

**GEOGRAPHY PAPER 312 /1 K.C.S.E 1999**  
**MARKING SCHEME**

1. Photographs taken from the outer spaces/ satellite show the curvature of earth
  - ❖ During the eclipse of the moon, the earth casts a spherical – shaped shadow on the moon
  - ❖ The earth's horizon is curved as evidence by approaching ships whose funnels and masts appear on the horizon before the rest of the ship is seen from the coast.
  - ❖ Circumnavigation of the earth along a straight path will bring one back to the same starting point from the opposite direction.
  - ❖ All other planets including the moon are spherical, therefore the earth's being one in the solar system must be a similar shape.
  - ❖ The rising and setting of the sun earlier than those to the earth's rotation leads to places in the east seeing the sun earlier than those to the west. If the earth was flat all places would receive sunlight at the same time.

Any 4x 1 = 4 mks)
  
2. (a) It should be an open space away from tall objects/ buildings/ trees
  - ❖ The ground should be level/ gently sloping
  - ❖ The area should be free from flooding
  - ❖ The area should have a wide view
  
- (b) A thermometer/ maximum and minimum/ six's thermometer  
A hygrometer / wet and dry bulb thermometer
  
- (c) To enable farmers to plan their farming activities
  - ❖ It helps people to plan on suitable clothing for the day
  - ❖ It influences the design of houses
  - ❖ It helps in guiding the landing and taking off of air crafts/ ships
  - ❖ It helps in guiding tourists activities
  - ❖ It helps in planning military activities
  - ❖ It averts natural disasters related to weather ( accept any relevant reasons)
  
3. (a) (i) sea/ lake breeze  
(ii) Land loses heat faster than sea. Air upon the land becomes cooler and heavier than that upon the sea. The relatively warmer air upon the sea is lighter and therefore it rises while the cooler heavier air on the land flows towards the sea to replace the rising air.
  
- (b) As air rises, it expands thus spreading out its molecules over a wider area and hence becoming cooler.
  
4. (a) K The horn  
L Eddy current
  
- (b) A pre-existing depression/ localized fault is deepened by eddy action/deflation

- ❖ Gradually the depressions excavated through the removal of the unconsolidated materials/ wind abrasion
- ❖ The surface is lowered until it reaches the water – bearing rock / aquifer
- ❖ Water oozes out of the ground and collects in the depression to form an oasis

5. (a) X- a cave  
Y – a blowhole
- (b) Presence of ample materials to be deposited
- ❖ A (weak) long current/ drift
  - ❖ An indented coastline/ presence of a headland
  - ❖ A relatively weak backwash
  - ❖ A shallow continental shelf

**SECTION B**

6. (a) (i) 129 + 1                                  128 to 130                                  (ii) 0<sup>00</sup> – 0<sup>05</sup> (south) 15



- (i). Busia District  
(ii) Lake sare  
(iii) All weather loose surface road

- (c) Seasonal rivers
- ❖ Seasonal swamps
  - ❖ Scattered trees/ scrub vegetation
  - ❖ Presence of water holes/ dams/ ponds

- |                               |                                    |
|-------------------------------|------------------------------------|
| (d) Economic activities       | Evidence                           |
| - Crop growing/ grain growing | - Posho mill (grid square 3280)    |
| - Mining                      | - Gold mine (grid square 3079)     |
| - Trading / Commerce          | - Market shops                     |
| - Transportation              | - all weather road/ Port/ ferry    |
| - Grain milling/ processing   | - Posho mill (No evidence no mark) |

(e) **The land is generally undulating/ gently sloping the lake basin**

- ❖ The lowest part of the area, below 1140 metres is the lake basin
- ❖ There are isolated islands in the lake
- ❖ There are some isolated hills, e.g. Usenge, Ramogi
- ❖ There are wider river valleys
- ❖ The shoreline is irregular/ has many bays
- ❖ The highest point in the area is 1318m/ the lowest parts are between 1120m and 1140

(f) **Formulate hypothesis/ objectives**

- ❖ Make a short/ reconnaissance survey of the area to be studied
- ❖ Prepare a 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

7.

