols used to show some relief features such as out crops, craters etc. Spot heights, bench marks (a bench mark is a point where exact height/ elevation is already known and marked with a symbol BM that can be a brass or aluminum pad. Bench marks are used to help in determining contour lines), and trigonometrical station are used to show heights which are also important when describing relief of the area shown on the map extract.

1. Using contour line arrangement

Using this method we use contours to identify the following relief features giving direction and place name (local name) of where they are found or names of such features as stated on the map extract.

- ❖ Conical hills and their location plus names.
- ❖ Flat topped hills and then location plus names
- ❖ Ridges and names of place and then locations
- ❖ Steep slopes ❖ Valleys.
- ❖ Gentle slopes etc.
- ❖ Basins
- ❖ Low land
- ❖ Knolls
- ❖ Saddles and cols
- ❖ etc

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NB: The above features and many others must be identified following the contour line arrangement, giving where they are found direction on the map and place names or names of such features as they appear on the map extract.

For example.

Using lake nakivali map extract.

- There is a basin north eastern part of lake nakivali map extract.
- There is a ridge at kyabirikwa west of lake nakivali

2. Using contour height and trigonometrical stations.

Look for the highest height/ point/ elevation by considering contours as trigonometrical station and state the figure in feet or meters basing on the units used when numbering the contours as indicated on the key below the map extract.

The direction or place name of where the highest direction or place name of where the highest elevation or height is found must be also stated, this area is usually around uplands/ridges/ highlands.

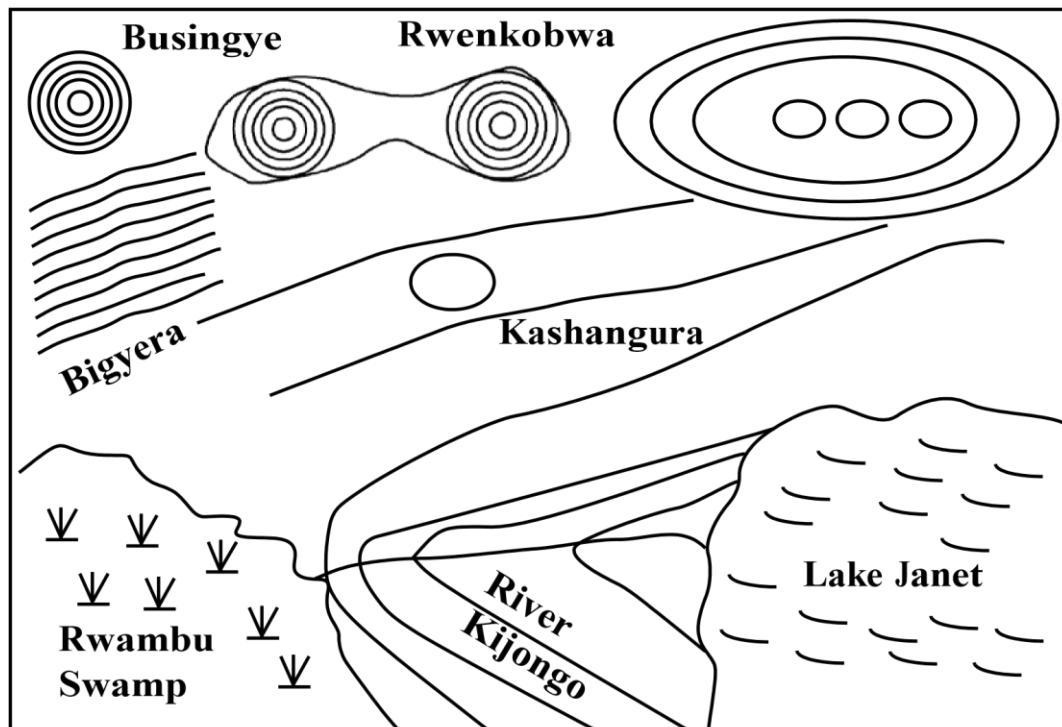
Look for the lowest height point elevation by considering contours and also state the figure in feet or meter as indicated on the key.

The direction or place name where it is found must be given. Lowest points are always near water bodies and swamps.

Then calculate the amplitude of the area by subtracting the lowest from the highest and state in meters or feet according to the units used on contours.

NB: each of the above should be stated independently hence earning more marks The working must be shown for the amplitude.

Example. Below is an extract of RWAMBU Sub County and it shows relief features.



- ❖ Western part of Rwambu has steep slopes at Bigyera.
- ❖ There is a conical hill at Busingye in North West part of Rwambu.
- ❖ The area is characterized by a saddle at Busingye North West part of Rwambu. ❖ The area is characterized by a col at Rwenkobwa north west part of Rwambu ❖ The area has got gentle slopes in the central part of rwambu map extract.
- ❖ The area is characterized by a knoll at kashangura ❖ The area has a basin occupied by Lake Janet.
- ❖ The area has a low land occupied by Rwambu swamp in the south western part of Rwambu.
- ❖ The area has got ridges North East part of Rwambu.
- ❖ The area has got a narrow valley where river Kijongo flows through.

Examples 2. Using lake nakivali map extract describe the relief of the area.

- ❖ There is a knoll at kahirimbi south of Lake Nakivale.
- ❖ The area has steep slopes at mabwona west of nakivali map extract.
- ❖ The area has low lands occupied by both seasonal and permanent swamps in central and north east part of Lake Nakivali map extract.
- ❖ The area has got a basin occupied by Lake Nakivali in eastern part of Lake Nakivali map extract.
- ❖ The area is characterized by ridges e.g. Kyabirikwa and Nyakasharara west of Lake Nakivali map extract.
- ❖ The area is characterized by narrow valleys like around kabingo

DRAWING OF A SKETCH MAP

- ❖ The following should be noted when drawing a sketch map.
- ❖ Identify the area to be drawn which may be the whole map or part of the map. ❖ Measurements are not required
- ❖ Simply draw an appropriate outline of the map.
- ❖ Maintain the shape of the original area on the map extract.
- ❖ For proximity in location of features and maintenance of the original shape, reduction is appropriate. However, do not show that you have reduced.
- ❖ Insert the major grids or lines (thick lines) and any other lines of your interest but they should not be very many.
- ❖ Mark and name features on the sketch as indicated in the question.
- ❖ Use the key to describe symbols used on your sketch map. ❖ Marginal information is a must.i.e frame,heading,labling/key and a scale.

NB: Normally questions require a student to mark and name on the sketch map. Therefore student must mark and name on the actual sketch map the features asked, but not naming on the key.

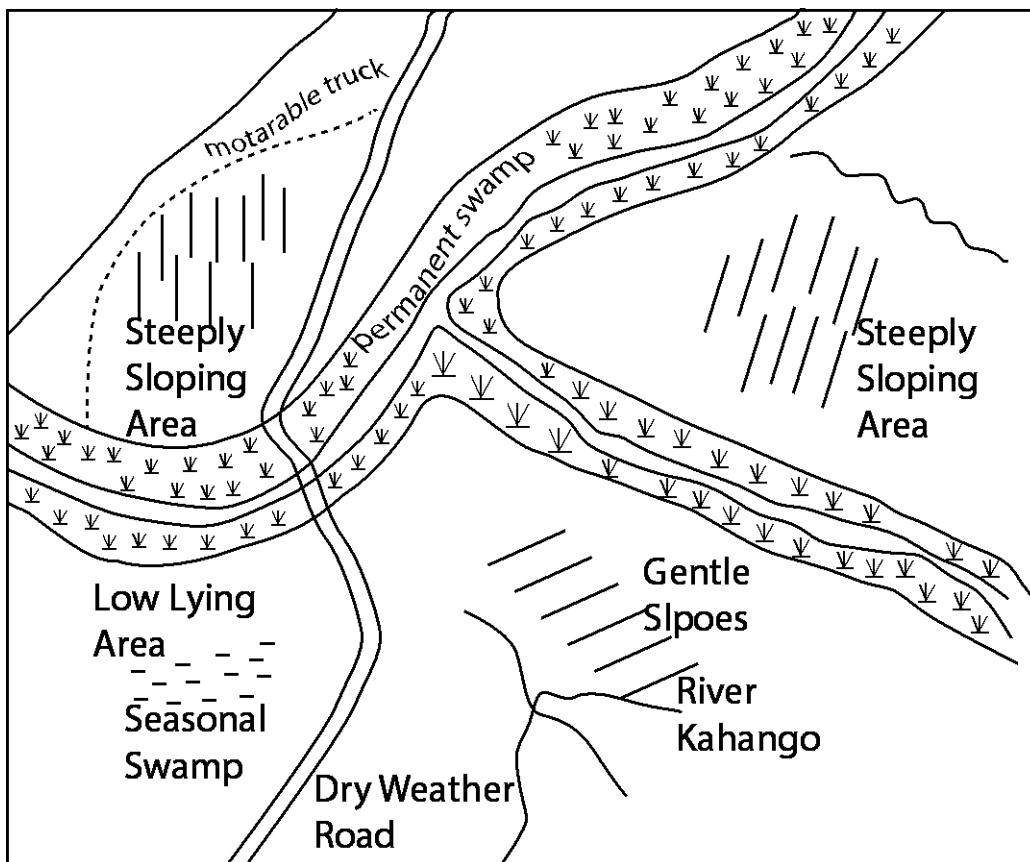
Key simply interprets symbols used on the map.

- ❖ The drawn sketch map must have the following marginal information; (qualities of a good map).
- ❖ The title is got from the question and it is advisable to list the features asked in the question indicating their actual names.
- ❖ The name of the area shown on the map extract must also appear in the title.

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Example (A SKETCH MAP OF NYARWEYO MAP EXTRACT)

A sketch map of NYARWEYO showing major physiographic regions, drainage features and communication routes.



NB: Physiographic regions are relief regions hence when asked to mark and name physiographic regions, consider relief regions or relief features like uplands, lowlands, gentle slopes, basins, saddles, ridges, spurs, steep slopes etc.

REDUCING OF A SKETCH MAP

Steps/procedure

- ❖ Identify the area to be reduced. It can be the whole area shown on the map extract or part of the area.
- ❖ Measure the original length and width of the area to be reduced using a ruler.
- ❖ Reduce both the length and width by dividing them by the reduction factor which is usually given in the question.

Example: If the measured original length = 40cm and the width = 36cm and you are asked to reduce the map 2 times.

(Using a factor of 2),

$$\begin{array}{ll} \text{New length} = 40 \text{ and} & \text{new width} = 36 \\ 2 = 20\text{cm} & 2 \\ & 18\text{cm cm} \end{array}$$

So the new length will be strictly 20cm and new width will be 18cm of reduced map.

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- ❖ ‘Then draw your new outline in the answer booklet considering the new length, width and enclose it with a boundary or frame
- ❖ The major grids (painted thick black) may be indicated on the new map. These help in estimation of features while locating them.

However in this case, they should also be indicated accurately because the map has been reduced on scale.

- ❖ Mark and name the features asked in the question as already explained and shown.
Avoid congesting the map with features that were **not asked**. No additional mark is given to a student
- ❖ The reduced sketch map must also have the marginal information which includes the title, which is obtained from the question, the key, compass direction and frame.

NB: No mark is awarded for the calculations.

The title should be framed or phrased as follows:-

A reduced sketch map of ... by 2 times showing (As in the question)

OR

A sketch map of Reduced 2 times showing (As in the question)

NB: The names of features/ places should appear on the map and the name of the map should appear for the title to be credited.

Symbols used on the map should be described on the key

Example (**MAP EXTRACT OF NYARWEYO**)

Reduced sketch map of NYARWEYO by 2 times showing physiographic regions, swamps and communication routes.

NB: Marginal information must be included.

Features asked must be marked and named/ labeled on the sketch drawn in their relative position.

New scale will be = original scale

$$\begin{array}{c} \text{New scale} \\ \underline{1:50,000} \\ \begin{array}{ccc} & 2 & \\ & \frac{1}{50,000} & \div \frac{2}{1} \\ & \frac{1}{50,000} & \times \frac{1}{2} \\ & \frac{1}{100,000} & \end{array} \end{array}$$

Therefore the new scale is 1:100,000.

REDUCING A MAP USING A PERCENTAGE

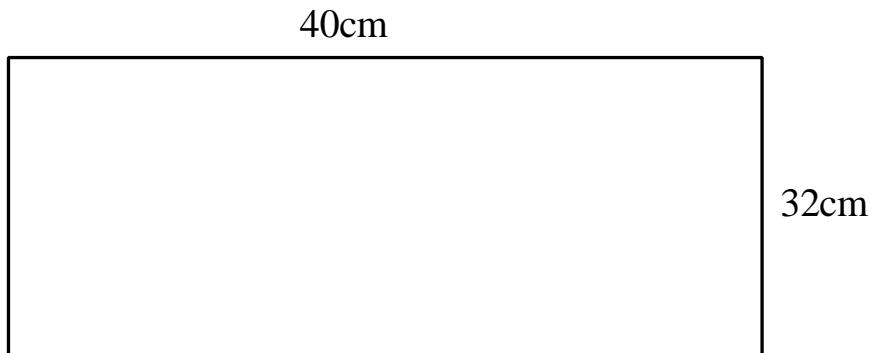
The factor of reduction is got using that percentage given in the question. For example.

- a. Reduce the area covered by the map extract of Nyarweyo by 50%, and on the reduced frame mark and label.
 - ✓ Uplands
 - ✓ Dry weather road
 - ✓ Forested areas
 - ✓ Permanent and seasonal swamps and ✓ County boundary.

Solution

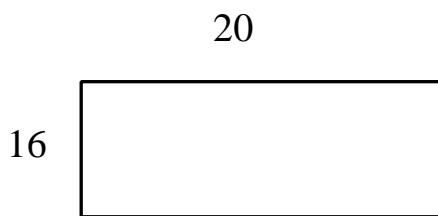
Subject 50% to the length and width of the original sketch eg.

Original sketch



$$50\% \text{ of } 40\text{cm} = \frac{50}{100} \times 40 = 20\text{cm}$$

$$50\% \text{ of } 32\text{cm} = \frac{50}{100} \times 32 = 16\text{cm}$$



Then use the new measurements calculated to reduce the given map extract. **Calculating the new scale of the reduced area. Here we multiply the original scale by 50%**

As below

$$\frac{1}{50,000} \times \frac{50}{100}$$

$$\frac{1}{2} \times \underline{\underline{50,000}}$$

$$\frac{1}{100,000} =$$

1:100,000

New scale will be old scale $\times 50\%$

Reducing by fraction e.g 1/3

$$\frac{1}{50,000} \times \frac{1}{3}$$

$$=1:150,000.$$

Reducing by improper fraction e.g 2 1/2

$$2 \times 2 + 1 = \underline{5}$$

$$\quad \quad \quad 2$$

$$\quad \quad \quad =2.5$$

Length width

$$\begin{array}{c} \text{-----} \quad \text{-----} \\ 2.5 \quad \quad \quad 2.5 \end{array}$$

New scale will be

$$\frac{1}{50,000} : \frac{1}{2.5}$$

$$\frac{1}{50,000} \div \frac{1}{2.5}$$

$$\frac{1}{50,000} \times \frac{1}{2.5}$$

$$50,000 \times 2.5 = 125000$$

1: 125000

A SUMMARY OF IMPORTANT POINTS TO NOTE WHEN REDUCING A MAP

- ❖ The area to be reduced must be clearly identified i.e. it may be the whole map or part of the map. Please follow the instructions given in the question
- ❖ At times Easting's and Nothings are used to show the area required e.g. reduce the area shown the map North of Northing 30 and East of Easting 10 and on it mark and name the uplands. Gentle slopes, swamps etc
- ❖ Title must be written with the name of the area shown on the map extract plus the factor of reduction. Also the features asked in the question should appear in the title in their actual names, language used i.e. just copy them from the question. Never mind about the size of the title.
- ❖ Other important marginal information must include the frame compass direction and key/labeling
- ❖ Names of features and places must appear on the map. The key only defines or describes symbol used on the map.
- ❖ The new scale is calculated only when asked.
- ❖ The new scale must be bigger than the original scale when you reduce the map.

ENLARGEMENT OF A SKETCH MAP STEPS/ PROCEDURE

- ❖ Identify the area to be enlarged. In this case you are given a small part or portion of the area which, is supposed to be enlarged.
- ❖ Note that the whole area on the map if enlarged cannot fit on your answer sheet hence all questions requiring enlargement are strict to small area given on the map extract which you must carefully identify first.

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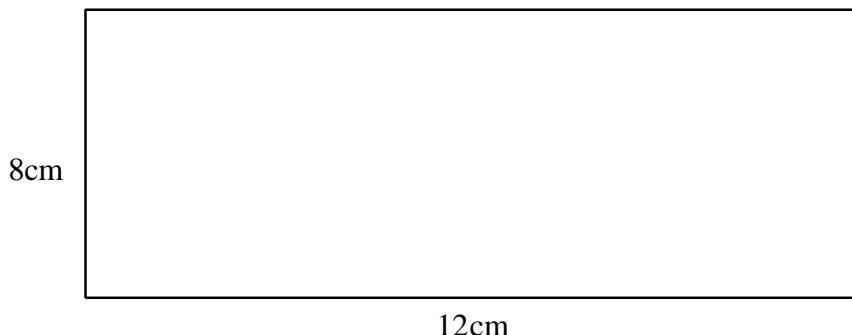
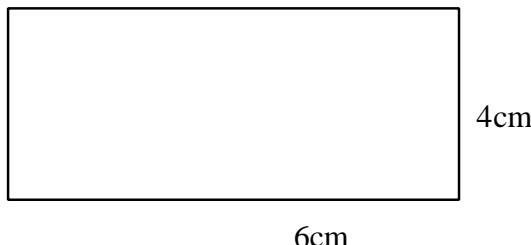
- ❖ Get the original measurements i.e. length and width of the area to be enlarged.
- ❖ Multiply the original measurements by the enlargement factor.
- ❖ Then draw an enlargement sketch map following the new length and width after multiplying insert all the features asked in the sketch map.
- ❖ Don't forget the title which must clearly indicate title name of the area and features asked, enlargement factor may be included in the title or not, so long as it is stated in the question.
- ❖ If the enlargement factor is not given, then choose your own factor.
- ❖ But in this case it must be clearly indicated in the title.
- ❖ Other requirements like the key/labeling, compass direction and frame are a must.

EXAMPLE.

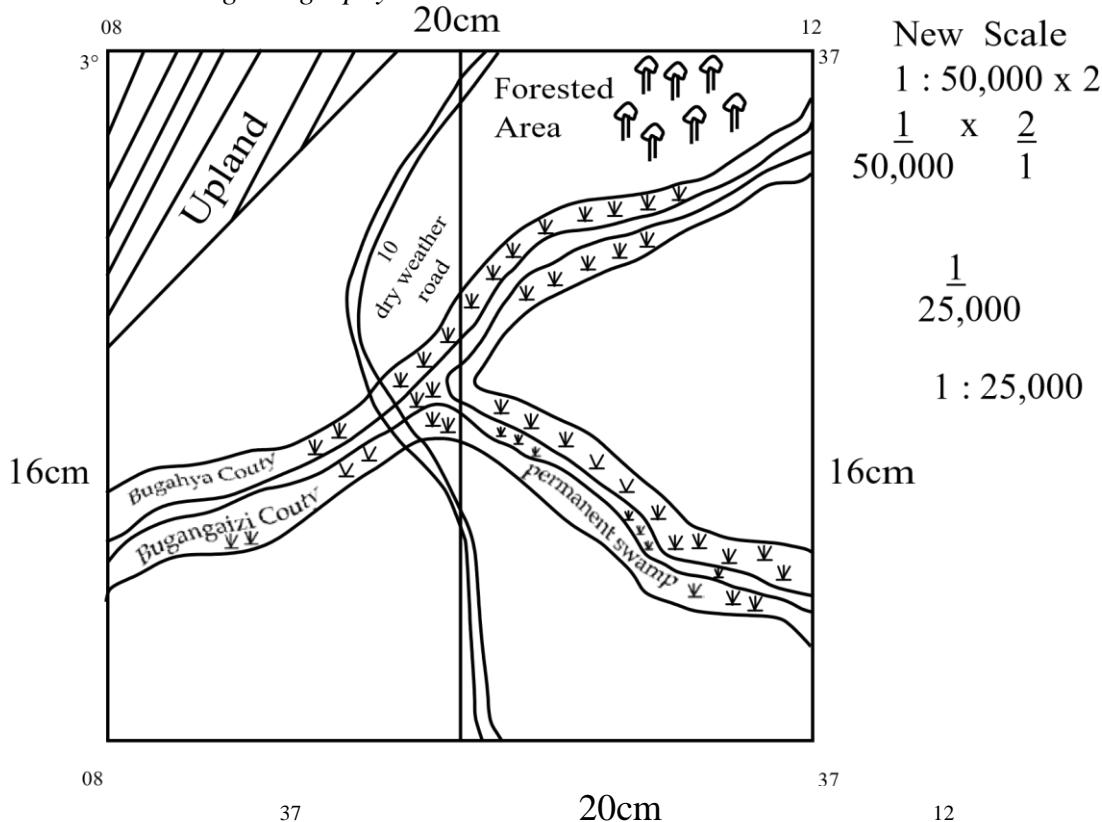
If the area to be enlarged has the length of 6cm and width of 4cm, and you are asked to enlarge that area 2 times.

$$\begin{array}{l} \text{Then new length} \\ \text{width} \end{array} \quad \begin{array}{l} 6 \times 2 = 12 \text{cm} \\ 4 \times 2 = 4 \text{cm} \end{array}$$

Sketch



An enlarged sketch map of Nyarweyo between Easting 08 and 12 and northing 32 and 37 by 2 times showing an upland, forested areas, transport route, county boundary and permanent swamp.



New Scale

$1 : 50,000 \times 2$

$\frac{1}{50,000} \times \frac{2}{1}$

$\frac{1}{25,000}$

$1 : 25,000$

16cm

37

12

20cm

HOW TO ENLARGE A MAP WHEN GIVEN A NEW SCALE.

If given a new scale of 1:25,000, enlarge the area between Easting 07 and 12 and between Northings 32 and 37 of Nyarweyo map extract.

Calculating the enlargement factor = new scale ÷ original scale.

$$1:25,000 \div 1:50,000$$

$$\frac{1}{25,000} \div \frac{1}{50,000}$$

$$\frac{1}{25,000} \times \frac{50,000}{1}$$

$$\frac{50,000}{25,000} = 2.$$

NB. Also while drawing a sketch map a candidate can be asked to trace a particular part of the map extract. Tracing papers are usually provided to the candidates. All work should be done on the tracing paper. Many students tend to forget about the drawing of a frame there by they end up losing a mark for the frame.

Exercise. NYARWEYO.

Use a tracing paper to trace the area between grid reference easting 06 and 12 and northing 30 to 37 and on it mark and name ✓ 2 transport routes.

- ✓ County boundaries
- ✓ Forested areas
- ✓ River lwebokere
- ✓ 2 types of swamps and luhunga ridge.

THE DETOUR INDEX

This is done to determine the distance along a straight line or road meandering or bending road/railway.

