

## 6. FIELD WORK

1.
  - a) - To find out where farmers get their livestock/hides
    - Find out the significant of beef produce to the local areas.
  - ii) - Displaying the filled questionnaires.
    - Displaying photographs taken.
    - Giving a lecture on beef farming.
    - Carry out group discussions.
    - Drawing proper sketches.
  - b i) - To find out the various ways in which the power plant benefits the surrounding communities
    - To discover the amount of power generated by the plant
    - To find out the problem facing geothermal power generation in Kenya
    - To find out the power generation potential of the rift valley area
  - b ii) - Formulator of objectives before actual field study
    - Write to Kengen to seek permission to visit Olkaria
    - Collect all the necessary writing materials
    - Conduct a reconnaissance to the site
    - Prepare a questionnaire for use on the day of study
    - Prepare a working schedule
  - c) i) - A pit is dug not too deep or shallow
    - The pit is cemented and sealed to prevent gas from escaping
    - Pipes are connected to carry the biogas to the burners
    - Pour the dung and other waste into the digester and mix with water
    - Anaerobic bacteria feed on it giving off biogas
  - ii) - Saw dust
    - Agricultural wastes
    - Wood
    - Dung

2.
  - a i) - Soils are light in colour
    - Soils are sandy/ stony
    - Soils are loose in texture
    - Soils are thin
    - Soils have low moisture content
  - ii) 2 columns of time & activity
    - Time of departure
    - Two activities indicating data collection
    - Time back to school

TIME	ACTIVITY
8 a.m	Departure from school
8.30	Arrival at the field
9.00	Testing or feeling of soil texture
	Measuring the alkalinity of soil
	Carrying out experiment on water retention
	Observing of the soil e.t.c.
4 p.m	Going back to school

3.
  - a i) - Savanna vegetation
    - Rainforest
    - Bamboo forests
    - Heath and moorland
  - ii) - prairies
    - steppes

- downs
  - veld
  - iii) - some have thick/fleshy/succulent leaves /barks
    - some have long tap roots
    - some have no leaves /have thin/spiky/waxy/needle like leaves
    - some plants have thick/hard barks
    - some plants have thorns
    - some plants are stunted/dwarf like
    - shrubs are common
    - some plants spout during wet seasons (short time)
  - b) - fire-often ,large areas of forests are destroyed by accidental and sometimes intended fire. such forests takes long to recover
    - diseases causes by pests and parasites attack mainly the planted forests causing many trees to die
    - human activity /settlement /charcoal burning/logging have destroyed many forests areas of which are transformed in to farms and grasslands
    - over-exploitation leads to depletion of certain tree species such as Meru oak, camphor and Elgon teak. these trees take long to mature
    - government policy of degazetting of some forests made people free to clear many forested areas
    - prolonged droughts lead to degeneration of forests some of which take long to recover
  - ci)
    - Conduct a previsit
    - Collect the tools and equipments needed for the study
    - Prepare a working schedule
    - Read secondary sources at information
    - Formulate the objectives and hypothesis
    - Decide on the method of data collection
  - ii)
    - Hygrometer (wet and dry bulb thermometer)
    - Ordinary thermometer
    - Six's thermometer (max & min thermometer)
- 4.
- a i) - Stating either activities to be carried out during the field
    - Recording the data an types of vegetation
    - Collecting data on vegetation types and conditions favoring their growth.
    - Drawing the structure of plants leaves
    - By classification and characteristics of leaves of different plants.
    - Observing types of roots and stem of the different plants
  - b i) - high population increase
    - poor grazing methods
    - poor management of bench terraces
    - nature of the landscape
    - charcoal burning
  - ii) - loss of top soil
    - siltation of water reservoirs and H.E.P dams on Tana river
    - deposit of sand along river leading to sand harvesting
    - intensification of soil conversation awareness in the district
  - iii)- to find out the cause of soil erosion in machakos district
    - to find out the effect of soil erosion in machakos district
- 5.
- a i) - formulation of hypothesis /objective
    - reconnaissance survey
    - prepare route map
    - prepare a working schedule