Procedures,

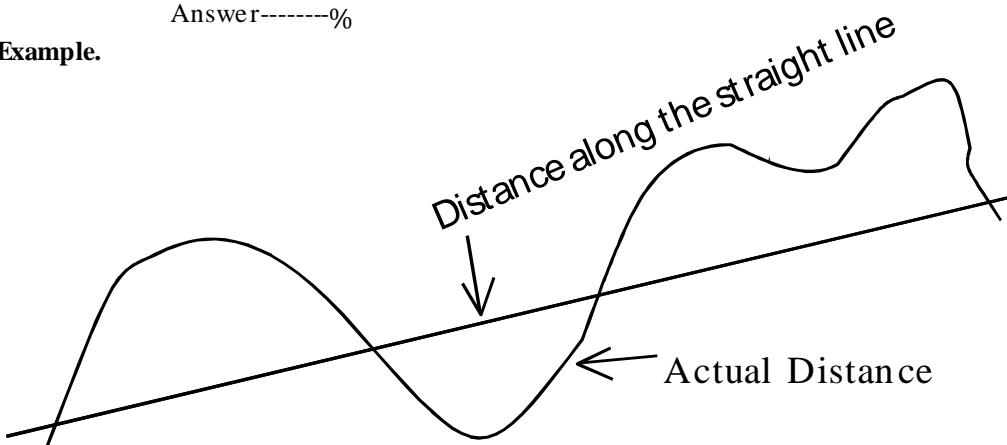
- ❖ Identify the beginning and the end points of the item asked from the question using grid references or features given.
- ❖ Draw a straight line joining the two points.
- ❖ Measure the distance between two places using a paper edge for straight distance and a thread for bending/curving distance [actual distance].
- ❖ Transfer the measured distance of the curved line to the linear scale, determine the distance in kilometers.
- ❖ Measure the straight distance between the two places and transfer the measured to linear scale and determine the distance in kilometers.
- ❖ The distance for curved line is always greater than the distance of the straight line.
- ❖ The units of de-tour index is percentage.

Formula

$$\frac{\text{Actual distance} - \text{distance along the straight line}}{\text{Actual distance}} \times 100$$

Answer-----%

Example.



INTERVISIBILITY ON A MAP.

Intervisibility means the ability to see a place from one place. It depends on the height of the land between the two points.

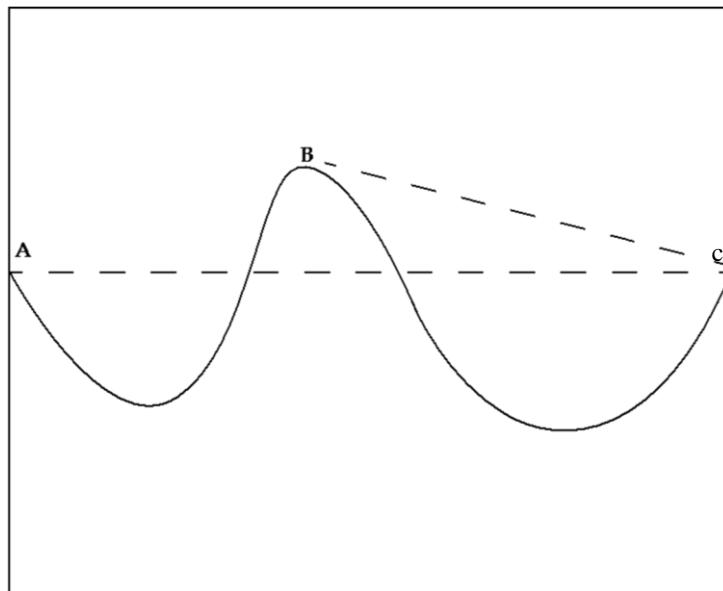
Procedures

- ✓ I identify the two points where the intervisibility is to be determined. These points are got from the question.
- ✓ Draw a line joining the two points.
- ✓ Look at contour values crossed by your line say line AB
- ✓ If in the middle [between] AB the contour lines are higher than the points are NOT intervisible because there is a hill between them.

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- ✓ But if the contours in the between are lower than the points AB then the points are intervisible. eg

Example

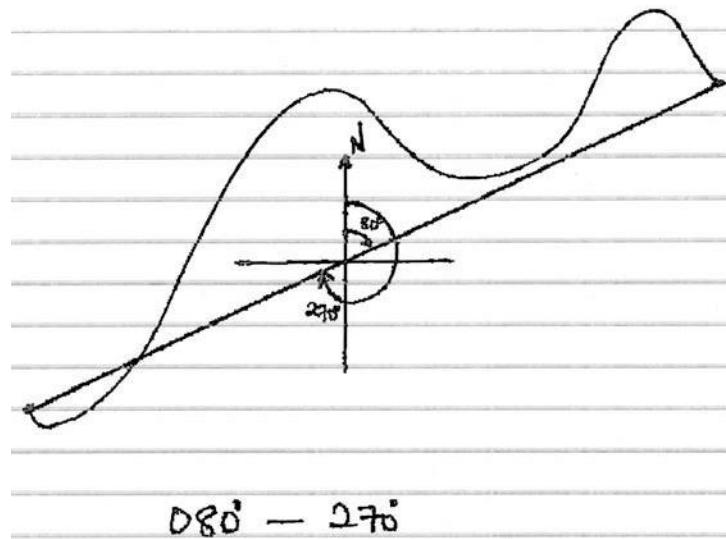


- From the above illustration, A and C are not intervisible due to the presence of a hill.
- points.

ALIGNMENT/ TREND.

- Identify the two points along the road/coast/river which is required in the question.
- Join the two points with a straight line
- Measure and mark the middle point[half point]
- Draw a compass direction at half point marked
- Measure the degrees in a clock wise direction using a protractor starting with the small angle and then the big angle only considering the straight line drawn.
- Measure both angles which are in degrees in which the line trends.you can also use directions to state the trend e.g west- east

Let us assume this illustration.



The trend of the road or coast is $080^{\circ} - 270^{\circ}$
Also, you can give trend in form of
Directions e.g. South - North

DRAWING A CROSS SECTION /RELIEF SECTION/ TOPOGRAPHIC SECTION/ PHYSIOGRAPHIC SECTION.

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- A cross section is a line transect drawn showing the nature of the landscape and manmade feature between two points. The nature of the landscape may be in form of hills, gentle slopes, steep slopes, etc.
- The man made features may be in form of roads, boreholes, settlements, plantations, markets etc. Other features shown on a cross section may include rivers swamps, forests etc.

STEPS /PROCEDURE FOR DRAWING A CROSS SECTION

- Clearly identify the two points between which the cross section is to be drawn and mark them AB
- The cross section requires two sets of grid figure that are given in the question e.g. drawn an annotated section between grid references for example between **510110** and **580110**[**Lake nakivali map extract.**]
- A cross section may also be required along northing but between two Easting's or along on Easting but between two Nothings. It can be horizontal, vertical and even a cross. E.g. a cross section of Lake Nakivali between **570100** and **630150** or along easting **60** between northing **10 and 16.**
- Join the two points.
- Get a straight edged piece of paper which is slightly longer than the line drawn and place it along the line.
- On the piece of paper, also mark the beginning as **A** and ending points as **B** hence line **AB**
- Every contour marked should have the height value hence indicated their values on the paper.
- But where necessary when contours are too many and closely packed together), others may be ignored but observing the vertical interval.
- Where necessary, mark the features asked crossed by the line drawn, but in their respective points.
- Remove the paper from the extract after making sure that whatever asked has been properly marked using small dots.
- Draw a horizontal line which is of the same length as the line between the points and at each end of the line draw vertical lines of a reasonable height.
- Choose the vertical scale for your cross section. This should be based on the height crossed by the line **AB**
- Bring the paper with contour values and mark the contour heights on a graph paper. Use small dots that can easily be rubbed off.
- Join the dots with a well sharpen pencil using free hands. And shade the cross section to give it an impression.
- When drawing a cross section, the starting point should appear on the left hand side while the end point on the right hand side.

HOW TO GET THE VERTICAL SCALE FOR YOUR CROSS SECTION.

There are many ways of determination the vertical scale. However, the most appropriate method is the one explained:-

- Get the amplitude of the cross-section to be drawn by subtracting the lowest contour from the highest contour only from those to be plotted which appear on the paper.
- Divide the amplitude by the assumed vertical height of the cross section. to give your cross section a good view you are advised not to exceed 6 cms.the best would be 4-5 cms.
- Round off the value obtained to the nearest convenient, figure e.g. if the answer obtained after dividing is 360ft then it should be rounded off to become 400ft. this therefore becomes the vertical scale stated as 1cm rep. 400ft.

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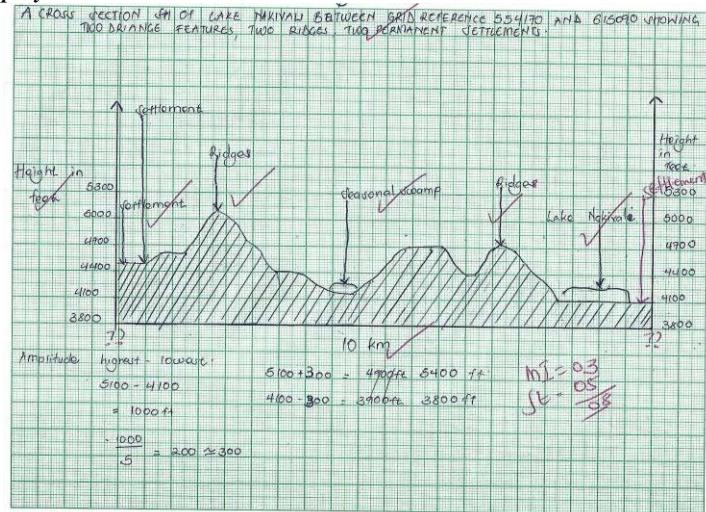
- When indicating the vertical scale along the vertical axes of the cross section do not start from zero, but start from a value slightly below the lowest contour value to be plotted and then go slightly below the lowest contour value to be plotted.
E.g. if the lowest contour value to be plotted is 3400 and the vertical interval (VI) indicated on the map extract is 100ft, then to get the starting point, subtract the VI from the lowest contour value ($3400 - 100 = 3300$) and if the highest contour value to be plotted is 4500, then to get the ending point, add the VI to the highest contour value ($4500 + 100 = 4600$).
▪ NB: You can also subtract the real scale calculated from the lowest contour value to be plotted in order to get the starting point.
▪ After putting the vertical scale clearly on both vertical axes of the cross section, start plotting following the contour values marked on the paper used.
▪ Never put the contour values at the base of your cross section. That base line is where the Horizontal distance is marked
OR
 - If the difference between highest contour and the lowest contour on the cross section is big let us assume the highest contour as 8000m and lowest contour is 3000m.
 - We can use direct division of the highest contour by the number of centimeters you want to use.
 - Take an example you want to use 5 cms therefore get $8000 \div 5 = 1600$ so to avoid complicated scale we shall round off our answer to the nearest figure which is easily plotted so longer as its below the lowest contour on the cross section.
 - Since our lowest contour on cross section is 3000m we shall round off our answer of 1600 to 2000m or 2500m s
 - So our starting point will be 2000m followed by 4000, 6000, 8000, 10000.
 - Remember your cross section should not stop on the exact highest contour, it does not bring out good impression. Therefore 1cm should be plotted on top on the highest contour.

MAJOR POINTS TO NOTE WHEN DRAWING A CROSS-SECTION

- Marginal information which includes the title, shading, vertical scale, Horizontal distance take a lot of marks like 3-4 marks
- The title must be complete i.e. indicating the name of the area shown on the map extract and the features to be secure name the features e.g a cross section of Nyarweyo from grid reference..... To showing rivers, conical hills, a forest and settlements.[avoid generalizing the information e.g Showing physical and human features. Some questions may require only physical or only human.] ▪ Arrows must be vertical and should touch the cross section drawn. Avoid hanging arrows, there is no feature which is in air or space.
- The Horizontal distance is got using the linear scale below the map extract.
- The vertical scale must be consistent and accurate. strictly 1 cm should be used to avoid over exaggeration.
- The vertical axes on both sides of the cross section should be labeled with the units indicated on contours i.e. either in feet or in meters.
- Mark and name with grids, the left and right points. ▪ Always use a graph paper when drawing a cross section.

Example using lake nakivali map extract.

Draw a cross section of the area between GR 554170 AND GR 615090 on it mark and name; seasonal swamp , ridges ,lake nakivali and settlements.



Calculation of the amplitude of the cross section.

It's the difference between the highest point and lowest point on a cross section or on a general area. The highest point can be shown by a contour, trigonometrical station, spot height and a bench mark and the lowest points can be got near swamps, valleys and generally a low lands.

$$\text{Amplitude} = \text{highest point on the cross section} - \text{lowest point} = \\ (3750 - 3400) \text{ ft} = 350 \text{ ft.}$$

NB: We are using 3400 and 3750 reason being they are **assumed** values.

VERTICAL INTERVAL

This is the distance between two successive contours. It's either in feet or meters. **Procedure**

- Choose a place on a map where contours are close and choose the two contours which are following each other let us say 4500ft and 4400ft then subtract the highest contour from the lowest e.g. $4500 - 4400 = 100\text{ft}$.

NOTE; You can be asked to calculate the vertical interval of an area of a certain part of the map e.g. using **MASINDI** map extract calculate the vertical interval of an area east of easting 57 between northing 76 and 82.

NOTE: Vertical interval is used to determine the value of contours when they are not numbered. While looking for the highest contour just add the vertical interval to the unnumbered contour until you reach the last one on top, while looking for the lowest just subtract the vertical interval from the numbered contour.

VERTICAL EXAGGERATION

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This is the number of times that the vertical scale is adjusted without adjusting the horizontal scale in order to make the features visible.

The horizontal scale remains the same as 1:50,000 from the map extract.

Vertical exaggerating is calculated using vertical scale and horizontal scale

CALCULATING VERTICAL EXAGGERATION OF THE CROSS SECTION DRAWN

- Vertical scale let us assume is 1 cm represents 300ft
- Since 300 is in ft it's multiplied by 30 to change it to centimeters because mathematically 1ft=30cm. therefore we shall get $300\text{ft} \times 30 = 9000$.
- Therefore 1:9,000 or $\frac{1}{9000}$

Horizontal scale on a map was 1:50,000 which is same as $\frac{1}{50000}$

$$\text{Vertical Exaggeration} = \frac{\text{vertical scale}}{\text{Horizontal scale}}$$

Therefore $\frac{1}{9000} \div \frac{1}{50,000}$ Reciprocate in order to change the signs.

$$\frac{1}{1} \times \frac{50,000}{9,000} = \frac{50,000}{9,000} = 5.5$$

5.5 times

NOTE. If the vertical scale is in meters e.g 1:300m

To convert meters to centimeters just multiply by 100 because there are 100cm in 1 meter

$$300 \times 100 = 30,000$$

1:30,000

Follow the procedures as illustrated above.

HORIZONTAL EQUIVALENT.

This is the distance covered by the horizontal line on either cross section or between any two points joined by the straight line.

- ❖ Horizontal equivalent of the cross section is the same as Horizontal distance which is put on the base or horizontal axis of the cross section.
- ❖ Mark the beginning point where the cross section is to be drawn

procedures

- ✓ Mark the beginning and end points according to the question
- ✓ Measure the distance between the two points
- ✓ Transfer the measured distance which is in centimeters according to map extract to linear scale and determine the horizontal scale in km
- ✓ Make sure that while transferring to the linear scale you start from the km not on meters.

GRADIENT

It's the steepness of a slope between two places.

How to calculate gradient

- ❖ Join the two places asked from the question [e.g. for places A and B]

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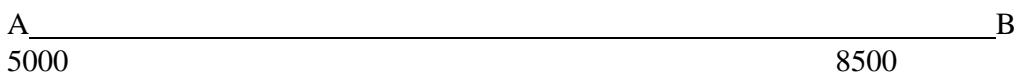
- ❖ Measure the distance between the two points A and B there by getting the horizontal equivalent which is in kilometers.
 - ❖ Check for the highest contour and lowest contour crossed by the line AB
 - ❖ Calculate the vertical rise (height range on a straight line) between the points A and B i.e highest point –lowest point.
 - ❖ Therefore calculate the gradient using the formula of

Gradient =vertical rise

Horizontal distance/equivalent.

- ❖ **Remember** height can be in meters or feet. Therefore you need to change
 - ❖ **1** feet = 0.3 meters
 - ❖ **1km=1000m**
 - ❖ No units given to the final answer of gradient.

Example. Calculate the gradient of the between A and B [height in feet]



Vertical rise is $(8500\text{ft} - 5000\text{ft}) = 3500\text{ft}$

Let us assume that horizontal equivalent is 6km

3500ft

6km

Change feet into

1 ft= 0.3metres

before 3:

Chlorophyll autoxidation

Change km to
1km = 1000m

$$6\text{km} = (6 \times 1000) \text{ m}$$

-6000m

Therefore we substitute in the formula

1050
6000

NOTE; in order to get the valve in a ratio which must be 1:, the numerator is divided by itself and also the denominator is divided by the numerator Therefore 1050

$$\begin{array}{r}
 1050 \\
 \times 6 \\
 \hline
 6000 \\
 1050 \\
 \hline
 6300
 \end{array}$$

Therefore the gradient of the area between A and B is 1:6 which means that for every 1 meter of vertical rise 6 meters are moved horizontally.

AMPLITUDE

This is the difference between the point highest point and lowest point .it can be along the cross section or on map extract.e.g If the highest point is 7500ft and the lowest point is 3000ft. Therefore the amplitude will be $7500\text{ft} - 3000\text{ft} = 4500\text{ft}$.

ECONOMIC ACTIVITIES CARRIED OUT WITH EVIDENCE FROM THE MAP EXTRACT.

Questions about economic activities require you to give evidence for the activity from the map plus the location **using place names**

ACTIVITY	EVIDENCE
FISHING	<ul style="list-style-type: none"> ❖ Fish traps ❖ Fishing village
	<ul style="list-style-type: none"> ❖ Fish factory ❖ Pier on a lake ❖ Fish hatcheries ❖ Landing site. <p>NB.presence of a water body alone e.g. a lake or a river is not an evidence of fishing.</p>
LUMBERING	<ul style="list-style-type: none"> ❖ Saw mills ❖ Forest guard posts ❖ Minor roads ending into the forests. ❖ Pit sawyers <p>NB. A forest is not an evidence for lumbering.</p>
AGRICULTURE	<p>1.CROP FARMING</p> <ul style="list-style-type: none"> ❖ Ginneries ❖ Plantation ❖ Estates ❖ Factories <p>2.LIVE STOCK</p> <ul style="list-style-type: none"> ❖ Cattle dip tanks ❖ Demonstration farms ❖ Cattle trough ❖ Boreholes ❖ Cattle markets etc.
MINING \$QUARRYING	<ul style="list-style-type: none"> ❖ Symbols of mineral workings ❖ Named mines ❖ Quarries ❖ Processing plant for the mineral.
FORESTRY	<ul style="list-style-type: none"> ❖ Named forest reserve

TOURISM	<ul style="list-style-type: none"> ❖ National and game reserves ❖ Hotels ❖ Rest houses ❖ Camping sites ❖ Antiquity. ❖ Historical sites ❖ Museums and monuments ❖ View points along roads.
TRADE	❖

1) PATORALISM OR ANIMAL REARING

Evidence

Veterinary offices/stations.

Dams/valley dams
 Water reservoirs
 Cattle markets
 Water holes
 Dairy farms and ranches
 Butcheries aside slaughter houses
 Creameries Cattle dips and cattle demonstration farms.

2) MANUFACTURING/INDUSTRALIZATION

Evidence

Ginnery, factory, mills, processing plant, name of an industries Creameries for milk processing etc.

3) MINING AND QUARRYING

A quarry/ mining center e.g. copper mines, mineral working, and smelters.

4) TRANSPORT AND COMMUNICATION

Evidence

Roads, Railways, Airstrips, Ferry routes. Ports and Aerodromes.

- ❖ NB: -features like hospitals, settlements, Administration posts, and schools are no longer considered as major economic activities although they are land use activities. Also dams may not always reflect HEP production because they may be agricultural dams used to store water during dry seasons.
- ❖ When stating economic activities, never forget to give evidences whether asked or not. Also direction and place names on the map extract must be given in relation to the activity being stated.

PROBLEMS AFFECTING ACTIVITIES CARRIED OUT IN THE AREA.

NB: The problems must also have evidence in form of causes, place names and direction on the map extract.

Some problems may include the following:-

- ❖ Soil erosion along steep slopes (give place names and direction) affecting agriculture
- ❖ Landslides along highlands affecting agriculture, settlements etc.
- ❖ Water borne diseases in swampy areas

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- ❖ Highland areas hindering construction of transport routes.
- ❖ Floods affecting agriculture evidenced by dams, water holes, seasonal swamps etc. affecting in low land like swamps, valleys.
- ❖ Limited rainfall affecting agriculture evidenced by dams, water holes, seasonal swamps.
- ❖ under developed transport affecting tourism

- ❖ Insecurity affecting, mining, tourism ❖ Pests affecting livestock evidenced by tsetse fly control centers.

HOW TO IDENTIFY AND STATE PROBLEMS FACED BY THE PEOPLE IN AREA SHOWN ON THE MAP:-

Points to Note:

- ❖ Identify the problem
- ❖ Give evidence backed up by directions and place names.
- ❖ When looking for problems from the map extract, the following can be useful;
- ❖ Swamps both seasonal and permanent are evidence of flooding, pests and diseases etc.
- ❖ Uplands and steep slopes are evidences of erosion, difficult in road construction landslides, limited land for agriculture and settlement, remoteness etc.
- ❖ Wind break is an evidence of strong winds.
- ❖ Water bodies like lakes etc. are evidences of flooding, water borne diseases like bilharzias, problems in road construction etc.
- ❖ Numerous dams, waterholes, seasonal swamps, boreholes, reservoirs etc. are evidences shortage of water supplies.
- ❖ Forests and thickets can be evidences of wild animals that are a threat to human property e.g. monkeys.
- ❖ Valleys and lowlands are evidences of flooding.
- ❖ Few roads or absence of roads indicate remoteness, etc.

NB. Emphasis should be on evidences, place names and directions.

Eg. With evidence from katugulu map extract, explain the problems likely to be faced by the people living in the area.

- Floods due to the presence of seasonal swamps in the north.
- Soil erosion due to steep slopes in the south East
- Land slides due to steep slopes in the south east
- Water borne diseases due to the presence of lakes and rivers e.g lake kyamwinga
- Difficulty in construction of communication lines due to steep slopes in the south east
- Drowning evidenced by kazinga channel in the north
- etc

SETTLEMENT PATTERNS ON THE MAP

1. Linear settlement

This is a settlement pattern in form of a line like along roads, along rivers, along a railway like along shore line of the lake

ILLUSTRATION OF A LINEAR SETTLEMENT PATTERN



Road/railway



Factors favoring linear settlement pattern.

Presence of roads for accessibility.

Economic activities like trade and commerce

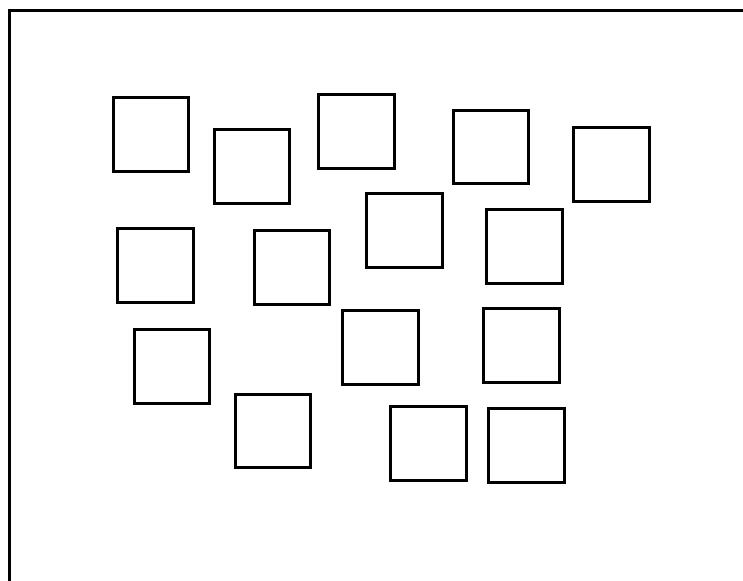
Security purposes

2. Nucleated/clustered settlement pattern/ grouped settlement

It is where settlements are concentrated in a particular area like a road junction, around a hospital, around a police post, a school.

N.B clustered or group settlement is more associated with villages where huts are concentrated together while Nucleated is more associated with a town setting.

ILLUSRATION OF NUCLEATED/CLUSTERED/GROUPED.



Factors favoring nucleated or clustered settlement pattern.

- Presence of a number of economic activities like trade and commerce
- Presence of improved health facilities like hospitals
- Presence of security services like police posts.

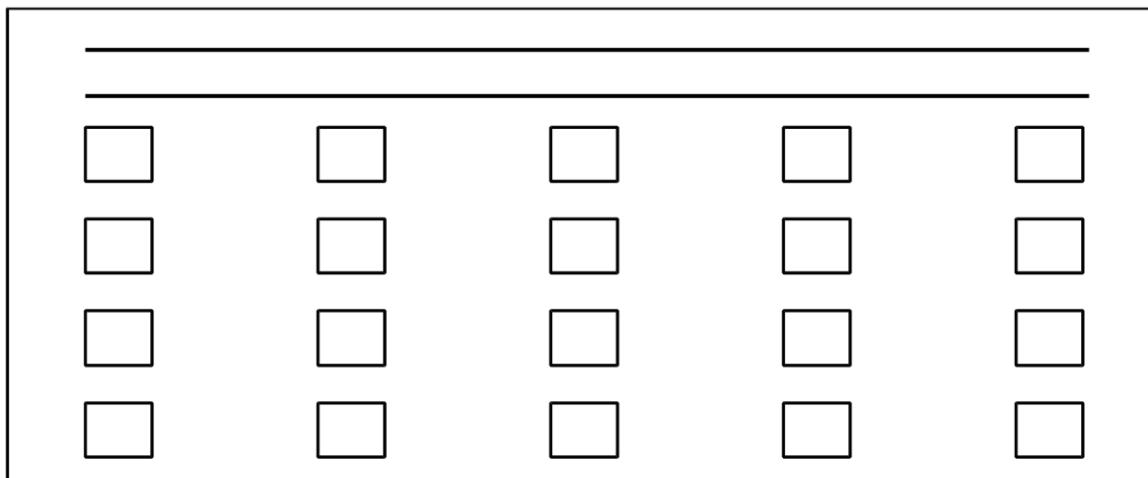
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- Education services like schools and universities.
- Presence of administrative factors e.g. administrative headquarters.
- Employment opportunities provided by industries etc.
- Fertile soils and water points for the village setting
- Existence of a road junction or railway station.

3. Grid/planned settlement pattern

This is a planned settlement where buildings are constructed according to a given plan like in a town and appears in form of a square or a rectangle.

Illustration of a planned settlement pattern.

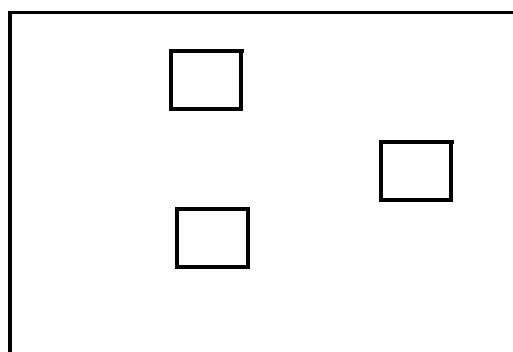


Factors for its development

- Administrative factors e.g. need to construct district headquarters
- Social factors like schools, hospitals
- Presence of urban centers

4. Sparse //scattered/dispersed settlement pattern

This is where settlements are scattered in a given area/ where settlements are almost evenly spread a given area.



The factors for scattered settlement pattern may include the following:

- Under developed transport network
- Generally low population
- Limited economic activities
- General insecurity in an area

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- Limited social and health facilities like schools and hospitals ▪ Remoteness of the area limiting settlement e.g. mountainous regions.

TYPES OF SETTLEMENT ON A MAP EXTRACT.

These are different from settlement patterns. The types of settlement include:-

Rural settlement, this is found in rural areas. It is normally scattered or it may be clustered.

Urban settlement, this is found in towns or trading centers and may be nucleated and planned (grid) settlement pattern

Resettlement schemes or settlement schemes Refugee camps.

HOW TO DESCRIBE POPULATION DISTRIBUTION ON A MAP EXTRACT

In describing settlement distribution or population distribution on a map extract, the following terms are used:-

- ✓ Densely populated/ densely settled
- ✓ Moderately populated /settled
- ✓ Sparse settlement/ low population ✓ Nil settlement. That is no settlement at all.

FUNCTIONS OF TOWNS ON A GIVEN MAP EXTRACT (URBAN CENTERS)

NB: When stating functions, give evidence in form of place names and directions of the map extracts.

- Administrative Centre (functions) evidenced by district headquarters, police post (give direction)
- Education Centre due to presence of schools. (Give name and direction).
- Recreational Centre due to the stadium, golf course etc.
- Communication centers due to post office
- Industrial Centre due to presence of industries and factories e.g. coffee works ▪ Tourist Centre due to Hotels
- Trading/commercial Centre due to roads, shops etc.
- Medical services e.g. hospitals.
- Offers religious services due to churches and mosques.
- Transport and communication services due to roads, Air strips etc.

For example using Masaka map extract provided in the manuscript outline the functions of masaka town.

- ✓ Education center evidenced by school south of masaka town.
- ✓ Residential centre evidenced by settlement
- ✓ Administrative centre evidenced by police lines, station, prison south of masaka town
- ✓ Transport and communication center evidenced by post office and roads ✓ Commercial centre evidenced by masaka town.
- ✓ Tourist centre evidenced by Hotel. Etc. ✓ It's a health centre evidenced by the hospital north of masaka town.

FACTORS FOR THE LOCATION AND GROWTH OF TOWNS/URBAN CENTRES

- ❖ Gently sloping landscape to easy construction of buildings, transport routes etc (give names and direction)
- ❖ Efficient transport and communication network for easy accessibility (give example of roads).
- ❖ Dense population providing required labor and market.
- ❖ Water supply from lakes and rivers or swamps

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- ❖ Rich agricultural hinterland hence a source of food for population, and raw materials evidenced by plantations of sugarcane, coffee, bananas, etc
- ❖ Fertile soil suitable for agriculture evidenced by plantations, cotton stores etc.
- ❖ Well drained soils which favor settlement and agriculture
- ❖ Availability of capital for industrial development evidenced by industries, factories etc.
- ❖ Tourism attractions in the area (give; evidence of names and directions).
- ❖ Favorable climate (rainfall and temperatures) attracting settlement ❖ Fishing activities if the area is near a water body like Jinja. ❖ Power due to presence of dams like Owen falls dam etc.

NB: Those points above are just guidelines for identifying factors from the map extract.

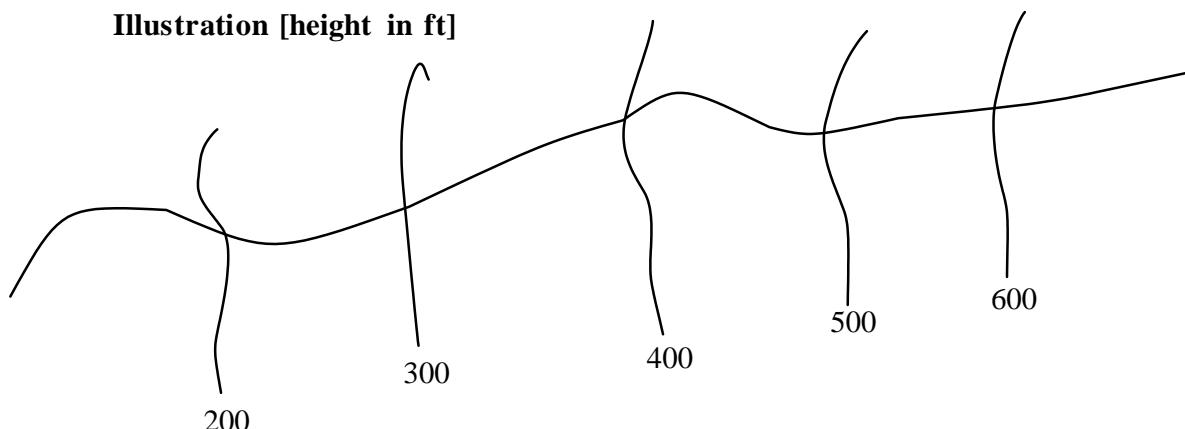
DETERMINING THE DIRECTION OF FLOW OF A RIVER

We consider a lot of factors to determine the direction of flow of a river.

For example

- The gradient along which the river flows. Rivers normally flow from areas of high altitude [uplands] to areas of low altitude [low lands].
- Nature of the river valley i.e. whether narrow or wide
- Features along the rivers also help to determine the direction of flow of a river, you need to look at the characteristics of river in the old stage and in the youthful stage. The youthful stage becomes the source and old stage becomes the mouth.
- The direction in which the open shape of contours face. River flows in the direction in which the U shape of contours point, i.e. rivers flow from behind the U-shape of contours it crosses.

Illustration [height in ft]



The river flows from east to west due to high altitude of 600ft in the east and low altitude of 200ft in the west. Rivers flow from high altitude to low altitude.

NB. The major evidence to consider first is that of contour heights or gradient.

Example using **LAKE NAKIVALI** map extract, with reason determine the general flow of river near omurwenkubo.

RELIEF;

This is the general appearance of the land.

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An area can be flat,e.g if it has fairly straight roads,both swamps and fairly straight river courses, meandering rivers etc

What evidence is there to show that the northern part of katunguru is flat?

- Fairly straight roads e.g the loose surface roads in the North West and bound surface road in the North West.
- Presence of swamps
- Presence of straight roads.
- Presence of meandering rivers
- Fairly straight courses of the rivers around kazinga channel.

. What evidence is there to show that the southern and south eastern part of masindi is hilly?

- ❖ Presence of winding [bending] roads e.g the loose surface road from Bujenje to masindi town.
- ❖ The area is dominated by ridges and conical hills fumbya, isagara etc.
- ❖ Fairly straight river courses e.g a river near kichandi

RELIEF REGIONS/ PHYSIOGRAPHIC REGIONS

On a map we have three relief regions or physiographic regions. A region is a big area e.g

- ✓ **Steeply sloping area this is found where there are uplands/highlands**
- ✓ **Gently sloping area which is found on gentle slopes and**
- ✓ **Lowlying area. Which is found on low lands**

RELATIONSHIPS BETWEEN GEOGRAPHICAL PHENOMENA

1. Relationship between Relief and Drainage:-

- ✓ Lakes occupy basins
- ✓ Swamps both permanent and seasonal occupy low lands./ low lands are poorly drained
- ✓ Rivers originate from highlands/uplands/ridges/hills flowing downslope to lowlands. OR ridges, uplands, highlands form watersheds.
- ✓ Radial drainage patterns formed by rivers flowing over mountainous
- ✓ River flowing in highland areas have narrow valleys like
- ✓ Rivers flowing in gentle slopes/ flat land have broad valley (give names of rivers and direction)
- ✓ Gentle slopes have dendrite pattern (give names of rivers and direction)
- ✓ Rivers meander in low lands [give an example] ✓ Steep and gentle slopes are well drained.
- ✓ Rivers tend to have straight courses in highland areas.

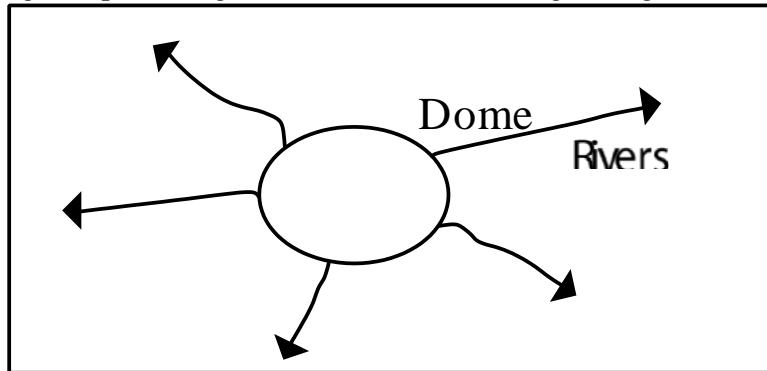
NOTE; Give evidence of place names, names of features and directions.

Example. Describe the relationship between relief and drainage using lake nakivali map extract.

- Lake Nakivali occupies a depression/basin in the north east.
- Steep slopes have straight river courses e.g. river around omurwenkubo.
- Some rivers have formed dendritic drainage patterns on a gentle slope e.g igayaza.
- Permanent and seasonal swamps are in low lands. E.g around lake nakivali,kikoma etc.
- Steep slopes are well drained e,g nyakisharara,bugarama etc.
- Low lands are poorly drained e.g ntogota
- Gentle slopes of burungamo are well drained.
- Some rivers like muko flow through a broad valley.

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- Ridges / uplands/highlands form watersheds e.g kabingo.



2. Dendritic drainage pattern.

- Rivers originate from uplands/hills/ridges/highlands flowing downslope to low lands e.g kabingo.
- Rivers flow in narrow/ v-shaped valleys eg kabingo.

Note. Give relief + drainage + location.

DRAINAGE ON THE MAP.

Drainage refers to all exposed water bodies on the earth's surface. Good examples include lakes, rivers and swamps. Rivers and swamps can be permanent or seasonal. Therefore a close look should be taken while describing drainage.

In drainage we also include the patterns that is how the river displays its tributaries on the surface. These drainage patterns have got factors that favor their lay out. E.g.

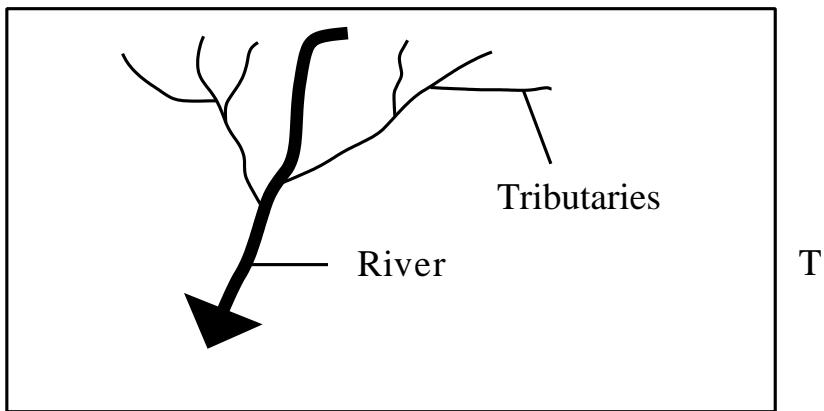
1. Radial drainage pattern

This is where rivers originate from the same point flowing in different directions.

- ✓ It occurs in areas where rocks are homogeneous
- ✓ It occurs on steep slopes/ dome/ mountain where rivers radiate.
- ✓ It occurs in areas that receive heavy rainfall to sustain the of the tributaries.
- ✓ The rock structure on the cone should be easily eroded for the various riversstreams to re-shape their channels.

This is where tributaries join the main river at approximately acute angles.[any angle below 090°] making a pattern like a tree.

- ✓ It occurs in area with homogenous rocks which offers uniform hardness.
- ✓ It occurs in area with gentle slopes.
- ✓ It occurs in areas that receive heavy to allow the formation of numerous sub streams that eventually join the main river.
- ✓ Massive crystalline rocks like granite.
- ✓ It also develops in a common large catchment area i.e the multiple tributaries cover a large catchment area.



3. Trellis /trelli sed/rectili near drainage pattern.

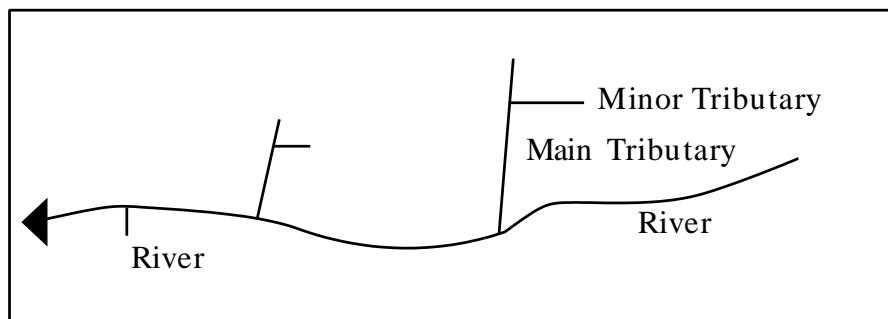
This is where tributaries join the main river at approximately right angles.

- ✓ It occurs in areas where there are heterogeneous rocks.
- ✓ It occurs on gentle slopes.
- ✓ It occurs in area with moderate rainfall which is adequate to sustain the flow of tributaries.
- ✓ Rocks that are highly jointed and faulted ✓ River capture is also important.

4. Centripetal drainage pattern.

This is where rivers pour their waters in the same area which can be a basin occupied by a lake or a low land occupied by a swamp.

- ✓ It occurs in areas that receive little rainfall.
- ✓ It occurs in areas with homogenous rocks to allow uniform erosion.



RELATION
TRA
NSPORT
ROUTES.
• Roads are

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- constructed on gentle slopes
- Roads are constructed in broad valleys
- Steep slopes are generally avoided for road construction
- Road bridges are constructed across river valleys.
- Few foot tracks exist in highlands.
- The flat areas have straight roads.
- Air field are constructed in the flat low land area.
- Railways are constructed in lowlands.
- Culverts are constructed in valleys
- Hilly areas are dominated by motor able tracks and foot paths.
- Highland areas/ uplands have roads that meander.

Using Lake Nakivali map extract describe the relationship between relief and communication.

NB: Give evidence of place names, names of features and directions. You don't need to cram the above description. You need to study each map extract thoroughly because maps are different.

RELATIONSHIP BETWEEN RELIEF AND SETTLEMENTS.

- ✓ Uplands with very steep slopes are avoided for settlement ✓ Gentle slopes are settled.
- ✓ Hill tops are avoided for settlement.
- ✓ Low lands are avoided for settlement due to flooding.
- ✓ River valleys are avoided for settlement.
- ✓ Settlements are on plateaus.
- ✓ Conical hill tops may lack settlement.
- ✓ Some flat topped hills are settled.
- ✓ Broad river valleys may be highly settled.

Using the map extract of masaka describe the relationship between relief and settlement.

RELATIONSHIP BETWEEN DRAINAGE AND TRANSPORT ROUTES/ COMMUNICATION ROUTES

(Nyarweyo map extract]

- ✓ Roads and Railways cross swamps where bridges and culverts have been constructed e.g. kadiki swamp in north western part of nyarweyo.
- ✓ Roads and Railways are constructed in well drained gentle landscape.e.g kakindu-kyekandu dry weather road in southern.
- ✓ Roads crossing rivers have bridges give an example
- ✓ Airstrips have been constructed in well drained areas. Give an example ✓ Many Roads avoid waterlogged areas e.g in the Eastern part.
- ✓ Footpaths cross river valleys at culverts.
- ✓ Roads cross papyrus swamps at bridges.

Relationship between drainage and settlement. [Nyarweyo map extract]

- ✓ The swampy areas /water logged areas have been avoided for settlement like in the Southwest.
- ✓ Sometimes broad valleys discourage settlements.
- ✓ There are dense settlements in well drained areas.
- ✓ There are few settlements in areas with numerous rivers.
- ✓ Areas around lakes and rivers encourage settlements.
- ✓ Narrow river valleys discourage settlements

RELATIONSHIP BETWEEN RELEIF AND LAND USE [masaka map extract]

A candidate should be able to identify the various relief features such as gentle slopes, steep slopes, valleys, passes, flat topped hills etc. and then relate them to land use such as agriculture, settlement, transport and communication routes, forestry etc.

Examples

- Settlements are concentrated on the gentle slopes due to easy construction e.g. in central around kyabakuza and kyalubu.
- Gentle slopes have been used for road construction due to easy accessibility e.g. mbirizi-mpugwe road .
- The steep slopes are under forestry in order to reduce the rate of soil erosion. e.g **look at masindi map extract and give an example.**
- The county and sub- county boundaries are majorly in valleys.e.g kalungu and bukoto county boundary in the west.
- Crop growing is done on gentle slopes e.g plantations like near butengo in the north east are on gentle slopes. For easy mechanization.

NB: land use/ human activity +relief reason+

Example 2.

Influence of relief on human activities.(lake nakivali map extract).

- ❖ Tourism is on gentle slope/ ridge top due to easy accessibility e.g Rest House near igayaza ridge in the north.
- ❖ Settlements are found in gentle slopes due to easy construction of houses e.g around kibingo,mabona etc.
- ❖ Roads and tracks follow gentle slopes/broad valleys/foot hills for easy construction e.g mabona-kabingo- mbarara road.
- ❖ Subsistence farming is carried out on gentle slopes and ridge tops due to easy cultivation evidenced by settlements in areas of mabona etc.
- ❖ Trading is carried out on gentle slopes due to easy accessibility e.g. kabingo trading Centre.
- ❖ Boreholes /water tanks/ waterholes are in valleys and gentle slopes this is due to nearness to the water table e.g. around musirira.

Avoid giving negative relationships. Give them when only one land use is asked. E.g. relationship between relief and settlement. But if the question asks for the relationship between relief and many human activities/ land uses then negatives are NOT to be given.

LOCATION OF THE AREA ON A MAP EXTRACT.

Hemisphere [MASAKA MAP EXTRACT]

How to determine the Hemisphere where the maps extract was drawn or where the area shown on the map is found.

Look at the right hand side of the map, there are figures indicated such as $0^{\circ} 20'S$, hence the area is 0 degree and 20 minutes South, implying that the area was drawn from the Southern hemisphere. If get say $0^{\circ} 50'N$

, this means that the area is 0 degrees and 50 minutes north, implying that the area was drawn from the northern hemisphere.

However,some maps may not have letters of S &N just look at the figures e.g $3^{\circ}00'$ and $3^{\circ}05'$ in that order it indicates that the place is in Northern hemisphere because the numbers are increasing northwards, while if u get numbers in this order $3^{\circ}05'$ and $3^{\circ}00'$ in that order it indicates that the place is in southern hemisphere because the numbers are decreasing southwards. NB: The letter S or N shows that the area is either in southern or Northern hemisphere. If both letters S and N are shown on the same map extract, then it implies that where there is N, that area is in that Northern hemisphere.