- carry out secondary research(content analysis)
  - seek permission from relevant authority
  - prepare necessary stationery
  - make travel arrangement
  - ii) - the residents of the area covered by the map sheet do not have access to tea products meant for export
    - The tea plantation does not stretch outside the Belgut district boundary
  - b i) - Factors that influence weathering
    - Types and processes of weathering
    - Effects of weathering on physical and human environment
  - ii) - Draw sketches of features
    - Data analysis
    - Data interpretation
    - Discuss the findings
- 6
- .a) i) - Pre – visit/ reconnaissance
    - Preparing equipments to be used
    - Asking permission from relevant authorities
    - Setting objectives/ hypothesis
    - Preparing map of the place/ route map
    - Discussion before the field day
  - ii) - Climate of the area have direct influence on vegetation
    - The vegetation of the area changes with the change of climate
  - b i) - Reduced amount of vegetation cover
    - Reduced mountain shows in the tropical highlands
    - Severe wind and soil erosion
    - Presence of strong winds
    - Failing of crop yield
    - Reduced size of water bodies
    - High localized temperatures
    - Low plant/ animal population densities
  - i) - First hand information would be collected
    - Data collected would be reliable
    - It is a quick method of data collection
  - . c) - Relief – steep slopes have no / sparse settlements evidenced in western side (KEBEWET AREA) since such slopes are not ideal for erection of houses/ gently sloping slopes have dense settlements as is in control part of near (Chemalul, Kablanga, Kapwaso) areas since they form ideal sites for erection of structures
    - Vegetation areas with thick vegetation e.g. forests, plantations have scarce settlements (Tea estates and forests in S.E). Such vegetation discourages settlement
    - Drainage – poorly drained places like mashes have no settlements since the places cannot provide firm sites for erection of houses/ well drained places have dense settlements such sites provide water for a domestic use and provide firm sites
    - Transport lines – Areas with good road network have dense settlements for easy transportation of people and goods e.g. along loose surface roads
7. a i) - Reading from secondary sources
  - Carrying out reconnaissance
  - Formulation of hypotheses and statement of objectives
  - Division of class into smaller groups

- Asking permission from relevant authorities
- ii)
  - Most of the crops grown are cash/ most crops grown are subsistence
  - Crop farming is more dominant than livestock keeping
  - Most of the economic activities take place in areas with good transport network

iii)

ACTIVITY	EVIDENCE
- plantation farming	- Existence of estates
- Livestock farming	- Existence of dips
- Manufacturing	- Tea factory (4647)
- Transport	- Existence of roads
- Trade	- Shops

iv) – Topographical

b i) INDUSTRIALIZATION

- Has led to disposal of industrial wastes into the lake contaminating /polluting the water and interfering with aquatic life
  - Agro-chemicals/industrial effluents washed into the lake has promoted weed loons
  - causing the lake to be colonized by weeds/water hyacinth

DEFORESTATION

- Has exposed soils to agents of erosion; the eroded soils have been carried and deposited in the lake siltation. This had diminished the depth of the lake.
- Deforestation in water catchment areas has interfered with the water cycle causing low rainfall and less water from feeder rivers. this has led to drying of the lakes

ii) - observation

- Taking photographs
- Taking measurements
- Collecting samples
- Interviewing/asking questions
- Reading from secondary sources

iii) - In order to write the report/summarize the data

- So as to a group/process/ analyze the data collected
- so that the various groups can report/discuss the findings from the field
- So as to display any collected samples
- So as to assess the importance of the information collected in the field
- To test samples collected from the field

. c i) -note taking

- filling in questionnaire
- tabulation
- field sketching/drawing maps
- tallying
- photographing
- tape recording
- labelling samples

ii) -bad weather-raining

- in accessibility of some area
- lack of sufficient data
- illiterate respondent
- arrogant respondents

8. a)i)- All weather road.