Exercise

Using the map extract of Lake Nakivali state the hemisphere where the map extract was drawn

Study the 1:50,000 (UGANDA) MASAKA map extract [height in feet] and answer the questions that follow.

QUESTION ONE

- (a) state the grid reference of the
(i) **Road** junction at buyoga

(ii) Air photo principle point with sortie number 015

(iii) church found at mukululu

(b) Calculate the

(i) Area covered by nabajuzi and nakaiba swamp

(ii) Road distance in kilometers covered by loose surface road from GR 560627 to 0620.

(iii) bearing of kuangaro trigonometric station from road junction at kyabakuza.

(iv) with evidence from the map extract state the direction of river flow of river wabitembe

(c) Draw a sketchmap of the area and on it mark and name

- ✓ Permanent and seasonal swamps
 - ✓ Masaka town
 - ✓ Dry weather road
 - ✓ Power transmission line
 - ✓ Plantations
 - ✓ Administrative boundaries
 - ✓ River katungulu

(d)(i)explain the importance of nabajuzi swamp to the people living in that area. (ii)

Outline the functions of Masaka town

(iii) Describe the relationship between drainage and vegetation

(e)(i) Name any two types of plantation crops grown in the area shown on the map (ii) Giving evidence from the map, explain why the area is suited for plantation farming.

ANSWER SHEET

QUESTION 2

(a) Identify the features on the following grid reference

- (i) 468655
 - (ii) 569631
 - (iii) 484685

(b) Calculate

- (i) The area covered by Butenga County. (ii)
Vertical interval of the map

- (i) Amplitude of the area north of northing 70
(ii) State the direction of flow of nabajuzi-nakayiba swamp

- ✓ Swamps [seasonal and permanent]
 - ✓ Two types of transport routes
 - ✓ Lowland ✓ highland
 - ✓ Plantation ✓ Settlement
 - ✓ Principle point.

(ii) Calculate the vertical exaggeration of the cross section drawn.

(iii) Horizontal equivalent of the cross section.

(d)(i) Identify the economic activities carried out in the area shown on the map.

(ii) Explain the relationship between drainage and transport routes (iii)

Identify settlement patterns in the area.

(iv) Explain the factors influencing the above settlement patterns.

ANSWER SHEET

Study the 1:50,000 (UGANDA) **MASINDI** map extract [height in feet] and answer the questions that follow.

QUESTION ONE.

- a. i. Name the made feature at GR 555855
ii. Identify the physical feature at GR 463783
 - b. i. Calculate the area covered by budongo forest reserve.
ii. Measure and state in kilometers the straight line distance of the dry weather road from GR 486768 to GR 430823.
 - c. (i) Enlarge the area North of Northing 79 and 83 between Easting 52 and 56 by 2 shown on the map extract and on it mark and name.
Forests
Roads
Plantation
Planned settlement.
Three physiographical regions
 - (i) calculate the new scale of the enlarged map
 - d. (i) Account for the formation of a ridge.
Explain the functions of masindi town iii) The problems faced by the masindi town.
(e) [i] with evidence from the map extract, describe the land use activities carried out by the people living around.

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[ii] Describe the relationship between drainage and land use shown on the map extract.

-ANSWER SHEET.

QUESTION TWO

- a. State the grid reference of the following features.

i. kibanya secondary trigonometrical station ii.
Air photo principle with a sortie number 90 b.
Calculate

i. The amplitude of the area on the map extract. ii
Average height of the area shown on the map extract

c. i. Draw a cross section of the area between GR 440760 and GR 500820 and on it mark and name,

 - Conical hills
 - Concave and convex slopes.
 - River
 - Settlement
 - Communication lines
 - Vegetation types
 - And boundary

(cii) Determine the intervisibility between bujenje and bugarama conical hills

dIi] Calculate the amplitude of the cross section drawn.
[ii] Calculate the gradient of the cross section drawn.
[iii] Identify the drainage pattern displayed by river kaitambwe and account for its formation.

d. [i] Describe the problems facing people of the area on the map extract.
ii] Describe the relationship between drainage and settlement.

e. outline the land use activities shown on the map extract.

ANSWER SHEET

QUESTION 3

A(i)Describe the location of masindi

- (b) (1) Draw the sketch map of the area in the south west part of the map bordered by easting 46 and 50 and between northing 76 and 80, on it mark and name

 - A plantation
 - Forested areas
 - One drainage feature
 - Settlements and
 - Transport routes

(ii) I identify the counties making up the area of Masindi.

- (c) (i) explain the factors that favored to the location of Masindi town

D .Describe the

- i. Three economic activities carried out in the area shown on the map extract ii.
Problems faced by the people living in the area shown on the map.

Study the 1:50,000 (UGANDA) **LAKE NAKIVALE** map extract [height in feet] and answer the questions that follow.

Question one

- a. i. State the GR of the bore hole south of Mabona
ii. Identify the man made feature found at 623092

b. Measure and state the distance in (km) of the all-weather loose surface road from mabona dispensary junction to water hole north of omuibare.

c. Draw a cross section along Easting 54 between northing 08 and 15 and on it mark and name;

 - Gentle slope
 - River
 - Two transport routes
 - Broad valley Settlement •
 - Ridge and a convex slope

D .Describe the relationship between relief and communication in the area shown on the map -----

—

Question two

- a. Determine.

i. The bearing of the bore hole at busega GR 564136 from road junction at musirira GR 610084.

b. Draw the sketch map of the area covered by lake Nakivali map extract and on it mark and name

 - A dry weather road
 - County boundary
 - Two types of swamps
 - Lake nakivali
 - Two relief regions

E) (i) With evidence from the map, identify any four land uses shown on the map extract.

(iii) Explain the factors that have favored the land use identified in E (i) above.

Study the map extract 1:50,000(UGANDA) KATUNGURU map extract [height in feet] and answer the questions that follow.

QUESTION 1

- a)(i.)State the grid reference of the kitoma trigonometrical station.
(ii.) Identify the man made feature at GR 803874
b. (i) calculate the area covered by kazinga channel.
(ii) State the direction of flow of river kafu.
(iii)What evidence is there to show that the northern part of katunguru is flat.
(iv)with evidence from the map extract, state the direction flow of river kabingo.
- c. (i) Reduce the area between northing 82 and 92 by 2.5 and draw its sketch map and on it mark and name
Craters
Swamps

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County boundary Transport route
Kazinga channel

- (ii). Calculate the new scale of the reduced sketch map (iii) Vertical interval for the map extract.

d. Describe the

 - The drainage in the area shown on the map extract
 - Relationship between relief and drainage in the area shown on the map extract.
 - Nature of the physical landscape
 - Processes which were responsible for the formation of the landscape shown on the photograph.

ANSWER SHEET.

QUESTION 2

- a)(i) With evidence from the map extract describe the location of katunguru.
(ii) Which hemisphere is katunguru located (b)[i] State the relief feature in the grid square 8789 [ii] Account for its formation.

(c)(i) Draw a sketch map of katuguru and on it mark and name

 - ❖ Kazinga channel
 - ❖ Upland areas
 - ❖ Kyambura escarpment
 - ❖ Two vegetation types ❖ Two types of swamps ❖ Lake Bugusha.

(ii) Describe the relief of the area.

(d)(i) Account for the formation of kyambura escarpment.

(ii) With evidence from the map extract, explain the problems likely to be faced by the people living in the area shown on the map extract.

(iii) Explain the relationship between relief and communication in the area shown on the map.

ANSWER SHEET

Study the 1:50,000 (UGANDA) **NYARWEYO** map extract [height in feet] and answer the questions that follow.

QUESTION ONE:

- a. State the grid reference of
 - i. Name the feature found at grid reference 157354.
 - ii. Calculate the de-tour index of the bugahya county boundary
 - b. Draw a cross section from GR 060350 and 130350 and on it mark and name Dry weather road Ridge
County boundary
Swamps [two types] and
Forests
 - c. Calculate the
 - i] Vertical exaggeration of the cross section drawn.
 - ii] Gradient iii] Horizontal equivalent.
 - d. Describe;
 - i. The relief of the area on the map extract ii. Relationship between relief and vegetation shown on the map. iii. Explain the value of mpongo and kadiki swamps

ANSWER SHEET

Question two

- a. Name the features at the following grid references
068239
117282
 - b. Measure in meters the distance covered by the dry weather road from 098290 north wards.
 - c. Draw a proportionate sketch map of the area on the map extract and on it mark and name the following.
 - Two types of Swamps
 - Two Physiographic regions
 - Forests
 - Rivers lwebokere and kanywabarogo
 - Any two communication routes and
 - County boundary.
 - d. Describe the
 - i. Three economic activities carried out in the area shown on the map extract ii.
 - Problems faced by the people living in the area shown on the map.

Study the 1:50,000 (UGANDA) **KALONGO** map extract [height in meters] and answer the questions that follow.

- (i) state the grid reference of the reservoir south west of lulim

- (ii) Name the feature at 418318
 - (iii) State the height of the hill at Lokapel
 - (iv) State the height of the hill found in the grid square 3839

A) (i) which evidence is there to show that south and south eastern part of kalongo is flat?

(ii) Calculate the de-tour index of the sub-county boundary.

B) Draw a sketch map of the area and on it mark and name

- ✓ 3 physiographic features
 - ✓ Forested areas
 - ✓ Seasonal swamps
 - ✓ Rivers Awuch and kalongo
 - ✓ Transport route
 - ✓ And kalongo town.

C) (i) Explain the stage of river Awuchi

(ii) State and account for the drainage pattern displayed by river kalongo.

(iii) Describe the relief of the area

(iv) Explain the relationship between relief and land use activities.

Study the 1:50,000 (UGANDA) KABALE map extract [height in feet] and answer the questions that follow.

QUESTION 1

- (a) (i) Identify the physical feature found at grid reference 240564 (ii) State the grid reference of the bridge East of Nyakabungo.
- (iii) With evidence from the map extract state the direction of river flow of river Nyakyaro
- (b) Draw a relief section from grid reference 250580 to 330580 and on it mark and name,
- (i) Two drainage features
 - (ii) Administrative boundary
 - (iii) a saddle
 - (iv) a convex and a concave slopes
 - (v) v- shaped valley
 - (vi) a plantation farm
- (c) Calculate the
- (i) Vertical exaggeration and
 - (ii) Gradient of the cross section drawn
- (d)With examples from the map extract, explain the environmental problems faced by people living in the area.

QUESTION 2

- (a) (i) Identify the human feature found at grid reference 303573 (ii) State the grid reference of the kaabagirwa Hot spring.

(b) (i) With evidence from the map extract, state the latitudinal and longitudinal location of kabale (ii) State the height of kitooma hill

(iii) State the sub counties that make up kabale.

(c) Given a new scale of 1: 25000 , reduce a sketch map of the area and on it mark and name

(i) Lake Bunyonyi and Bulimba bay

(ii) a plantation

(iii) Two relief regions

(iv) Permanent swamps and forested area

(v) kyahugye island

(d) Account for the formation of

(i) lake Bunyonyi

(ii) Bulimba bay

(c) (i) Explain the value of lake Bunyonyi to the economy of the area.

(ii)With evidence from the map extract, describe the economical potentials found in kabale.

(iii) Explain the relationship between relief and land use of the area.

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QUESTION 3

- (a) (i) Identify the human feature found at grid reference 263523
(ii) State the grid reference of the river confluence on river kazigizigi

(b) (i) State the bearing of other trigonometrical station south of Ndaragi from the Air photo principal point with a sortie number 20.
(ii) Calculate the area covered by lake bunyonyi
(iii) calculate the average height of the area between Easting 29 &31 and between Northing 48 & 50
(iv) Calculate the trend of the subcounty boundary from Grid reference 265554 to kaabagirwa hot spring.

(c) Enlarge the area East of easting 30 and between North of northing 57 to 61 by 2 and on it mark and name

 - ❖ Arable farm
 - ❖ Two transport routes
 - ❖ Two drainage features
 - ❖ Two settlement patterns
 - ❖ Two historical sites

(d) (i) describe the relationship between relief and drainage of the area.
(ii) Identify any three drainage patterns found in the area,
(iii) Account for formation of any **two** drainage patterns mentioned in (d)(ii) above,



Study the 1:50,000 (UGANDA) BUDARI map extract [height in feet] and answer the questions that follow.

QUESTION 1

- (a) (i) Identify the physical feature found at grid reference 533163

(ii) State the grid reference of the bridge near bulucheke

(iii) With evidence from the map extract state the direction of river flow of river manafwa

(b) Measure the distance in kilometers of the loose surface ring road from bududa grid-reference 480120 to buwangani grid-reference 485114

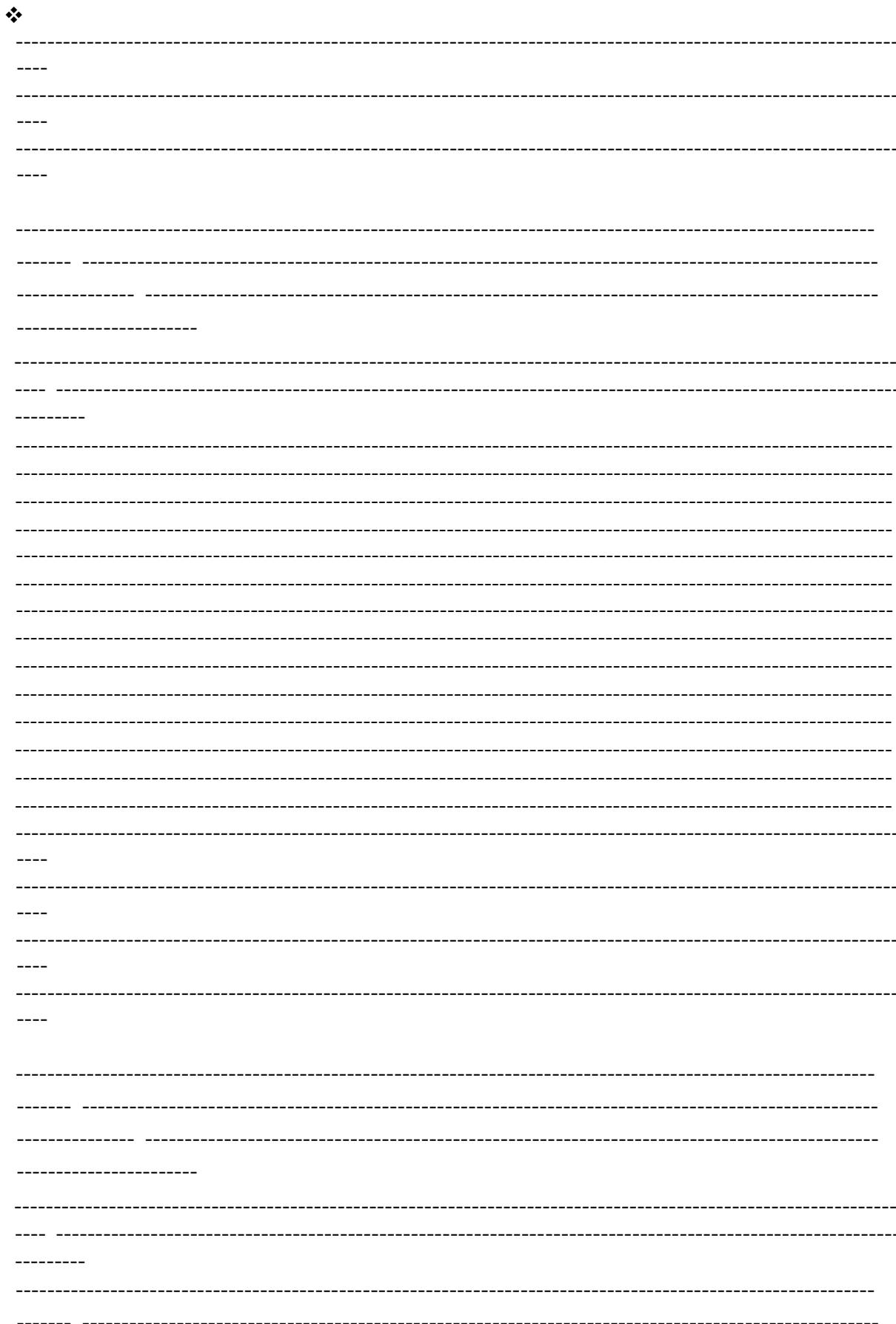
(c) Draw a sketch map of the area shown on the map and on it mark and name

 - ❖ The ring road
 - ❖ Ridges ; bududa,bukigai,bubita and bukinga
 - ❖ Mount elgon forest reserve
 - ❖ River sume and its tributaries
 - ❖ Political boundaries
 - ❖ Two areas of scattered settlement.

(d) Explain the relationship between relief and drainage in the area shown on the map extract.

(e) What are the economic activities carried out in the area shown on the map extract?

Practicing Geography



SECTION: B PHOTOGRAPH INTERPRETATION

This is the identification and interpretation of geographical aspects from the photograph.

TYPES OF PHOTOGRAPHS

1. GROUND PHOTOGRAPHS

Ground photographs are taken from a ground level perspective. They are taken when the cameraman is standing at the same level with the feature of interest.

In geography, ground level photograph are used when conducting detailed study of people and places in the world.

Characteristics of ground level pictures

- o The main features of the photograph are clear especially those in fore ground and detailed.
- o The features/objects appear in their right shapes and sizes.
- o They cover a small area.
- o They show horizons

Advantages of ground level photograph.

- It shows landscape in great detail.
- It's less expensive and easier to produce than oblique and aerial photographs, since ground level photographs do not require the use of any aircraft.
- It's also familiar to the human eye and one does not need orientation with regard to this type of photograph.
- Things in the foreground show more detail than objects in the background.

Disadvantages of ground photograph.

- It doesn't show the entire area, because objects in the front may block important information (dead areas)
- A person's view is often blocked by tall trees, houses, hills etc.
- The scale diminishes from the foreground to the back ground.
- It can replace a great deal of verbal description
- It can be used in field sketching
- It can be used for geographical studies for example study of climate

Disadvantages of a ground photograph



- It doesn't show the entire area, because objects in the front may block important information (dead areas)
- The scale diminishes from the foreground to the back ground.
- It is difficult to determine their scale unless one who takes the picture knows the size of the object.
- They are not selective, that is all objects found in the face of camera are recorded even if they are not needed.
- Objects in the foreground blocks visibility of the objects in the middle and Background.
- It covers small area compared to other types of photography.



e.g

2. OBLIQUE PHOTOGRAPHS

Oblique photographs are taken from a high point, that is to say when the camera man is standing on the raised ground like on a hill top, slope or sitting on tree branches.

Uses

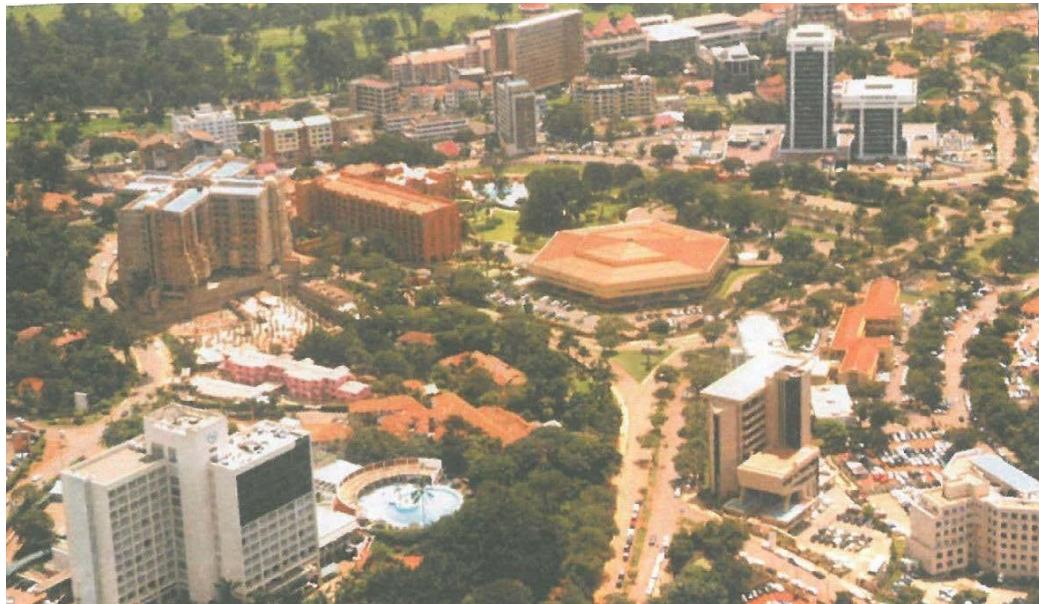
- ❖ . Cartographers use them to construct physical and topographical maps.

- ❖ The property and construction industries also use oblique photographs to record and measure properties.

Characteristics of oblique photographs pictures.

- The object appear to be at a low level because the person who takes this type of picture stands at a raised level or platform.
- The top view of the object is seen.

e.g



Advantages of oblique photographs.

- It shows more of an aerial than ground photographs.
- It can also easily be assessed and understood

Disadvantages of oblique photographs

- ❖ The scale of the photograph is inconsistent, i.e while distances can be calculated in the foreground, according to the provided scale, distances which are closer to the horizon would be completely inaccurate if calculated using the same scale
- ❖ Less detail in the foreground

3 . AERIAL PHOTOGRAPHS.

These photographs are taken from a flying aircraft that is above the feature or object of interest. These types of photographs cover a wider area, they show the tops of the features, objects appear smaller than their real sizes.

Advantage of aerial photographs

- **An aerial** photograph enables the whole of an area to be observed, rather than just a portion of it.
- **The scale of an aerial** photograph is relatively consistent throughout the entire frame. This enables accurate measurements to be made using photograph.

Disadvantages of aerial photographs



- The point of view is unfamiliar and most features look very different when viewed from the above
- It is difficult to recognize ground features.e.g water bodies transport routes etc

e.g



4. SATELLITE PHOTOGRAPHS.

These are vertical aerial photographs that are taken high in the air with the use of satellites. They cover a much wider area and are very difficult to interpret.

Characteristics of satellite photographs.

- ❖ The roof tops appear white due to reflection of camera light.

- ❖ Forests and water bodies appear dark/black due to absorption of camera light.
- ❖ Objects appear to be very small. ❖ These photographs don't show the skyline /horizon.

PARTS OF A PHOTOGRAPH

The features shown in photographs appear in certain parts of photograph. This helps the candidate to be able to read the picture using the geographical picture language.

BACKGROUND
MIDDLE GROUND
FOREGROUND

Fore ground

This is the area that appears nearer to the camera, the objects in this section appear bigger in size than others and clear

Middle ground

This is the section that lies between the fore ground and background. The object in the middle ground appear bigger than those in the rest of the picture.

Background

This is the furthest section of the picture, it's furthest from the camera. The objects in the part appear to be smaller than those in the foreground and the background. This is the part of the photograph that shows the horizon or skyline. Some features here tend to be invisible.

Further division of a picture

Each of the three divisions is further subdivided into three to make a total of nine divisions as shown below.

Left background	Middle ground	Right background
Left middle background	Centre ground	Right middle ground
Left fore ground	Middle foreground	Right foreground

Note. Vegetation types include trees, grass, shrubs, thickets papyrus and scrubs.

NOTE. When asked about Aerial vertical photographs, the language must change from ground photographs. Therefore in Aerial photographs we have parts i.e. upper part, middle part and lower part. But if the photograph is aerial oblique talk about the grounds



Top
Middle
bottom

HOW TO IDENTIFY PROBLEMS FACED BY PEOPLE WHERE PHOTOGRAPH WAS TAKEN.

While searching for problems on a photograph just look at physical landscape, drainage, vegetation and the activity itself.

PROBLEM	HOW IS IT A PROBLEM	EFFECT OF THE PROBLEM
1. Relief. steep slopes	<ul style="list-style-type: none"> ❖ Difficultly in road construction. ❖ Landslides 	<ul style="list-style-type: none"> ❖ Remoteness ❖ Loss of lives ❖ Poor yields
low lands	<ul style="list-style-type: none"> ❖ Soil erosion ❖ Limited land for land use activities. ❖ flooding 	<ul style="list-style-type: none"> ❖ Slows development. ❖ Destruction of property and loss of lives.
4. FORESTS.	<ul style="list-style-type: none"> ✓ Harbor pests ✓ Habitat for wild animals. 	<ul style="list-style-type: none"> ✓ Destroy homelands ✓ Transmit diseases ✓ Scare away human settlement.
5. SWAMPS	<ul style="list-style-type: none"> ✓ Flooding ✓ Breeding place for vectors. 	<ul style="list-style-type: none"> ✓ Destruction of farmlands ✓ Loss of property ✓ Transmitting disease.
RIVERS AND LAKES	<ul style="list-style-type: none"> ✓ Flooding ✓ Drowning ✓ Harboring dangerous aquatic animals 	<ul style="list-style-type: none"> ✓ Destruction of farm lands ✓ Loss of lives ✓ Waterborne diseases.

DESCRIBING ACTIVITIES /LAND USES ON A PHOTOGRAPH.

LANDUSE	EVIDENCE
Transport	Communication lines like roads
Settlements	houses
Forestry	Several trees, large part covered by trees
lumbering	People seen holding saws,axes,etc
Fishing	People seen casting/holding nets, in a boat holding fish. Net laid across to trap fish.
Tourism	Wild animals, features of magnificent scenery e.g people near stalactites
Animal rearing Crop farming	Cattle, goats, sheep Gardens, people holding farm tools, tractors, crops grown are seen on the photograph.
Mining/ quarrying	Open cast mines or quarry seen, rock outcrop, excavators
Trade.	Shops, markets etc ,sellers standing behind displayed goods. Buyers standing in front of displayed goods
pastoralism	Semi-arid vegetation, large herds of local breed and open grazing land.
ranching	Paddocks, fences, exotic breeds water tanks planted trees

NOTE. The activity must be that one which is taking place at that material moment.e.g sugar cane growing is different from sugar cane harvesting.

FACTORS FAVOURING THE ACTIVITIES. 1. FISHING

- ✓ Abundant fish in the water body.
- ✓ Many fish species ✓ Large ready market. ✓ Adequate capital
- ✓ Availability of labor
- ✓ Supportive government policy
- ✓ Infrastructures

2 .TRADE AND COMMERCE

- ✓ Large expanse of land.
- ✓ Availability of goods to sell and buy
- ✓ Large sums of capital
- ✓ Well-developed infrastructures e.g. roads
- ✓ Geographical location. E.g. near a trading center or along the road. ✓ Positive government policies ✓ Cool temperatures that support open market.

3. MINING /QUARRYING

- ✓ Adequate capital



- ✓ Abundant labor supply
- ✓ Low population
- ✓ Vast land
- ✓ Extensive rock outcrop.

4. CROP GROWING, HARVESTING.

- ✓ Large expanse of land
- ✓ Relatively flat area
- ✓ Warm to hot temperatures.
- ✓ Well drained fertile soils/ acidic soils
- ✓ Ready market
- ✓ Low population
- ✓ Moderate to heavy rainfall
- ✓ Availability of large sums of capital
- ✓ Abundant supply of labor
- ✓ Well-developed infrastructures

6. TOURISM

- ✓ Presence of vegetation
- ✓ Wide range of wild animals like zebras, rhinoceros, hippopotamus, elephants, leopards etc.
- ✓ Adequate capital
- ✓ Skilled labor e.g. tour guides
- ✓ Positive government policies
- ✓ Well-developed infrastructures e.g. roads, hotels etc.

7. LUMBERING

- ✓ Deep fertile soils
- ✓ Large sums of capital
- ✓ Adequate labor force
- ✓ Ready market
- ✓ Large stands of trees
- ✓ Well-developed road network
- ✓ Relatively flat relief ✓ Positive government policy.

8. PASTORALISM

- ✓ Sparse population
- ✓ Cheap labor force
- ✓ Extensive land
- ✓ Poor quality of pastures ✓ Poor land tenure system.

9. RANCHING

- ✓ High quality animal breeds
- ✓ Fertile soils
- ✓ Vast land
- ✓ Relatively flat relief for easy movements of animals.
- ✓ Ready market ✓ Adequate capital

NOTE; the above factors should be well explained with qualifiers and in the relation with the photograph.

DRAWING OF SKETCHES OF THE PHOTOGRAPH.

These are called landscape sketches where features are drawn as they appear but in form of pictures.

- Measure the length and width of the photograph and draw the same frame of the sketch.
- Subdivide the photograph into three equal sections of length and width.
- Then subdivide the drawn sketch into the three equal sections as measured on the photograph.
- Sketch the real appearance of the features in their right positions
- A landscape sketch must have the title, frame and must be accurate. ➤ A key is necessary however labeling or marking on the sketch is **the best**.

Q1. Study the photograph provided below and answer the questions that follow.



- (a) Giving reasons for your answer, state the type of photograph provided above
- (b) Using a tracing paper draw a landscape sketch of the area shown on the photograph and on it mark and name
- (i) Water body
 - (ii) Settlements
 - (d) Transport routes
 - (e) Vegetation
 - (f) Power project
- (c) Outline the importance of the dam to the surrounding population (d) Explain the problems faced by people living around that area.
- (e) Giving evidence from the photography, suggest one area in East Africa where this photography could have been taken.





2. Study the photograph provided below and answer the questions that follows.



- a) Draw a landscape sketch of the area shown on the photograph and on it mark and name
 - i) water fall
 - ii) Plunge pool
 - iii) Cliff
 - iv) Vegetation types v)water body
 - vi)The direction of flow of the river
- b) Describe the conditions which led to the formation of waterfall above.
- c) Outline the benefits of the drainage features shown in the photograph.
- d) Describe the problems which are faced by the people living in the area shown in the photograph.
- e) Giving reasons for your answer, suggest one area in East Africa where this photograph could have been taken.



3. Study the photograph provided below and answer the questions that follow



(a) Draw a landscape sketch of the area shown on the photograph and on it mark and name the following features

- (i) Saddle
- (ii) Cliff
- (iii) Convex slope
- (iv) Concave slope
- (v) Constant slope
- (vi) Conical hill
- (vii) Settlements

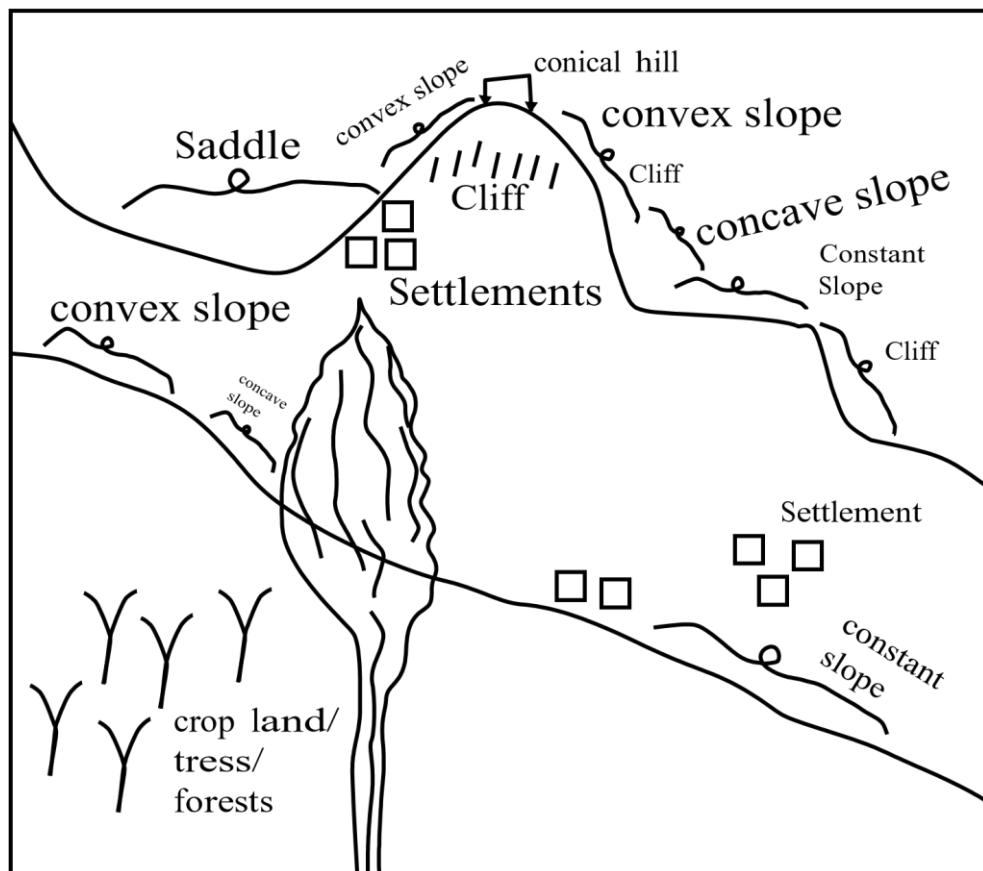
(b) Describe any one process responsible for the formation of any one type of slope shown in the photograph.

(c) With evidence from the photograph, explain the problems faced by the people living in the area.

(d) Giving reasons for your answer suggest one area in East Africa where the photograph could have been taken.

Solution

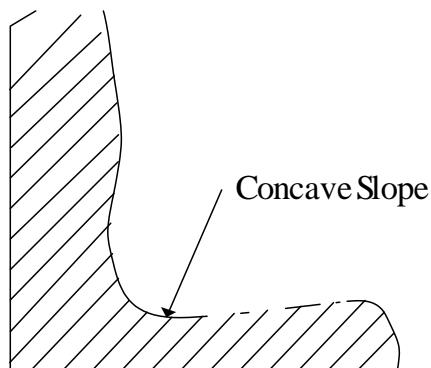
A LANDSCAPE SKETCH OF THE AREA SHOWN ON THE PHOTOGRAPH SHOWING SADDLE, CLIFF, CONVEX SLOPE, CONCAVE SLOPE, CONICAL HILL AND SETTLEMENTS.



(b) Concave slope.

It is an inward like slope formed as a result of slope retreat/ denudational processes like erosion on soft rocks which are easily weathered and eroded to form a spoon like shaped slope.

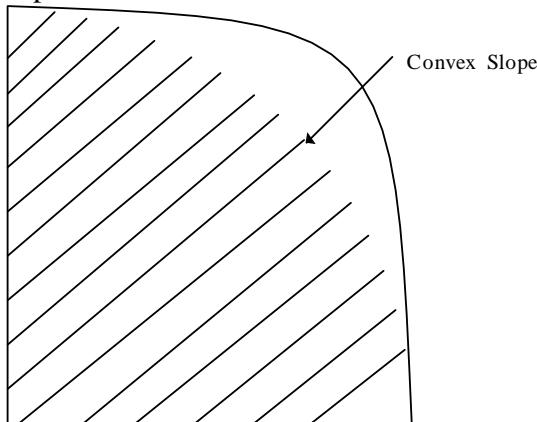
Illustration





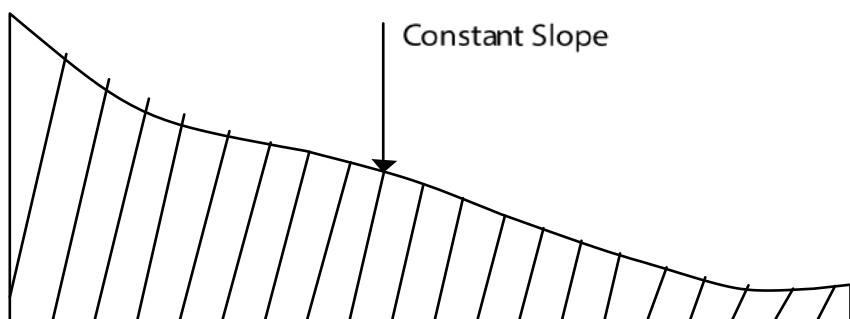
Convex slope

It's a bulging slope/dome shaped formed as a result of uplifting followed by denudational processes like erosion. There is slope decline due to presence of hard rocks that resist denudational processes like weathering and erosion there by forming a convex slope.



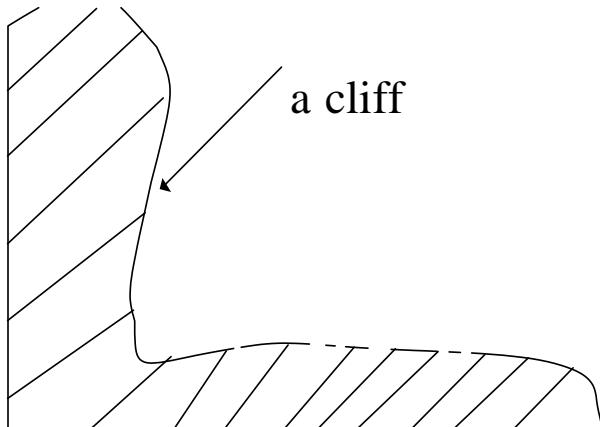
Constant slope

This can also be called even or straight slope. It's formed due to presence of homogenous that are acted up on by denudational processes like erosion which gives a balance between erosion and deposition there by forming a constant slope.



Cliff slope

It's a vertical slope /it's a steep rock face.it is formed due to the presence of massive hard rocks and uplift which is followed by denudational processes like erosion/slope retreat which causes undercutting of rocks creating a vertical slope called a cliff.



(c) Candidates are supposed to bring out problems and evidence (reasons) clearly and the division of the photograph.

- ❖ Soil erosion due to steep slopes/cliffs in the middle back ground
- ❖ Landslides due to steep slopes/cliffs in the middle back ground
- ❖ Limited land for settlement due to steep slopes which makes the construction of houses difficult in the middle back ground.
- ❖ Remoteness evidenced by absence of roads, this is due to presence of steep slopes which makes it difficult to construct roads in the middle back ground.
- ❖ Difficulty in construction of roads due to steep slopes in the middle back ground.
- ❖ Wild animals threatening people due to trees/ forests in the left fore ground.
- ❖ Limited land for agriculture due to steep slopes in the middle fore ground
- ❖ Pests and diseases that affect crops/people due to forests/thickets/banana trees in the left fore ground.
- ❖ Agricultural mechanization is very difficult due to steep slopes in the middle back ground.

(d) The area chosen should be a hilly/highland/upland/steeplly sloping for example;

Bushenyi/kabale/

kisoro/kapchorwa/sironko/mbale/buhweju/bududa/bundibugyo/rukungiri/isingiro
/kabarole/kibaale/ntungama/rubirizi/sheema/mitooma/kasese/kamwenge/kan
u/ibanda/kipengere
ranges/rwampara/bunyarugura/mt.usambara/pare/ulunguru/mt.rwenzori/mt.k eny a etc.

Reasonsmajor reason. Presence of highland/upland/hilly/steeplly sloping area.

Other reasons. Presence of settlements/forested areas/trees/crop

Farming on
hills.

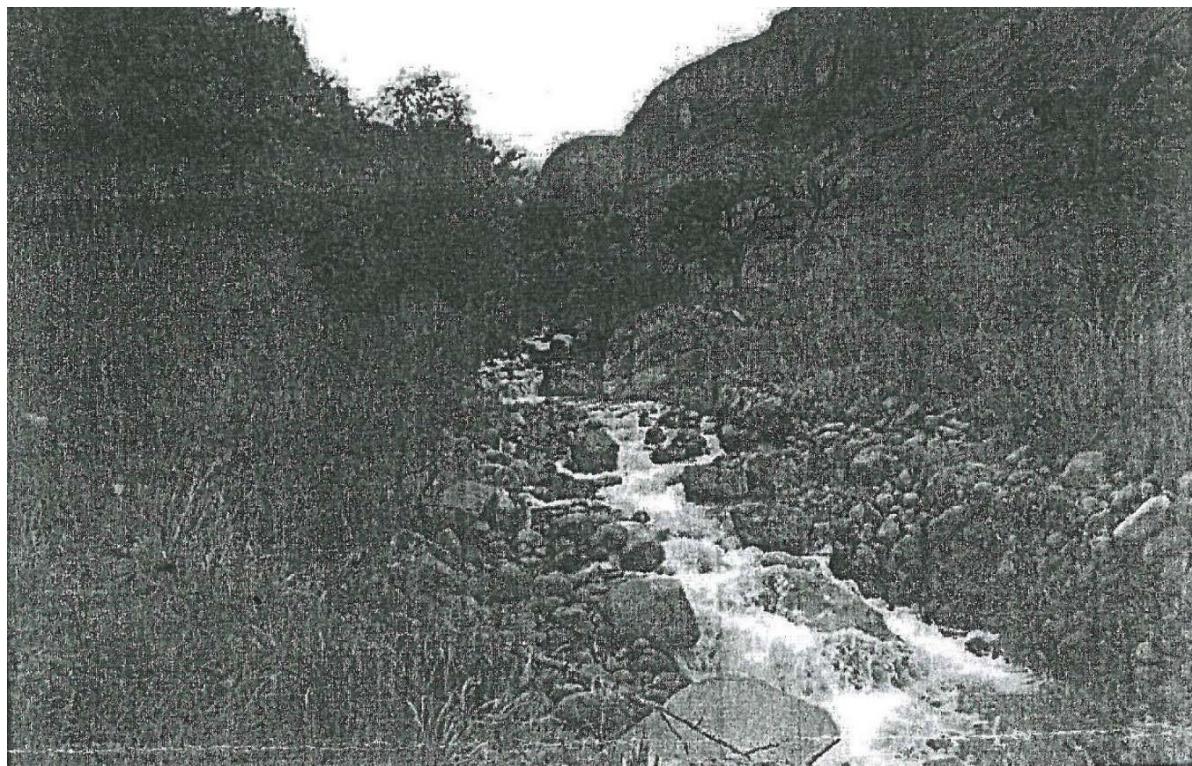
Study the photograph provided below and answer the questions that follow



- a) Using a tracing paper , draw a sketch of the area shown on the photograph and on it mark and name ✓ Forested areas
- ✓ Transport routes
 - ✓ Bridges
 - ✓ Water falls
 - ✓ Dam
 - ✓ Water body and
 - ✓ Settlements.
- b) (i) Identity the type of photograph.
(ii) I identify the type of settlement in the photograph.
- c) Describe the factors which have favored the settlement above.
- d) Explain the problems faced by the people living in the area.
- e) Giving reasons for your answer, suggest one area in east Africa where this photograph could have been taken.
-
-
-
-



6. Study the photograph provided below and answer the questions that follow



(a) Draw a landscape sketch of the area shown in the photograph and on it mark and name

- Relief regions
- River cliff
- Water body
- Vegetation
- Slip off slope.

(b)(i) In what stage of the long profile is the drainage feature shown in the photograph

. (ii) Describe the characteristic features of the drainage shown in the photograph

(c) Explain how the drainage feature can be utilized for the development of the areas shown in the photograph.

(d) Identify the problems likely to be faced in developing the area shown in the photograph

(e) Giving a reason for your answer, suggest an area in East Africa where this photograph could have been taken?





7 Study the photograph given and answer the questions that follow



(a) Draw a landscape sketch of the area shown in the photograph given and on it mark and name any;

- Two relief regions
- one vegetation types
- a drainage feature and the direction of flow
- a developed infrastructure
- any one industrial Centre

- (b) Examine the importance of the infrastructure marked on the landscape in (a) above.
- (c) Explain the problems faced by people during and after construction of the infrastructure shown in the photograph.
- (d) Giving evidence from the photograph, suggest an area in east Africa where the photograph could have been taken.

ANSWERS

ALANDSCAPE SKETCH OF THE AREA SHOWN ON THE PHOTOGRAPH SHOWING TWO RELIEF REGIONS, DRAINAGE FEATURE AND DIRECTION OF FLOW, DEVELOPED INFRASTRUCTURE, ONE VEGETATION TYPE AND INDUSTRIAL CENTRE.

(a) Infrastructures include: Dam, bridge and a road.(choosing one)

DAM

- ✓ Hydro power generation for domestic and industrial use
- ✓ Filming and photography
- ✓ The dam is used for study/research purposes
- ✓ It attracts tourism hence foreign exchange



- ✓ The dam acts as a reservoir which provides water for domestic and industrial use
- ✓ It controls floods hence regulating water flow
- ✓ Reservoir behind the dam is used for fishing hence source of food.

BRIDGE

- ✓ Transport and connectivity for goods and services
- ✓ Tourism
- ✓ Filming and photography
- ✓ Research and study purposes
- ✓ Trade

ROAD

- ✓ Transport of goods and services across the river
- ✓ Trade facilitation
- ✓ Supports tourism
- ✓ Research and study

(c) challenges faced by the people during construction of Dam/bridge/road all challenges are the same.

- ✓ High costs of construction
- ✓ Floods disrupt construction work
- ✓ Diversion and delays causing traffic congestion
- ✓ Accidents due to road narrowing
- ✓ Pollution of the area
- ✓ Displacement of people land degradation

Challenges faced after construction of the dam

- ❖ High maintenance costs
- ❖ Flooding and displacement of people in the upstream area
- ❖ Pests and disease vectors from the reservoir
- ❖ High costs of security for the dam
- ❖ Accidents e.g drowning
- ❖ Pollution

Bridge and Road

- ❖ High costs of maintenance
- ❖ High costs of security for the infrastructures
- ❖ Associated accidents
- ❖ Pollution
- ❖ Displacement of people.