- Loose surface road.
- Dry weather road.

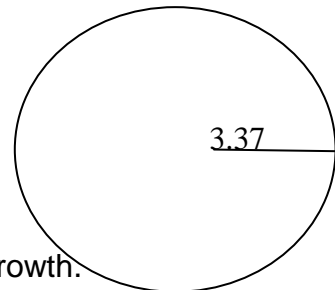
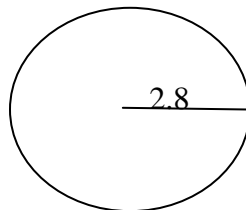
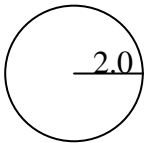
- ii )- Formulate hypothesis/objectives.
  - Makes a short survey/reconnaissance of the area to be studied.
  - Preparation of route map.
    - Carrying out literature review/secondary information.
  - Organize into groups.
  - Make transport arrangements.
  - Prepare the necessary stationery and equipment required.
  - Prepare a working schedule.
  - Seek permission from relevant authorities.
  - b)(i) - Assemble equipment
    - Depart for the area of study
    - Report to the factory authorities
    - Embark on data collection
    - Report back to the factory authorities
    - Report back to school
  - ii) - The class will be able to study the entire course of the river
    - It will enable them to obtain detailed information on each stage of the river
    - It will save on time
    - It will enable the study to be carried out in an orderly way
    - It will encourage participation of all the members of the class/ encourage individual roles
    - It will facilitate more interaction among the group members
- 9.
- a i) - Administering questionnaire observation
    - Collecting samples of rocks/ deposits
    - Drawing sketches/ diagrams/ maps
    - Measuring/ calculating
    - Taking photographs
    - Reading secondary materials/ content analysis
  - ii) - The hot/ scorching sun would make it difficult to collect data
    - Torrential rain/ flash floods/ dust storms would disrupt data collection
    - The rugged terrain would make it difficult to reach certain features
    - Attack by wild animals
  - b i)- Measure distances/ estimation of distances/ heights
    - Collect samples of plants
    - Draw sketches/ transects
    - Record/ take notes
    - Take photographs of plants/ area
    - Count plants
      - ii) - By their appearance
        - Their colour
        - By their leaf size/ pattern/ arrangement/ type
        - By their age
        - By the nature of their barks
        - By the texture of their leaves
- 10 .
- i)- Graphs
    - Pie charts
    - Preparing a written report.
    - Displaying rock samples
    - Displaying photographs.
    - Drawing maps showing distribution of area underlying desertification.
  - b i) - Breaking the rocks.
    - Digging the rocks.

- Collecting samples.
  - Tasting the rocks
  - Observing the rocks
- ii)- Tiredness because of rugged /steep terrain.
- Lack of testing Material.
  - Inadequate resource materials.
  - Accidents e.g slipping/getting cut by rocks.
  - Hindrances by poor /harsh weather conditions.
  - Attack by wild animals.
  - Difficulty in carrying heavy rock samples.
  - Difficulty in climbing /ascending steep rocks.
11. a i) - To determine the type of soil
- To find out the soil colour.
  - To establish the use of the soil
- ii) - Inadequate time for detailed study.
- For further analysis in the lab.
  - Keeping for future reference in the geography room.
- (b) i) -carried out a reconnaissance /persist
- identified the tools to be used during the fieldwork
  - prepared a working schedule
  - asked for permission from relevant authorities
  - held discussions in groups
  - state the objectives/hypotheses
- ii) -hostile weather due to heavy rains
- attacks by wild animals
  - lack of resource pesos
  - some areas were inaccessible
12. a) i) -direct observation
- administering questions
  - taking photographs
  - taking measurements
  - interviewing the local people
- ii) -to identify the route
- to prepare time schedule
  - to ask for permission from the local community
  - to identify the particular features location
- iii) -can be advised on ways of controlling flooding
- can be advised on several uses of the river and need to conserve it
13. a ) - long and narrow
- some are salty
  - some are fresh
  - some have underground outlets e.g Naivasha
  - deep
- b i) – Helps the researcher to decide on appropriate method of data collection
- Helps in identifying the appropriate tools to be used during the study
  - Helps the researcher to design a working schedule
  - Helps the researcher identify problems likely to be identified
  - Helps the researcher estimate the cost to be incurred
  - Helps the researcher to familiarize with the area