(d) AREA

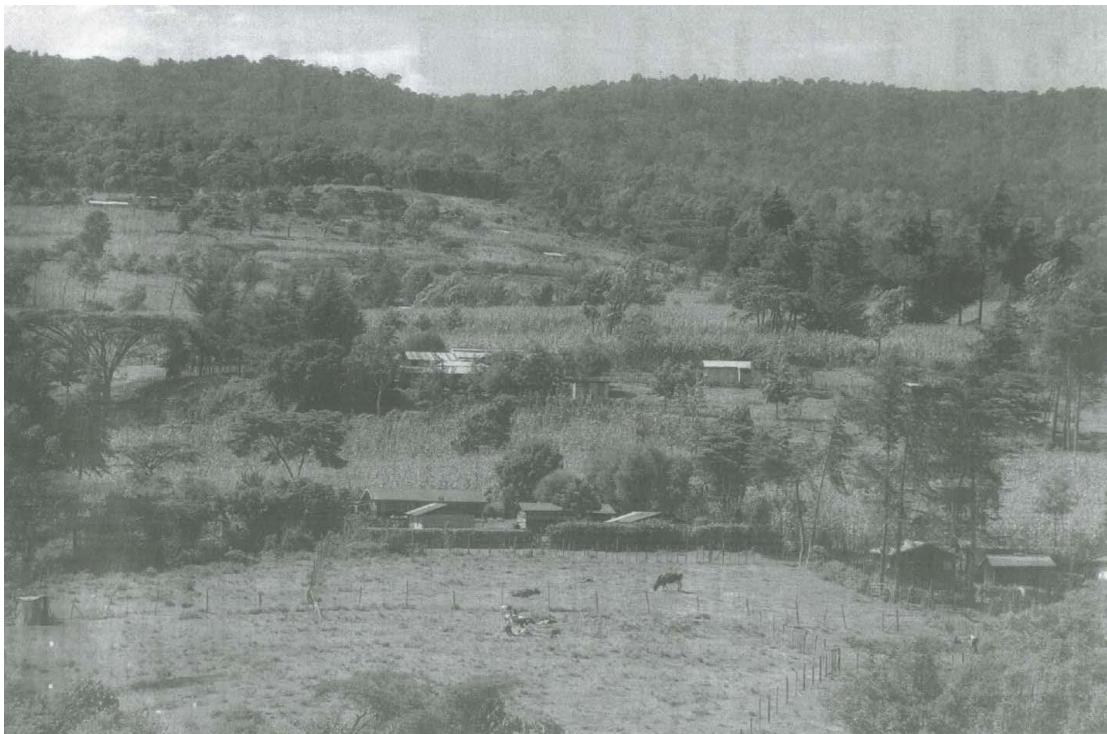
Jinja, kidaruma, isimba, karuma,hale in Tanzania,kidatu and nyigak

EVIDENCE

- ❖ Presence of the dam
 - ❖ Presence of a bridge,road, settlements and industries
 - ❖ Presence of a river
-



8 Study the photograph provided below and answer the questions that follow.



(a) Draw a landscape sketch of the area shown in the photograph and on it mark and label any

- (i) Two relief features
- (ii) Three types of land use

(b) Describe the relationship between relief and human activities in the area shown in the photograph.

(c) What evidence is there to suggest that the land use activities in this area are planned?

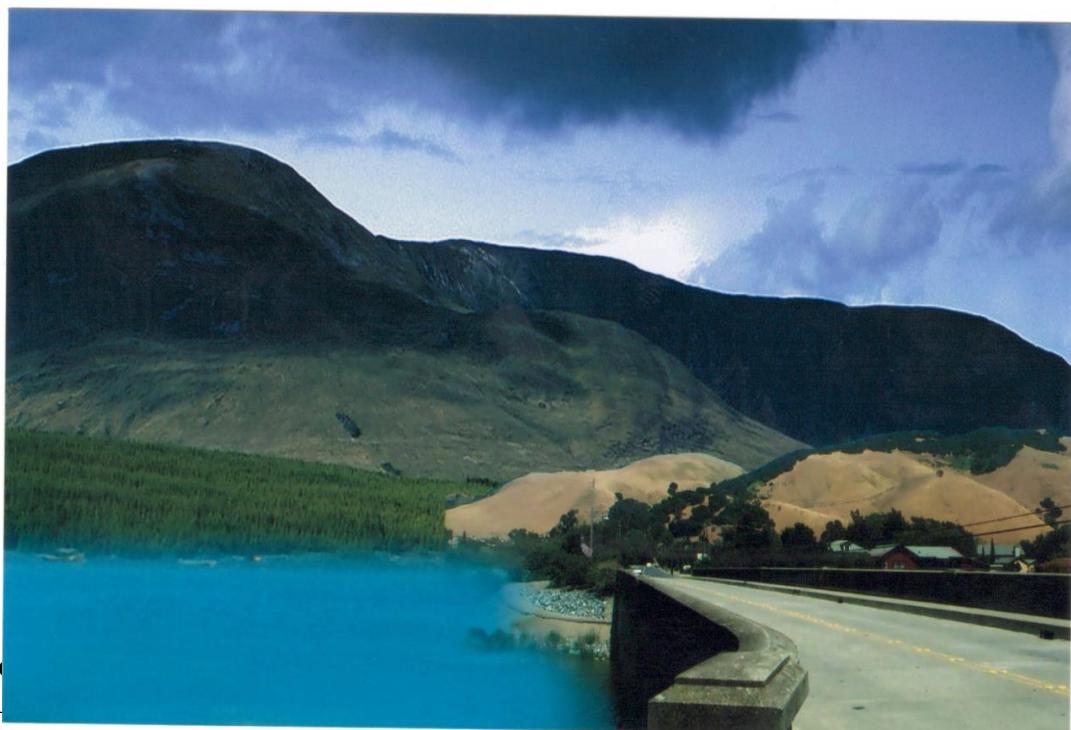
(d) Giving reasons for your answer, suggest one area in East Africa where this photograph could have been taken.

ANSWER SHEET

Practicing Geography



Study the photograph provided below and answer the questions that follow:





- a). Draw a landscape sketch of area shown on the photograph and on it, mark and name any three:

(i) Relief features

(ii) Land use types.

(iii) b) Describe the relationship between relief and land use in the area shown in the photograph.

c) Explain the problems faced by the people living in the area shown in the photograph.

d) Giving reasons for your answer, suggest any one area in East Africa, where this photograph could have been taken.

Study the photograph provided below and answer the questions that follow.



(a) Draw a landscape sketch of the area shown on the photograph and on it, mark and name:

- (i) bay,
- (ii) sand beach,
- (iii) headland,
- (iv) stack,
- (v) steep slopes,
- (vi) forested area,
- (vii) Road and settlement.



- (b) Describe the formation of the;
- (i) erosional feature in the left middle ground of the photograph
 - (ii) Depositional feature in the right foreground of the photograph.
 - (iii) Describe the relationship between relief and land use in the area shown on the Photograph.
- (c) Giving reasons for your answer, suggest an area in East Africa where the photograph could have been taken.
-
-

- (a) Study the photograph provided below and answer the questions that follow;



- (i) Name the type of photograph provided.
 - (ii) Draw a sketch of the area shown on the photograph, on it mark and name;
 - Levees.
 - Distributaries.
 - Lagoons.
 - River valley.
 - Vegetation types.
 - Water body.
- (b)
- (i) Account for the formation of lagoons shown on the photograph.
 - (ii) Describe the conditions necessary for the formation of a delt
 - (c) Outline the importances of deltas to man.
- (c) Giving reasons for your answer, suggest an area in E. Africa where this photograph could have been taken.

Study the photograph given and answer the questions that follow.





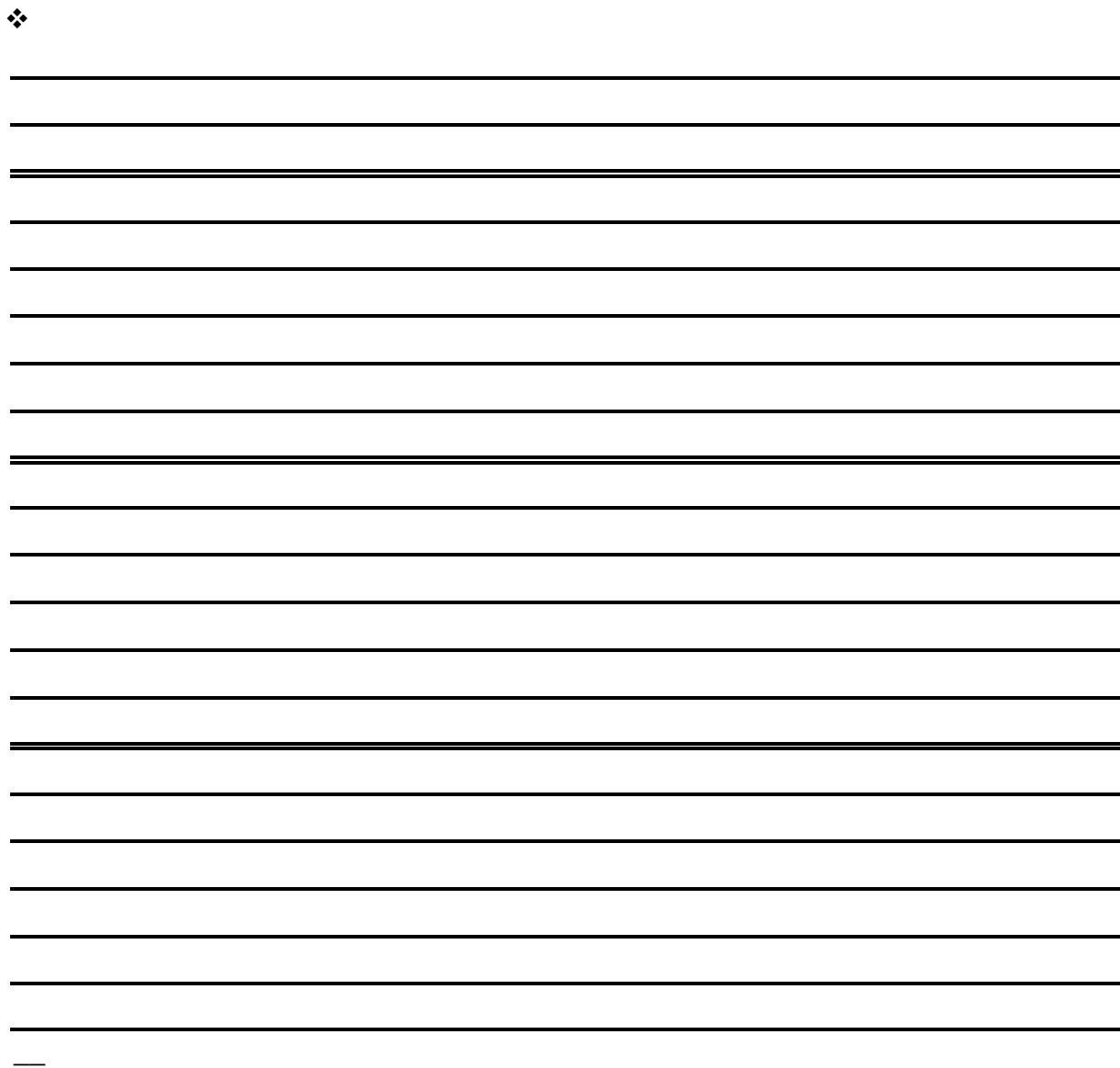
- a) Draw a landscape sketch of the area and on it mark and name any;
 - (i) two relief features,
 - (ii) two land use types,
- b) Drainage feature.
- c) Account for the formation of relief feature found in the mid middle ground.
- d) (i) Explain the importance of drainage feature shown in the photograph.
(ii) Explain the problems being faced by people living in the area.
(iii) Giving reasons for your answer, suggest an area where the photograph could have been taken.

Study the photograph below and answer the questions that follow;



- a) Draw a landscape sketch and on it mark and label any;
 - i) Two relief features
 - ii) Two land use types
- b) (i) Identify the weather condition depicted in the right middle ground of the photograph
- c) (ii). Account for the occurrence of the climatic condition identified in b (i) above.
- d) (i). Describe the problems faced by people living in the area shown in the photograph
- (ii). Outline the steps being taken to solve the problems described in (d) (i) above.

Giving reasons for your answer, suggest an area in East Africa where the photograph could have been taken.



Study the photograph provided below and answer the questions that follow;



- (a) Draw a landscape sketch of the area on the photograph and on it mark and name:

 - (i) two physiographic regions
 - (ii) three land uses

(b) Describe the characteristics of the relief of the area on the photograph

(c) (i) With examples outline the settlement patterns in the area covered by the photograph

(d) (ii) Explain factors influencing settlement in the area covered by the photograph.

(e) (Giving reasons for your answer suggest an area in East Africa where this photograph could have been taken.)



Study the photograph provided below and answer the questions that follow;



- (a) Draw a landscape sketch of the area shown in the photograph and on it mark and name;
- (a) Draw a landscape sketch of the area shown on the photograph and on it mark and name;
- (i) Braided channel.
 - (ii) Broad valley.
 - (iii) Gentle slope.
 - (iv) Vegetation types.

Describe the process responsible for the formation of the braided channel shown on the photograph.



FIELD WORK

It's defined as activities done outside class where people observe, record, analyze and interpret geographical phenomena.

PROCEDURE/STAGES OF CARRYING OUT FIELDWORK

There are three stages under which field work is done namely;

- I. Pre-field study or pre-field preparation
 - II. Real field work study or excursion
 - III. Follow up stage or post field stage/ post mortem

PRE-FIELD STUDY/PREPURATION:

It's the study before the actual fieldwork takes place. It involves the following steps;

PRE FIELD ACTIVITIES

- a) Carrying out a pilot study: this is a tour of the area identified done by the teacher and the few students. It helps to identify equipment needed in the fieldwork as well as methods to be used to collect data.
 - b) Selecting topic of the study which should be geographical and easy to interpret.
 - c) Stating the objectives of the study which should be related to topic of the study.
Objectives should be SMART(specific, measurable, achievable, realistic and testable)
 - d) Choosing methods that are used to collect data e.g. observation, recording, sampling, interviewing, use of questionnaires, measurement etc.

- e) Choosing the tools to be used while collecting data e.g. cameras, tape measures, meter rulers, notebooks, pens and pencils etc.
- f) Seeking permission from the stakeholders e.g. school administration and local officials of the area where the study is to take place
- g) Formation of groups which are specific tasks to carry out in the field e.g. sketching work, interviews and observation
- h) Briefing before departure which is done at school by administrator. It involves tasking last instructions or warning procedures to follow while in the field.
- i) Departure from the school by bus or any other means available to the area of study.

N.B: all the above must be stated in past tense when answering questions

REAL OR ACTUAL FIELD WORK EXCURSION:

The main activity is to collect data related to the topic and objectives stated earlier in preparation stage. Several methods are used to collect and these include;

- **Observation method:** this is the use of **naked eyes to see** the geographical aspects in the field

Advantages

- It gives firsthand information because the researcher is physically in the field
- It gives direct information as a result of direct observation
- It is time saving because data is got on spot
- Researcher can make personal judgment of what is on the ground
- It helps a researcher in case of language barrier
- Researcher acquires the skill of observing
- It is cheap because it does not involve spending e.g. paying respondents

Disadvantages

- Some important information cannot be observed e.g. historical background
- It is limited to people with clear eye sight i.e. not effective for blind people
- Its limited when there are obstacles making such area inaccessible e.g. swamps

Interviewing method: this is face to face discussion where **researcher asks oral questions** related to the topic of the study to the respondent and gets **answers on spot**.

Advantages

- Firsthand information is obtained because of the physical presence of the researcher
- Correct information is collected on spot due to presence of interviewee • It provides hidden information like historical background ,income earned etc.
- Its alive method due to interaction between the researcher and the respondent
- It is a flexible method because the oral questions can be changed according to people's personality
- Researchers acquire the skill of interviewing



- Cordial relationship is developed between the researcher and respondent

Disadvantages

- Language barrier if the researcher doesn't understand local languages
- It is time consuming when interpreter is to be used
- Hostilities may erupt when the respondents don't understand what the researcher is all about
- It is liable to personal biases and exaggerations
- Some people are reluctant in sparing time to give information to the researcher
- Its costly when interpreters are to be used or when respondents ask for money

Questionnaire method: it's a list of set questions which **are sent to respondent** to be answered through the post office and answers are later sent back to the researcher

Advantages

- It helps to get data from people in distant places
- It is used to get data from large group of people because questionnaires to many people
- It gives respondent enough time to answer
- It gives respondent freedom of expression when answering question
- It save time because more people are questioned at ago through different questionnaires
- It provides permanent record of important information since data is on questionnaire itself
- Researcher acquire skill of questioning

Disadvantages

- It is rigid because the information collected is unreachable
- It is limited to literate people who can read and write
- some respondents may not be willing to answer questionnaires and even fail to return them
- It is costly in terms of typing, printing, posting the questions
- It is time consuming in terms of setting questions, typing, printing and sending them
- Late returning of questions leads to delay in getting data

Recording data/ sketching: this is the process of **noting/writing down** the data collected from the field in a book by use of a pen, ruler, pencil and papers. Sketches drawn include a map, line transect and a panorama. These sketches should be having all marginal information that is to say, title, frame, compass direction, key/ labelling. The name of the area of the study should appear in the title which will be formulated from the question. If a candidate is asked to explain how he/she used sketching method to obtain the information then a candidate **MUST** illustrate at least one sketch.

For line transect/relief section/transverse section. **It shows the relationship between land use and relief. Compass direction is a must. That is from the starting point to the ending point.**

For a panorama is a sketch of the area studied drawn to show pictures as seen from a certain view point.

Advantages

- It helps to store information used in making data analysis and writing report
 - It gives firsthand information because the researcher physically records it in the field
 - It makes researcher active in the field because he physically writes down the data
 - Researcher acquires skills of recording note taking and use of summary technique
 - Data can be kept for long time when books are kept in libraries
- Disadvantages**
- Hot sunshine and heavy rainfall make it difficult to record data
 - It is expensive to buy papers and pens
 - Some researchers lack skills of note taking and hence get irrelevant data
 - It is tiresome as it involves moving and recording data at the same time
 - Some information might be missed especially if respondents being interviewed are fast
 - Only suitable for literate people who can read and write

Measurement: This refers to the establishment of length, size, weight and distance in the field by using calibrated devices like meter ruler, tape measure, and weighing scale etc.

Advantages

- It gives accurate information because of the measuring devices
- It gives firsthand information as the measuring devices are applied directly
- Researcher acquires skill of measuring

Disadvantages

- It is time consuming since it requires measuring accurately
- It is expensive in terms of measuring devices needed
- It is tiresome especially where what is to be measured is big or large
- It can't be used where physical features act as barriers like swamps and steep slopes

Pacing: this is the estimation of distances by use of relatively calculated strides

Advantages

- It is quick method of finding length and size
- It is cheap, as it doesn't require any instrument in pacing
- Researcher acquires skills of pacing
- Can be effectively used when one lacks a tape measure

Disadvantages

- It lacks accuracy as every pace is just an approximate
- It is not used where physical features act as barriers a.g swamps and thick vegetation

Sampling method: This is the random selection of small part of the whole which is tested to represent the rest

Advantages



- It saves time as researcher deals with few members of the group
- A representative sample enables the study of very large area
- Researcher acquires skill of sampling/ random selection

Disadvantages

- It generalizes the information collected about the whole group
- Some unique characteristics of geographical phenomena are left out

Map orientation: it refers to **the use of the area survey map by rotating it to determine the true north and show relative position of other features on the ground**

Advantages

- Researchers acquire the skill of orienting maps
- Helps to show correct positioning of features on the ground
- Firsthand information is got since its done by the researcher in the field
- It makes the researcher lively since researcher is directly involved in the field

Disadvantages

- It's only effective with students who have map orientation skills
- It's expensive because it requires buying survey maps

FOLLOW-UP STAGE OR POST-FIELD STAGE:

This helps the researcher **to re-organize** the results of the collected data and make conclusions from the research

- Organization of the data. Collected for proper analysis
- Compiling data for easy report making
- Comparing of the data collected to omit errors
- Polishing sketches like maps and cross sections which were drawn in the field
- Analyzing data collected for drawing conclusion
- Making conclusions for proper analysis
- Making recommendations basing on the findings of the field study
- Compiling research report for record keeping
- Presentation of field work study data to relevant stakeholders e.g. head teacher.

N.B: All the above must be stated in the past tense when answering questions a)

Topic of study

The study of growth and development of Namulanda daily market in bwebajja, wakiso district

b) Objectives of the study

- To find out the location of namulanda daily market
- To find out the historical back ground of namulanda daily market

- To find out the different commodities sold in namulanda daily market
- To find out the importance of namulanda daily market to the surrounding people
- To find out the problems affecting namulanda daily market
- To suggest solutions to the problems affecting namulanda daily market. ➤ To find out future prospects of namulanda daily market.

c) Methods used to carry out the field work study

- Define the method
- Explain how it was used by indicating action words and tools used
- Write some information which you collected using the method

E.g. observation is the **use of naked eyes to see** geographical aspects in the field. We used our eyes to see the commodities sold in the market, they were majorly food crops like sweet potatoes, vegetables etc

d) Problems faced during the fieldwork study

- Problems that limited the success of the fieldwork study must be well explained
 - Evidence of the problem must be clearly stated
 - Information missed due to particular problem should be indicated
- **If you don't give the information missed because of specific problem no mark is given**
 - **Problems shouldn't be personal e.g. hunger, sickness, thirst, tiredness**
- (i)i During the observation, we were obstructed by papyrus vegetation in namulanda swamps and we didn't see the different crops grown at Ebenezer farm
- (i)ii During measuring, the marshy conditions in Namulanda swamp prevented us from measuring the length of the swamp
- (i)iii During pacing ,we got inaccurate information when we measured the length of Namulanda swamp e.g. john counted 120 paces while Joan counted 124 paces
- (i)iv During interview, we failed to get problems facing namulanda daily market users because our interviewee **Madam Nakalo** was talking in very low tone
- (i)v During recording, we failed to record the location of namulanda daily market because the L.C.1 chairperson Mrs. Sandra was very fast when being interviewed
- (i)vi It rained heavily which prevented us from drawing sketch map of the area
- (i)vii The steep slopes of Namulanda hill prevented us from reaching the hill top to draw a sketch map

e) Findings of the study

- This is the same as importance of fieldwork in understanding the geography of the area
 - This part call for geographical relationships in the area of study
 - For easy analysis and interpretation, one needs to study three major relationships as you do the fieldwork. These are;
1. Physical to physical relationship
 2. Physical to human relationship
 3. Human to human relationship
- Human activities or land-use types may include: agriculture, i.e. cultivation and livestock rearing, quarrying and mining, industrialization, fishing or fish farming, settlement, brick making, transport and communication.
 - Physical environment include relief features in the area of study e.g. steep slopes, valleys, gentle slopes and hills, drainage features e.g. lakes, rivers, swamps and streams, vegetation types e.g. grass and trees
 - **For each relationship, local names must be used as evidence**
 - **Each relationship given should be explained by giving a supporting reason for it**



(a) Physical to physical relationships

- ✓ There are outcrop rocks on Namulanda hill due to erosion by heavy rains
- ✓ The presence of Namulanda swamp in Namulanda valley was due to water logging
- ✓ The well drained fertile soils of Kawuku led to the growth of Kawuku forest
- ✓ The murram soils found along Namulanda hill are due to leaching as a result of heavy rains
- ✓ The presence of papyrus vegetation found in Namulanda swamp is due to water logging

(b) Physical to human relationship

- ✓ The outcrop rocks on Namulanda hill have led to quarrying of murram soils
- ✓ The abundant water from Kisubi stream led to establishment of Kisubi Clays factory
- ✓ The well drained fertile soil on gentle slopes of Namulanda hill have favored crop growing
- ✓ The broad valley of Namulanda led to the construction of the Kampala-Entebbe highway

(c) Human to human relationship

- ✓ The presence of Kampala-Entebbe road attracted settlement in Namulanda trading center due to easy accessibility
- ✓ The presence of Namulanda daily market has led to the growth of Ebenezer livestock firm for supply of farm products
- ✓ Presence of Kisubi Clays factory has attracted dense settlement in form of workers
- ✓ The dense settlements around Namulanda have led to development of Namulanda market due to demand for commodities

Sketches

FIELDWORK OF FACTORY / INDUSTRY

1) Topic of the study

The growth and development of Kajjansi Clay Factory in Kajjansi sub-county, Wakiso district

2) Objectives of the study

- To find out the location of Kajjansi Clays factory
- To find out the historical background of Kajjansi Clays factory
- To find out the factors that have favored the location of Kajjansi Clays factory
- To find out the source of raw materials used by Kajjansi Clays factory
- To find out the products made by Kajjansi Clays factory
- To find out the importance of Kajjansi Clays to people of Kajjansi
- To find out the problems faced by Kajjansi Clays factory
- To suggest the solutions to the problems faced by Kajjansi Clays factory
-

3) Findings of the study

- Give the same geographical relationships as stated above for fieldwork of Namulanda daily market.

4) Effects of Kajjansi Clays factory on the environment (both positive and negative)

- There is pollution of the environment by poor waste disposal e.g. broken tiles are deposited in Kajjansi swamp on the south-eastern side of the factory
- It has led to congestion of people and vehicles since customers and workers frequent the industrial area for goods and work
- Population increase in Kajjansi has led to increase in prices of commodities

- Many people were displaced from Zone A village to create the industrial site which has disorganized their lifestyle
- kajjansi swamps has been reclaimed to expand industry which has destroyed habitats for wild life e.g snakes
- Poor sanitation has led to easy spread of diseases in kajjansi as a result of poor garbage disposal.
- Kampala-entebbe road was constructed to transport bricks and tiles from kajjansi clays factory to markets in kampala , wakiso, masaka and beyond
- Kajjansi clays factory provides employment opportunities to the people of Kajjansi which helps them to earn income

FIELDWORK ON A FISH LANDING SITE

- A. **Topic:** **The growth and development of kasenyi fish landing site on the northern shores of lake Victoria In Wakiso district**
- B. **Objectives** o To find out the location of kasenyi landing site o To find out the historical background of kasenyi landing site o To find out the factors that have favored the location of kasenyi landing site o To find out the methods of fishing used to catch fish landed at kasenyi landing site o To find out the different fish types landed at kasenyi landing site o To find out the importance of kasenyi landing site to the people surrounding areas o To find out the problems facing kasenyi landing site

Geographical findings gathered from kasenyi fish landing site

(d) Physical to human relationships

- The presence of a variety of fish types has encouraged fishing in lake Victoria
- The presence of sand deposits in the west of kasenyi has encouraged sand mining
- There is kasenyi sand beach for tourism in the south due to wave deposition
- There is Nakasunda headland used south due to wave erosion on lake Victoria
- There is stone quarrying on Bendegere hill due to presence of outcrop rocks
- Bendegere hills has led to growth of Bendegere forests used for lumbering
- The gentle slopes along Bendegere hills have favored settlements e.g. Bendegere villages
- The relatively flat landscape north of kasenyi landing site has favored construction of Nabagereka road
- Bendegere hill has favored the establishment of MTN telephone mast to transmit signals to far areas

e) human to human relationships

- Fishing in lake Victoria has led to development of the boat making behind kasenyi market
- Nabagereka road has attracted dense linear settlement e.g Abayita ababiri
- The dense population around kasenyi landing site has led to the growth of kasenyi market

f) Physical to physical relationships

- There are outcrop rocks on Bendegere hill are due to severe erosion
- There is Bendegere forest on Bendegere hill due to the presence of deep fertile soils
- There is Nakasunda headland and cliff in the southeast which are due to wave erosion
- There is kasenyi sand beach in the south due to wave deposition from lake Victoria
- There is presence of thin lateritic soils along Bendegere hill is due to severe soil erosion

g) Factors that have favored the growth of kasenyi landing site



- Availability of abundant planktons for feeding fish which encourages multiplication of fish
- Kasenyi cliffs and stacks which have sheltered the landing sites from strong winds
- The heavy rain fall received has kept the lake Victoria water level stable
- The presence of an indented shoreline favored the establishment of the landing site
- Presence of a variety of fish species like tilapia, Nile perch which are highly demanded locally abroad
- Presence of capital for buying fish equipment
- Presence of efficient transport facilities e.g. Nabagereka road facilitates transportation of fish to markets centers in Entebbe and Kampala
- Availability of skilled and semi-skilled labor force to work in the fish industry
- Presence of a supportive government policy which encourages fishing e.g through protecting lake Victoria and enforcing laws on the use of recommended net size

Influence of kasenyi landing site

The influence is both positive and negative

Positive influence

- ❖ It has led to development of trade in kasenyi market
- ❖ Carpentry workers have led to acquisition of life skills e.g. boat making and repairing along Nabagereka road
- ❖ There has been development of tourism and research which widen the scope of knowledge especially students who visit kasenyi landing site for field study
- ❖ Development of infrastructure e.g. Nabagereka road connects kasenyi landing site to Kampala-Entebbe road at Abayita Ababiri
- ❖ Schools have also developed in the area which has reduced illiteracy e.g. lake view primary school in the north east of kasenyi landing site
- ❖ Provision of employment opportunities which has improved on people's standard of living
- ❖ Industrialization has been promoted e.g. Hwan sung and Ngege limited.

Negative influence

- ❖ Pollution from fish processing e.g. smoking and dumping wastes into lake Victoria
- ❖ Deforestation through boat making and looking for firewood for smoking fish
- ❖ Accidents on lake Victoria due to strong waves leads to death of several fishermen
- ❖ Fishing has increased school dropouts in the area as children get involved in fishing to earn money
- ❖ Slums have developed in the area with poor sanitation around kasenyi landing site e.g. in the north along Bendegere hill
- ❖ Severe soil erosion has taken place around kasenyi landing site as vegetation is cleared to create land for settlements e.g. around Nabagereka road
- ❖ Moral decay and high crime rate have come up due to slum development e.g. prostitution, theft of fishing nets and boat engines

Problems facing kasenyi landing sites

- Pollution of lake Victoria by dumping fish wastes into the lake which makes the water dirty and unfit for its survival
- Water hyacinth on lake Victoria has affected fishing because nets get stuck and fish suffocate due to less oxygen
- There silting of lake Victoria due to soil erosion and surface run-off from Bendegere hill which makes the water and unfit for fish to live in
- Easy spread of diseases like cholera, dysentery, malaria and AIDS due to poor sanitation and congestion
- Aquatic animals like crocodiles and hippos cause accidents leading to loss of lives of fishermen
- Presence of predators which eat fish and reduce their population in lake Victoria e.g. Nile perch
- Poor fishing methods and low technological development which lead to low fish catch e.g. cocooning and poisoning
- Illegal fishing on lake Victoria has led to over fishing which leads to catching of immature fish
- Limited capital for investment e.g. buying boat engines and standardized nets
- Poor transport facilities e.g. Nabagereka road which is full of potholes
- Poor fish preservation methods e.g. sun drying which can't keep fish for a long time

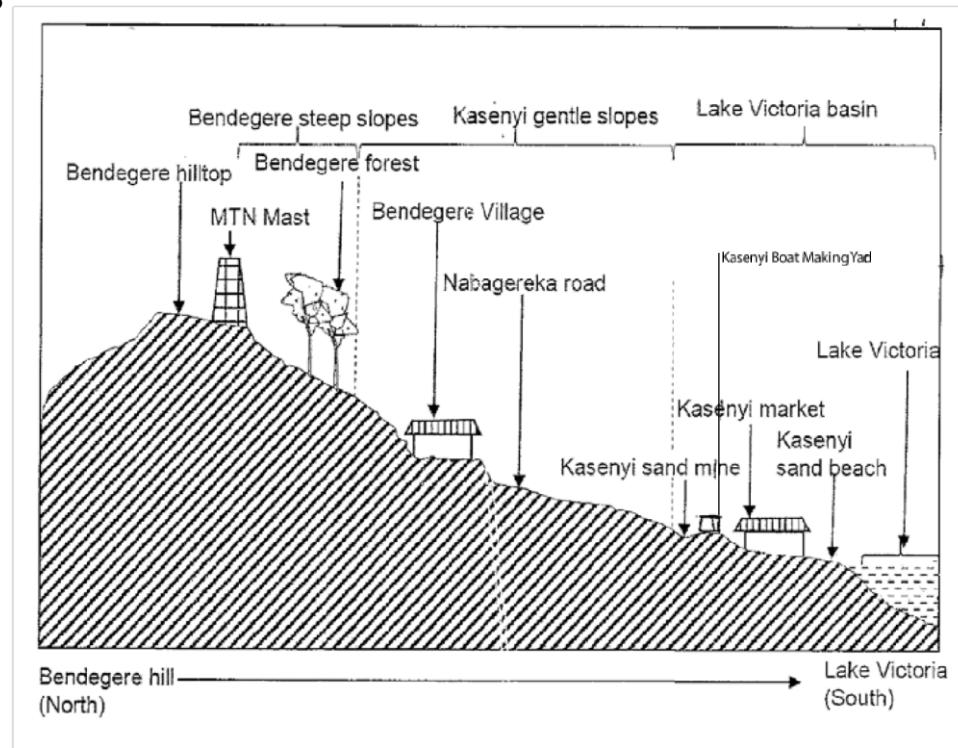
Solution to the problems facing fishing at kasenyi landing site

- Biological control of water hyacinth by use of water weevils at kasenyi landing site which eat the water hyacinth
- There also use of mechanical and manual control of the weed by pulling out of the water and then it dries
- Formation of cooperatives to mobilize fishermen get government incentives like loan for more capital
- Setting up beach management units to control illegal fishing and enforce use standard size nets
- Establishment of dispensaries and spraying with chemicals to control the spread of diseases
- Setting up an ice plant at kasenyi to ensure proper preservation of the fish
- Constant maintenance and upgrading of nabagereka road to ensure its use throughout the year
- Ensuring proper garbage disposal near kasenyi market to reduce water pollution in lake Victoria

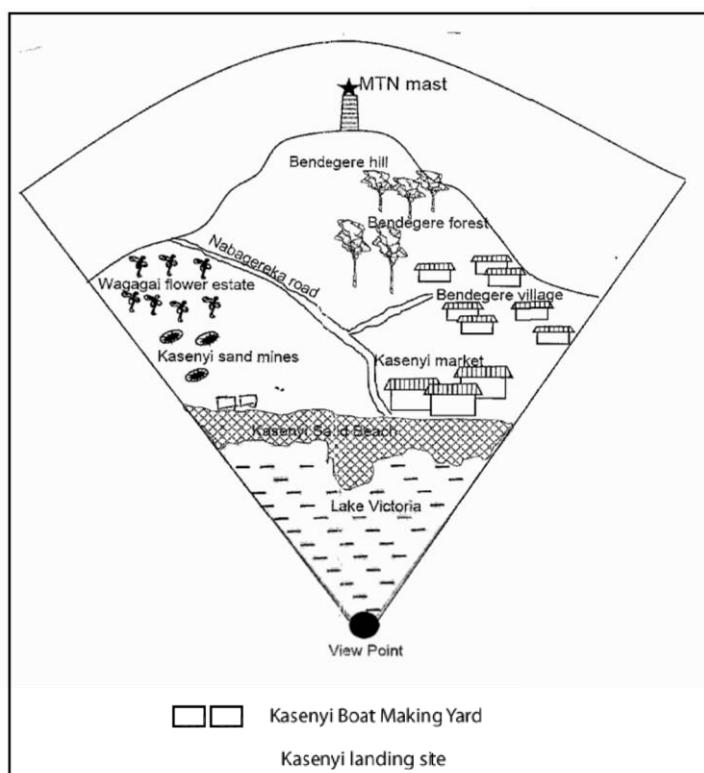
Sketches



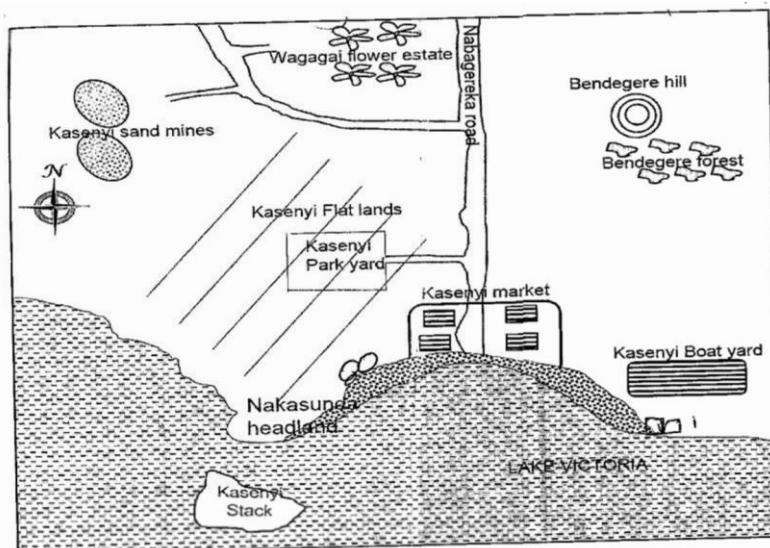
A LINE TRANSECT OF KASENYI FISH LANDING SITE FROM BENDEGERE HILL TO LAKE VICTORIA SHOWING PHYSICAL FEATURES AND MAN MADE FEATURES



PANAROMIC VIEW OF KASENYI LANDING SITE SHOWING PHYSICAL AND LAND USE TYPES



A SKETCH MAP OF KASENYI LANDING SITE AND SURROUNDING AREAS SHOWING PHYSICAL FEATURES AND LANDING SITES



KEY

- Hills
- ◐ Forests
- ☒ Lake
- Settlements
- Roads
- Kasenyi Landing Site
- Kasenyi Sand Beach

WORKED OUT EXAMPLE OF FIELD WORK ON KASENYI AND HOW TO PRESENT ANSWERS.

State the topic of study.

The Growth and Development of Kasenyi fish landing site on the northern shore of Lake Victoria, in Wakiso District.

Outline the objectives of study.

- ❖ To find out the location of Kasenyi fish landing site.
- ❖ To find out the historical background of Kasenyi fish landing site
- ❖ To find out the factors for the location and growth of Kasenyi fish landing site
- ❖ To find out the physical features around Kasenyi fish landing site
- ❖ To find out the land use activities around Kasenyi fish landing site
- ❖ To find out the influence of Kasenyi fish landing site on the surrounding areas
- ❖ To find out the fish species landed at Kasenyi fish landing site
- ❖ To find out the methods of fishing and preservation at Kasenyi landing site.
- ❖ To find out the problems facing Kasenyi fish landing site
- ❖ To find out the solutions to the problems facing Kasenyi fish landing site
- ❖ To find out the future prospects of Kasenyi fish landing site.

Outline the methods you used to collect data.



- **Observation**
- **Interview**
- **Recording**
- **Sketching**
- **Literature review**
- **Map orientation**
- **Measurement**
- **Sampling**
- **Questionnaire**

Outline the tools you used to collect data.

- ✓ **Binoculars**
- ✓ **Gum boots**
- ✓ **umbrellas**
- ✓ **Meter ruler**
- ✓ **Pens**
- ✓ **Pencils**
- ✓ **Voice recorder**
- ✓ **Video recorder ✓ Camera Explain the preparations you made before going for fieldwork**

OR, explain the steps you took before going for fieldwork

OR, explain the pre-field activities carried out before going for fieldwork.

OR, describe the activities you carried out before going for fieldwork.

OR, describe how you organized your fieldwork study.

- ❖ Our teacher identified the area of study and went for a pilot study at Kasenyi fish landing site to find out whether it would be possible to carry out fieldwork and get permission from the management of Kasenyi fish landing site.
- ❖ We chose the topic of study and it was ‘The Growth and Development of Kasenyi fish landing site on the northern shore of Lake Victoria, in Wakiso District’.
- ❖ We formulated the objectives of study and they included; To find out the location of Kasenyi fish landing site, To find out the historical background of Kasenyi fish landing site.
- ❖ We selected the methods to be used during fieldwork and these included observation, interviewing and measurement.
- ❖ We selected the tools to be used during fieldwork and these included pens, pencils, books, measuring tape and base map.
- ❖ We sought permission from the school administration to allow us carry out fieldwork.
- ❖ Our teacher organized us in groups of five students to ensure group study.
- ❖

1. Describe the steps you took to collect information from the field

Or, describe the activities you carried out during fieldwork

Or, explain the techniques you used during fieldwork

Or, describe the methods you used to collect the information in the field.

- ❖ **We used observation method.** This involved using eyes with the help of other senses to see geographical phenomena in the field and sort out information about them. Using eyes, we saw physical features like Bendegere hill in the north of Kasenyi fish landing site.
- ❖ We used interviewing method. It involves a face-face interaction between the researchers and respondents in the field whereby the researcher asked oral questions and the respondents gave oral answers. Using the interview guide, we asked **Mr. Nabutala Ivan** the fieldwork guide the problems facing Kasenyi fish landing site and he told me that there is a problem of dangerous aquatic animals like crocodiles that claim the lives of fishermen.
- ❖ We used Questionnaire method. This involved use of predetermined questions to collect information about geographical phenomena where the researcher sends written questions for a respondent to give written answers. We wrote and sent the following questions to **Mr. Nabutala Ivan** the fieldwork manager and he gave us answers in written form.

Qn. Where is Kasenyi fish landing site located?

Answer. It is located in southeast of Abaita Ababiri a nearest trading center. It is in Bendegere L.C.I, Nkumba parish, Katabi Sub County, Busiro county of Wakiso district.

- ❖ We used measurement/measuring. This involved the use of calibrated and non-calibrated instruments to establish/investigate size, weight, area etc. of geographical features in the field. We stretched a tape measure and found the distance from Kasenyi market to Kasenyi Pier which was 80 meters.
- ❖ We used Pacing. This involved the use of strides to estimate distance of the geographical features. Using strides, we estimated the distance from Kasenyi market to Kasenyi sand beach, which was 120 strides.
- ❖ We used sampling. This involved taking part of the whole population to represent the whole/rest. Using a hoe and spade, we picked part of the soil from Kasenyi sand beach and found out that it was sandy soil.
- ❖ We used recording. This involved writing/jotting/noting down of information got in the field. Using a pen and paper, we wrote down the problems facing fishermen at Kasenyi fish landing site which included dangerous aquatic animals, shortage of accommodation and food.
- ❖ We used field sketching. This is the technique of obtaining information from the field by drawing sketch maps, transects and panoramas. We used a pencil and book and drew the sketch map of the area around Kasenyi fish landing site showing physical features and land use activities as seen below (draw and show some few features like the one above).
- ❖ We used map orientation. This involved alignment/rotating/turning the survey map/base map so that the features on the base map tally/match with features on the ground. We turned the base map of Entebbe while standing at Nakasunda headland until Kasenyi landing site on the base map was matching with that on the ground and found out that Kasenyi is in north of Lake Victoria.
- ❖ We used analysis of existing information/library research/documentary review/literature review/documentation. This is a method of data collection whereby the researcher gets information from existing records/secondary sources and compares it with what is in the field at the time of study. We read about historical background of Kasenyi fish landing site in the research report by **Amone Samuel** and found out that the name Kasenyi was a result of the eroded fine sand along the shoreline and it has been used since the early 1970s.



Explain the merits of using the above methods

NB. Use past tense, tie the merit to a method and add some explanation.

- ❖ Using observation method, we got first-hand information since geographical features were seen directly
- ❖ **Observation** was time saving since a large field was covered in a short time.
- ❖ Observation was cheap because it did not involve expenditure.

Interviewing enabled us getting the required data on the spot.

- ❖ Interviewing enabled us to obtain invisible information like historical background.
- ❖ Interviewing was very flexible because questions were modified during the interview.
- ❖ Questionnaire method was time saving as many respondents were reached in a short time.
- ❖ Reliable data was got while using questionnaire method since respondents answered independently.
- ❖ Questionnaire method was easy to administer since it reached respondents in different ways.
- ❖ Measurement was flexible since different tools and techniques were used.
- ❖ Measurement enabled making predictions about the phenomena investigated.
- ❖ Firsthand information was obtained using measurement since tools were used.
- ❖ Sampling was time saving since few entities/items were chosen to represent the rest.
- ❖ Unbiased data was got using sampling because we came into contact with the phenomena.
- ❖ Sampling allowed generalization to be made about other similar phenomena.
- ❖ Using documentary review, information was provided in a short period of time.
- ❖ Accurate information based on research was obtained using documentary review/documentation
- ❖ Documentary review helped us in getting the background information about the topic of study

Explain the demerits of using the above methods.

OR, explain the problems/challenges you encountered while using the above methods during fieldwork

OR, explain the limitations of using the above methods during fieldwork study.

OR

Explain the problems/challenges you encountered during fieldwork OR, explain the limitations of your fieldwork study.

- ❖ We faced a problem of language barrier while using **interviewing** since our respondents who were fishermen only knew Lusoga and therefore we failed to get the problems facing fishermen at Kasenyi fish landing site.
- ❖ We faced the problem of uncooperative respondents while using **interviewing** at Kasenyi market and therefore, we failed to get the historical background of Kasenyi market.
- ❖ We faced a problem of loss of questionnaires while using **questionnaire** method due to disappearance of respondents and therefore we failed to get information on the historical background of Kasenyi fish landing site.

- ❖ We faced the problem of physical obstruction by Bendegere forest while using **observation** method and therefore we failed to identify the land use types in Bendegere village.
- ❖ We faced the problem of inaccessibility due to the presence of Kasenyi forest while using **observation** method due to the presence of Bendegere forest and therefore we failed to see the land use activities in Bendegere village
- ❖ We faced the problem of noise pollution by Kasenyi boat factory while using **interviewing/recording** and therefore, we failed to hear/note down the problems facing Kasenyi boat factory.
- ❖ We faced the problem of sudden weather changes due to heavy downpour while using **recording**, which destroyed our writing materials and therefore we failed to write down the future prospects of Kasenyi fish landing site

**Explain the skills you obtained from your fieldwork study. NB.
Skills are obtained from the methods used.**

- ❖ I gained the skill of observation by using my eyes to see physical features for example Bendegere hill north east of kasenyi fish landing site.
- ❖ We gained the skill of interviewing by asking respondents oral questions and they gave us oral answers for example we asked Mrs. Kyosimiire about the location of Bendegere hill and she told me that it is found in Nkumba Parish, Wakiso District.
- ❖ We gained the skill of measuring by stretching the tape measure to find the distance from Kasenyi market to the kasenyi sand beach which was 45 meters.
- ❖ We gained the skill of sampling by using a hoe to pick part of the soil from kasenyi beach which we found out that it was mainly sandy soil.
- ❖ We gained the skill of recording by using a pen and paper to write down information in the field for example we wrote down physical features around kasenyi fish landing site like Bendegere hill north east of kasenyi fish landing site
- ❖ We gained the skill of field sketching by drawing the sketch map of the area around kasenyi fish landing site showing physical features and land use activities as seen below (draw it and show some features).

Describe the follow up activities carried out after fieldwork

**Or, what were the post-field activities carried out during the study Or,
explain how you processed data during the study.**

- ❖ We presented our data collected by the different groups for example group 2 presented the location of Kasenyi fish landing site i.e. Katabi Sub-county, Wakiso District.
- ❖ We compared data collected by the various groups for example concerning the distance from Kasenyi market to Kasenyi sand beach and we finally concluded that it was 48metres. We reorganized data collected only included the required information to be compiled following our topic and objectives of study.
- ❖ We polished our field sketches by redrawing the sketch map around Kasenyi fish landing site and included Nakasunda headland which was missing.
- ❖ We wrote a fieldwork report concerning what we studied at Kasenyi fish landing site, how we studied it and the results obtained from the study.