- ii) - Note taking
- Filling in questionnaire
- Mapping
- Photography
- . c)i) - the area is too wide/extensive
- some areas are inaccessible-steep slopes
- harsh weather/weather changes
- field study can take too long
- c) ii) - report writing
- class discussions
- displaying of collected samples
- asking/answering questions
- reading more about the topic
- analysis photographs/tape recorded work/collected samples

14. a i)  $\frac{22}{105} \times 100 = 13.33$   
 $= 13.33\%$

ii)  $\sqrt{\frac{2000}{165\ 000}} = 406.20$  r . 2.0  
 $\sqrt{\frac{2001}{318\ 000}} = 563.914$  r 2.81  
 $\sqrt{\frac{2002}{455\ 000}} = 674.536$  r 3.37



- b) - Moderate to high rainfall/500 – 1270 mm p.a. for growth.
- Dry spell for harvesting.
- Warm to hot temps/15 – 20<sup>0</sup>c to facilitate growth/maturity.
- Well drained volcanic soils increases yield.
- Gentle/undulating topography to facilitate mechanization..
- c i) In Canada cultivation is highly mechanized while Kenya in Kenya its less.
- ii) In Canada wheat is mainly for export while in Kenya its mainly for local consumption.
- iii) The farms in Canada are more extensive and wide while in Kenya the cultivation is done mainly in small scale.
- d) - Used in industries to make alcohol and glue.
- Wheat flour is food /bread/ cake.
- The wheat stalks are livestock feed.
- Straws are used for making papers/ straw gourds/ bedding in cow sheds.

15. a i) Firewood -  $\frac{13400}{45000} \times 360 = 107.20$   
Kerosene -  $\frac{11200}{45000} \times 360 = 89.60$   
Charcoal -  $\frac{9100}{45000} \times 360 = 72.79$   
Liquid petroleum gas -  $\frac{5300}{45000} \times 360 = 42.40$

$$\text{Saw dust} - \frac{4000 \times 360}{45000} = 32.00$$

$$\text{Hydro electricity} - \frac{2000 \times 360}{45000} = 15.99$$

- b i) - Previsit/ reconnaissance
  - Literature review
  - Class discussion
  - Data collection instruments
  - Preparation of working schedules
  - Obtain permission
  - Transport arrangement
- b ii) - Discussion of findings
  - Write better notes/ draw better diagrams
  - Display photographs/ maps/ diagrams
- c i) - Inaccessibility of some parts due to presence of tendrils.
  - Wild animals' attack/insects sites.
  - Unfavourable weather conditions/cold conditions.
  - Rainfall
- ii) Height of a tree measure the shadow then calculate.  
Diameter of the stem – use a tape measure.  
Trees of the same species – study leaf structures.
- d i) - Foul smell
  - Garbage may harbour smokes which are dangerous.
  - Paths may be blocked.
- ii) - Tree forming should be practiced in the area ✓
  - Agro – forestry should be practiced ✓
  - People should be encouraged to use alternative sources of energy/ energy saving jikos ✓
  - Mature trees felled should be replaced immediately ✓
  - Villagers/ people should be educated on importance of trees ✓
  - Nurseries should be established to provide seedlings ✓
  - Indigenous trees should be planted ✓