- ❖ We drew conclusions from the field by giving geographical relationships. For example we concluded that the presence of Bendegere hilltop has encouraged the establishment of MTN telecommunication masts due to high altitude which ensures easy transmission of signals.
- ❖ We made recommendations to the people of Kasenyi fish landing sites for example we advised farmers on Bendegere hill to carry out terracing so as to control soil erosion.
- ❖ We disseminated the findings of the study to the relevant authorities for example one of our fieldwork report was handed over to the manager of Kasenyi fish landing site

Explain the conclusions you made after fieldwork study

OR, explain the significance of the fieldwork study

OR, to what extent was the fieldwork study geographical

OR, what was the geographical significance of the fieldwork study?

OR, what were the outcomes/results of the fieldwork study?

OR, how did the fieldwork study help you to understand the geography of the area?

OR, how was the fieldwork study a sample of the environment?

Physical- physical relationships

- ❖ The presence Bendegere hill in the north of Kasenyi landing site has encouraged the growth of Bendegere natural forest because of the presence of deep fertile soils.
- ❖ The presence of Lake Victoria in the south of Kasenyi fish landing site has favoured the growth of Kasenyi papyrus vegetation due to water logging conditions.

Physical-human relationships

- ❖ The presence of gentle slopes of Bendegere hill in the north of Lake Victoria has encouraged settlement at Bendegere village due to easy construction of houses
- ❖ The presence of Lake Victoria in the South of Kasenyi fish landing site has encouraged water transport due to the presence of water.
- ❖ The presence of Bendegere forest in the north of Kasenyi fish landing site has encouraged the growth of Kasenyi boat making factory due to the presence of commercial tree species like Mvule.

Human-human relationships

- ❖ The presence of Nabagereka road in the north of Kasenyi fish landing site has encouraged settlement at Kasenyi due to easy accessibility.
- ❖ The presence of Kasenyi boat making factory in the north of Kasenyi fish landing site has attracted dense settlement at Kasenyi due to provision of employment opportunities.
- ❖ The presence of dense settlement at Kasenyi has encouraged the growth of Kasenyi market because of provision of ready market for goods

Explain the relationship between the physical environment and land use activities in the area studied

- ❖ The presence of gentle slopes of Bendegere hill in the north of Kasenyi fish landing site has encouraged settlement at Bendegere due to easy construction of houses
- ❖ The presence of Lake Victoria in the south of Kasenyi fish landing site has encouraged water transport due to the presence of water.
- ❖ The presence of fertile soils of Bendegere hill in the north of Kasenyi fish landing site has encouraged the growth of coffee and bananas in Bendegere village since these crops require deep fertile soils to grow well.
- ❖ The presence of Bendegere forest in the north of Kasenyi fish landing site has encouraged lumbering due to the presence of valuable tree species like Mahogany.

Explain the relationship between physical features and land use activities in the area studied.

- ❖ The presence of gentle slopes of Bendegere hill in the east of Kasenyi fish landing site has encouraged settlement at Bendegere village due to easy construction of houses.
- ❖ The presence of Lake Victoria in the South of Kasenyi fish landing site has encouraged water transport due to the presence of water.
- ❖ The presence of Bendegere forest in the north of Kasenyi fish landing site has encouraged lumbering due to the presence of valuable tree species like Mahogany.

Explain the relationship between relief and land use activities in the area studied.

- ❖ The presence of gentle slopes of Bendegere hill in the north of Kasenyi fish landing site has encouraged settlement at Bendegere due to easy construction of houses
- ❖ The presence of Bendegere hilltop has encouraged the establishment of MTN telecommunication masts due to high altitude which ensures easy transmission of signals.
- ❖ The presence of Lake Victoria basin has encouraged water transport due to the presence of water.
- ❖ The presence of steep slopes of Bendegere hill in the north of Kasenyi fish landing site has encouraged stone quarrying due to the presence of outcrop rocks

The presence of flat lands of Kasenyi in the north of Kasenyi fish landing site has encouraged the construction of Nabagereka road due to low cost of construction.

Assess the impact of the fish landing site on the environment

OR, Assess the impact of the fish landing site on the development of the surrounding areas.

NB. Give both positive and negative effects giving an example in terms of place name/direction.

Positive impacts include;

- ❖ It has encouraged growth and development of Kasenyi trading center in the north of Kasenyi fish landing site because of increased population.
- ❖ It has facilitated the development of infrastructure like Nabagereka road in the north of Kasenyi fish landing site.

- ❖ It has provided market for goods sold in Kasenyi market for example agricultural products like potatoes and domestic items.
- ❖ It has provided employment opportunities to the people for example fishermen in Lake Victoria in the South of Kasenyi fish landing and shop attendants in Kasenyi market in the north of Kasenyi fish landing site
- ❖ It has encouraged the development of industries for example Kasenyi boat making factory in the north of Kasenyi fish landing site.
- ❖ It is a source of government revenue through taxing people employed for example as fishermen in Lake Victoria south of Kasenyi fish landing site and business men in Kasenyi market in the North of Kasenyi fish landing site.

Negative effects include;

- ❖ It has led to pollution of water, land and air from industries for example Kasenyi boat factory in the north of Kasenyi fish landing site.
- ❖ It has led to urban related problems like prostitution and robbery in Kasenyi trading center due to increased population
- ❖ It has led to deforestation due to infrastructural development for example Kasenyi forests were destroyed to establish Kasenyi market.
- ❖ It has led to competition for labor with other sectors like agriculture in Nkumba and Bendegere village living these sectors underdeveloped.
- ❖ It has led to increased school drop out to join fishing activities for example from Bendegere village and Nkumba.
- ❖ It has led to rural-urban migration with its negative effects for example from Nkumba to Kasenyi fish landing site

**Explain the impacts of the growth of the landing site on the physical environment. NB.
Give both positive and negative effects giving an example in terms of place name/direction
on every point**

Positive effects include;

- ❖ Afforestation on Bendegere hill north of Kasenyi fish landing site has promoted the modification of the local temperatures through releasing moisture to the atmosphere.
- ❖ Application of manure in Bendegere village north of Kasenyi fish landing site has helped to improve soil fertility.
- ❖ Contour ploughing on Bendegere hill has helped in controlling soil erosion.
- ❖ Afforestation in Bendegere hill has helped in increasing the green vegetation cover.

Negative effects include

- ❖ Lumbering in Bendegere forest north of Kasenyi fish landing site has led to destruction of vegetation cover
- ❖ Industrialization at Kasenyi boat factory north of Kasenyi fish landing site has led to environmental pollution from the wood dust which has affected human health.

- ❖ Settlement on Bendegere hill north of Kasenyi fish landing site has led to destruction of Bendegere forest leading to loss of vegetation cover
- ❖ The construction of Nabagereka road in the north of Kasenyi fish landing site has led to destruction of Kasenyi forest leading to destruction of vegetation cover.
- ❖ Stone quarrying on Bendegere hill north of Kasenyi fish landing site has led to destruction of landscape by creating depressions.

Explain the problems faced by the people using the fish landing site.

NB. Explain how a problem leads to a problem.

- ❖ Poor sanitation leading to diseases like cholera and dysentery which have affected human life.
 - ❖ Remoteness of the area of Kasenyi landing site with poorly developed roads has discouraged movement of goods by Kasenyi traders to the landing site.
 - ❖ Limited fish stock as a result of overfishing in Lake Victoria has led to low fish catch leading to low levels of income.
 - ❖ Perishability of the fish due to traditional fish preservation methods like smoking which lead to losses.
 - ❖ Price fluctuation due to over production has discouraged fishermen in Lake Victoria to produce more fish.
 - ❖ Low incomes among fishermen in Lake Victoria leading to use of poor methods of fishing which are highly inefficient leading to low output.
 - ❖ Limited research conducted by the fishermen in Lake Victoria has led to low fish catch
 - ❖ Rugged terrain for example due to Bendegere hill has discouraged the construction of roads to deliver fish to the market centers.
 - ❖ Siltation of Lake Victoria has led to reduction in breeding grounds for fish leading to low fish catch.
- Insecurity due to pirates in Lake Victoria and robbers in Kasenyi Trading center who destabilize peace.
- ❖ Changes in water levels leading to fluctuation in fish catch hence leading to fluctuation in incomes.

Describe the recommendations you made to the people using the fish landing site. Note. Give solutions by showing problem.

- ❖ We advised the fishermen at Kasenyi fish landing site to carry out market research to expand the market for fish.
- ❖ We advised the police force at Kasenyi police station to carry out more operations to promote security in Kasenyi trading center.
- ❖ We advised fishermen at Kasenyi landing site to improve on fishing methods to increase fish catch and increase on their income.
- ❖ We advised fishermen at Kasenyi fish landing site to improve on fish preservation methods to reduce losses.
- ❖ We advised traders at Kasenyi market to ensure proper disposal of garbage to solve the problems resulting from poor sanitation.
- ❖ We advised the residents of Kasenyi market to boil water to prevent waterborne diseases like Cholera.

FIELDWORK ON A FARM (LARGE OR SMALL)

a) Topic of study;

Growth and development of Mpamize mixed farm in Bwebajja sub- county, Wakiso district

b) Objectives of the study

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- ❖ To find out the location of mpamize mixed farm
- ❖ To find out the historical background of mpamize mixed farm
- ❖ To find out the factors which have favored the location of mpamize mixed farm
- ❖ To find out the breeds of animals reared ,types of crops grown on mpamize mixed farm
- ❖ To find out the farm products and how they are marketed at mpamize mixed farm.
- ❖ To find out the benefits of mpamize mixed farm to the people in the surrounding areas
- ❖ To find out the problems faced by mpamize mixed farm
- ❖ To suggest possible solution to the problems faced mpamize mixed farm

c) Factors that have favored the location and growth of mpamize mixed farm

- The presence of extensive land along bwebajja hill which favored the establishment of the farm
- The gently sloping landscape of bwebajja hill also favors the easy movement of animals
- The heavy rainfall received in the area throughout the year due to presence of bwebajja forest which supports the growth of animal pasture and growth.
- The moderate temperature about 23°C received in the area which supports rearing hybrid animals and ripening of crops
- Availability of adequate water sources e.g. kizito stream which provides drinking water for animals and for irrigating crops.
- Presence of skilled and semi-skilled labor force to work on the farm
- The supportive government policy which encourages foreign investment e.g. through maintenance of kampala-entebbe road
- Presence of well-developed kampala-entebbe high way which connects to markets centers e.g. Kampala, kajjansi, and Namaland, kisubi etc.
- Presence of adequate capital for investment which was provided by the farm owner Mr.mpamize Stanley
- The use of advanced technology e.g. artificial insemination which ensures high productivity

d) Benefits of mpamize mixed farm to the people in the surrounding areas o Provision of employment opportunities to many people which has improved their standard of living

- o Many settlements have been developed in the area which has led to urbanization in the area e.g. bwebajja town
- o Electricity was extended to the area which has improved security at night in the area o The firm provides job farm training for its workers which helps people to acquire skills for survival
- o Several feeder roads have been set up around the farm which has improved transport in the area
- o it's a source of government revenue through taxes used for example the Kampala-Entebbe highway o A water pump and reservoir have been setup near Bwebajja valley due to the presence of kizito stream to provide cheap water for the people.
- o Its source of food to the surrounding people in form of milk , beef and other food crops which has improved on their health

c) Findings of the study

i) Physical to physical relationship

- ✓ The presence of Bwebajja valley which encouraged the flow of kizito stream in a defined channel which provides water for crop irrigation and animal drinking.

- ✓ The well drained fertile soils on the gentle slopes of bwebajja hill have favored growth of pasture
- ii) **Physical to human relationship**
- ✓ The abundant water from kizito stream provides drinking water for animals and irrigation of crops on Mpamize mixed farm
- ✓ The abundant clay deposits in bwebajja valley led to brick making for construction of cattle dips
- ✓ The well drained fertile soils on gentle slopes of bwebajja hill favored the growth of pasture for feeding animals and fast maturing of crops.

- ✓ The Bwebajja broad valley led to the construction of kamapala-entebbe highway used to transport farm products
- b) Human to human relationship
- ✓ Kampala-Entebbe road has enabled transportation of farm products to Namaland, kisubi and kawuku market centers.
- ✓ Namulanda market has led to the growth of Mpamize mixed farm which sells farm products in the market
- ✓ The dense settlements around bwebajja have provided labor and market for mpamize mixed farm products
- ✓ The presence of mpamize mixed farm has attracted dense settlements in bwebajja by providing employment

c) How did you organize yourself for the field work?

This question is requiring the pre fieldwork activities in organized way e.g

- ❖ Our teacher **Mrs. Kyomuhendo Janet** carried out a pilot study and identified the area of study at Mpamize mixed farm.
- ❖ We formulated the topic of the study as the growth and development of mpamize mixed farm in bwebajja.
- ❖ We formulated the objectives of the study e.g. to **find out the factors that led to the growth and development of mpamize mixed farm in bwebajja.**
- ❖ We identified methods of data collection e.g. questionare, map orientation, observation etc
- ❖ We collected the materials and tools to be used in the field e.g. a tape measure and a weighing scale for measurements, hoe for soil sampling etc.
- ❖ Our teacher divided us into eight groups for easy management in the field and she distributed tasks to each group and gave us leaders. For example I was in group 2 under the leadership of **Monica Barbra** and **Twinamasiko Sheena Hope** and our task was to find out the historical back ground of mpamize mixed farm.
- ❖ Our teacher madam kyomuhendo Janet sought permission from our head teacher to allow us move outside the school gate.
- ❖ We were briefed by all teachers of the department of Geography for example **Mr. Matovu Isaac** warned us about trespassing and noise making while in the field.
- ❖ After briefing we departed for actual field work to mpamize mixed farm which was our area of study.

d) What skills did you gain from the field work?

Candidates are required to bring out the skill gained with an evidence, these skills are got from the methods used. E.g

- We acquired the skill of measurement for example we used a tape measure to measure the distance from mpamize mixed farm to kampala-entebbe highway and we found out that it was 200m.
- We acquired the skill of interviewing, this was done through the conversation we had with **Mr., Tumwine** the farm manager on the problems facing mpamize mixed farm. He told us that flooding of river kizito during rainy season damages crops hence poor yields.
- We gained the skill of recording and this was through writing down information using our pens and books, for example we wrote about the historical background of mpamize mixed farm. **Mr. Tumwine** the farm manager told us that the farm started in 2005 on 7acres with 2 cows, 5 goats and maize garden.
- We acquired the skill of observation as we observed differed crops grown on the farm. E.g we observed with our naked eyes, maize, beans, soybeans, etc.

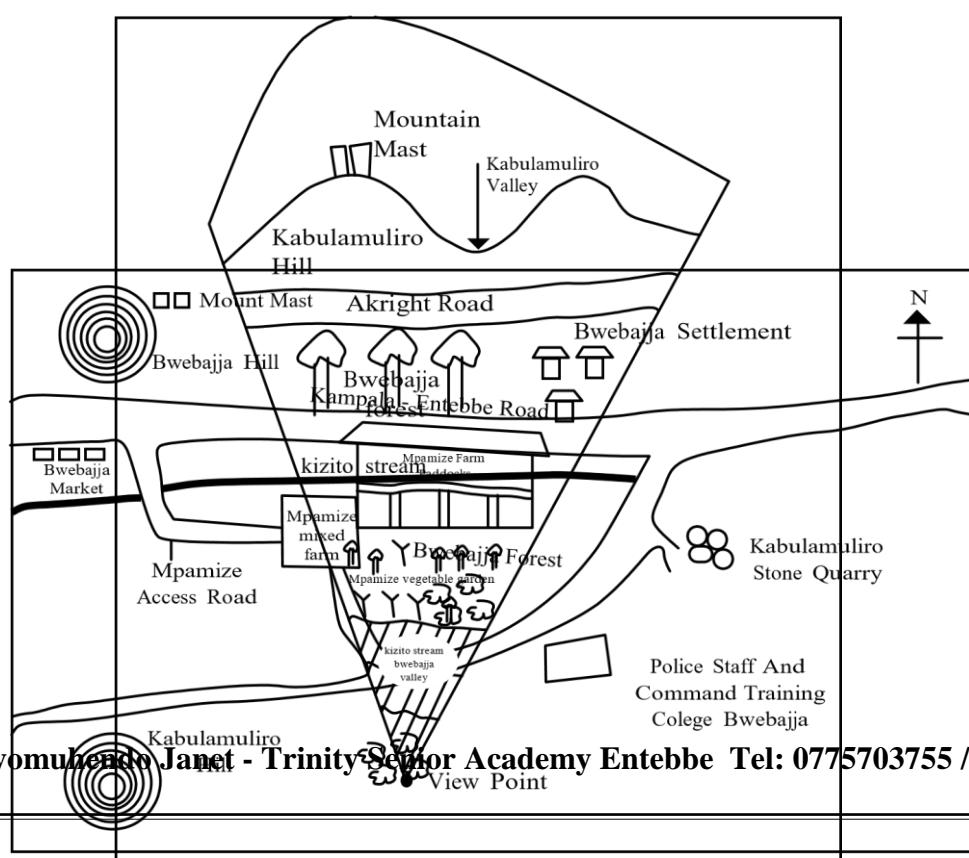
- We also gained the skill of sampling e.g we used a hoe to sample soils. We found out that soils at bwebajja hill are thin and stony while soils at Bwebajja valley are alluvial in nature.

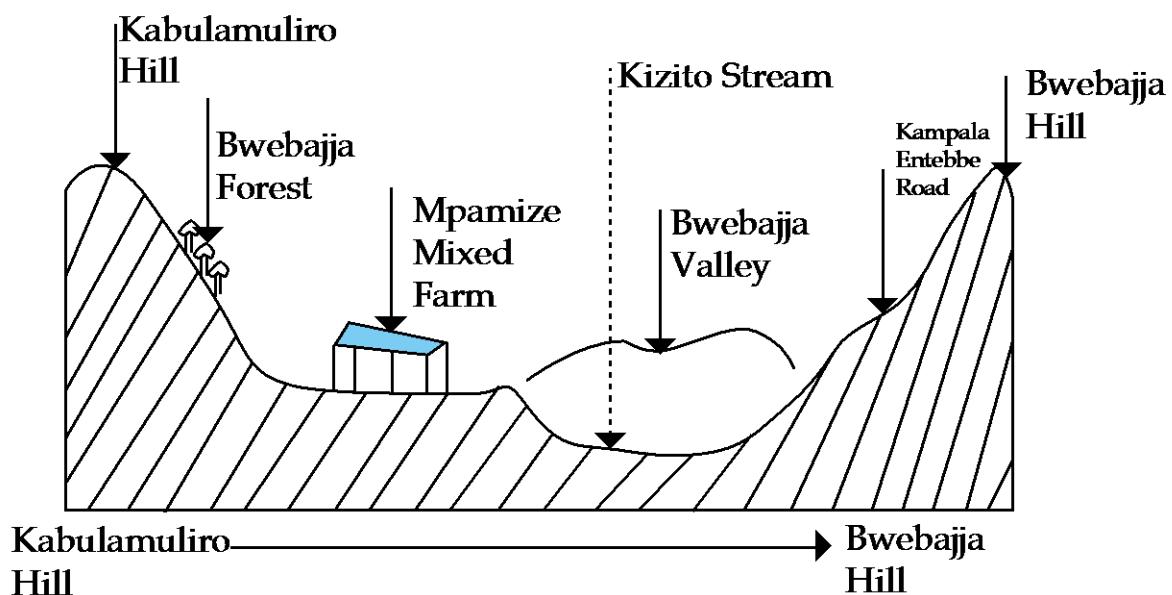
e) Explain the recommendations you made after the field work study. Here candidates are supposed to give out their advice e.g

- We recommended the exotic breeds of animals to be reared which are of high quality e.g Frisian cows.
- We also requested the farm manager to have proper records of milk sold per day.
- We also advised the farm manager to recruit veterinary officer in order to keep a close eye on the animals reared.
- We also recommended on the expansion of the farm from 100 acres to 150 acres in order to increase on crop production.
- We also advised the manager to start exporting the products since they are of high quality in order to get better market.
- We also recommended the use of fertilizers in order to boast crop production.

Exercise.

Formulate titles for the sketches below.





EXERCISES

1. For any field work study you have conducted either as a group or as an individual
 - a) (1) state the topic of study

- (11) Outline the objectives of the study

-
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-
- b) i) Describe how you used any two of the following methods I.

observation

II. Questionnaire

III. Measurement

IV. Sampling

- (ii) Outline the advantages of using any **two** methods described above.

-
-
-
- c) Draw a panorama view showing human and physical features
d) Outline the problems you faced during the fieldwork study.

2) For any field work study you have carried out either on factory or animal farm

a) State the

- I. Topic of the study
- II. objectives of the study

b) Draw a sketch map of the area of study and on it mark and name any two:

- I. physical features, II.

Land use types.

c) Outline the skills you obtained from the fieldwork study.

3) For any one fieldwork you have conducted

(a) (1) State the topic of the fieldwork study

(11) Outline the objectives of the study

b) Describe how the following methods were used to collect information during the field work study

- I. Observation

- II. Recording

c) Outline the disadvantages of using the methods in (b)above

d) what follow-up activities did you carry out after the fieldwork

4) For any one of the fieldwork you have carried out either as a group or as an individual,

(1) State the topic of study

(11) Outline the objectives of the study

b) Draw a line transect showing human and physical features

c) Outline the follow up activities that you carried out

5) For any one of the fieldwork you have carried out either as a group or as an individual,

(a) (1) State the topic of study

(11)Outline the objectives of the study

b) Draw a panorama sketch of the area and on it mark and name:

- I. Any two physical features
- II. Any three land use types

c) Explain the preparations you made before the field work.
f) Describe the relationship between relief and land use types in the studied area

6) For any one of the fieldwork you have carried out either as a group or as an individual,

(a) (1) State the topic of study

(11) Outline the objectives of the study

b) Explain the pre fieldwork activities u carried out before fieldwork excursion

c) Explain the advantages of using the following methods.

- I. Measurement
- II. Questionnaire
- III. Interviewing

d) Explain the importance of the field work study.

8. For any one field work study you have carried out

a) State the

i) Topic of the study

ii) Outline the objectives of the study.

- a) Explain the post field work activities you carried ou
- b) Explain the relationship between physical features and manmade features..

9. For any field work study you have ever carried out on a large scale farm.

- a) State the
 - i) Topic of the study ii)
Objectives of the study
- b) Draw a sketch map of the area studied showing the relationship between physical and human activities.
- c) What problems did u face while carrying out field work?
- d) Explain the follow up steps you took after the fieldwork.

10. For any field work you have conducted either as a group or as a group.

a) State the

i) Topic of the study

- ii) Objectives of the study.
- b) Draw a transect to represent the physical and man-made features.

- c) Explain the pre-field work activities you carried out.
- d) How geographical was the study you conducted.

10. For any field work carried out as an individual or as a group.

- a) State the
 - i) Topic of the study
 - ii) Objectives of the study.
- b) Draw a panoramic view to show physical and man-made features.
- c) How did you organize yourself for the field work?
- d) What skills did u gain from the field?
- e) Explain the recommendations you made after the field work study
- f) Explain the impact of human activities on the physical environment in the area studied.

-Wising you the best -