(a) R- Esker

- ❖ S- Drumlin
- ❖ V- Moraine – dammed lake

(b) Gradient / relief of the area should be relatively flat to allow for the accumulation of large sheets of ice and subsequent deposition of fluvio-glacial material

- ❖ Seasonal melting of ice during alternating warm and cold periods allow materials embedded in the ice to be released for deposition
- ❖ Stagnation of glacier leads to pressure being exerted at the base of glacier which in turn leads to melting of the base of the ice. The melt water then carries and deposits materials underneath the ice mass.
- ❖ Friction between the moving ice and the surface leads to deposition of the heavy materials beneath the ice mass
- ❖ Climatic changes/ rising temperatures lead to melting of the ice thereby releasing all its load in the lowland

*Condition – 1 mk each max 3*

*Explanation – 1 mk each max 3*

(c) (i) Moraine dammed lake

Widening of a valley through ice erosion/ melting of the ice at the snowline

- ❖ Deposition of terminal moraine across the widened valley/ at the snowline
- ❖ Accumulation of the melt water behind the terminal moraine
- ❖ Continued melting of ice boots the amount of melt water behind the terminal moraine to a moraine – dammed lake (1mk each max 3mk)

8. (a) **Hydraulic action**
- ❖ Water is forced into cracks on the riverbanks/ water hits the banks
  - ❖ Air in the crack is compressed
  - ❖ As the water retreats, pressure in the cracks is suddenly released
  - ❖ The compression and widening of the cracks repeatedly
  - ❖ The retreating water carries away the loose particles
  - ❖ The force of the moving water and the eddying effect
  - ❖ Sweep away loose materials in the river channel
- (ii) **Abrasion**
- ❖ River water carries sand, gravel and boulders
  - ❖ The load is used as a tool for scouring
  - ❖ The load is hurled by the river water against the banks and drafted along the riverbed
  - ❖ The load chips off rock on the bank and the floor ( the size of the load determines the rate of erosion)
  - ❖ The load being dragged smoothens the river bend
  - ❖ Eddy currents rotate rock particles in hollow sand widen them into potholes
- (b) (i) Local uplift of land ( dynamic rejuvenation) lead to a change in the base level hence the river revives its erosive activities
- ❖ Lowering of the sea level (Eustatic rejuvenation) creates sharp breaks/ knick points at the river mouth. This leads to revived erosion
  - ❖ Increase in discharge raises the volume of a river thus increasing its erosive power
  - ❖ Presence of a hard rock out crop along the river causes breaks over which a river drops in falls and renews its erosive work.
  - ❖ Presence of a lake in the course of a river causes of static rejuvenation as the river drops over the lower edge of the lake
- (ii) River capture may occur by headward extension of the long profile
- ❖ This happens when rivers are sharing a watershed
  - ❖ The actively eroding river gradually cuts back its slope head until it encroaches upon the divide or watershed of the other river
  - ❖ Eventually the power river reaches the source of the weaker river and diverts its water into its channel
  - ❖ River capture may also occur where there two adjacent rivers
  - ❖ One of the rivers has more erosive power than the other
  - ❖ The more powerful rivers erodes both vertically and laterally faster than the weaker river and diverts its water into its channel
  - ❖ River capture may also occur where there are two adjacent rivers
  - ❖ One of the rivers has more erosive power than the other
  - ❖ The more powerful river erodes away the ridge that separates the two by headward erosion

- ❖ Eventually it encroaches into the valley of the weaker river diverting its waters into its valley.
- (c) (i) L- Centripetal  
M- Radial  
N- Dentritic

(ii) It is formed in the middle or old stage of a river/ where the valley is wide and gently sloping

- ❖ The river must be carrying a large load
- ❖ The river flows sluggish/ at a low velocity
- ❖ The river deposits its load on the bed
- ❖ The river bed is gradually raised blocking the flow
- ❖ The river bed subdivides into channel/ distributaries/ braids across the deposits

9. (a) (i) X – Rainforest  
Y – Bamboo forest  
Z – Health and moorland
- (ii) Acacia trees are common/ dominant species
- ❖ Savanna trees are common / dominant species
  - ❖ In the wetter areas the grass is tall and close together
  - ❖ The grass dominates the undergrowth ( in the woodlands)
  - ❖ In the drier areas, the grass is shorter and tufted
  - ❖ Grass dominates the vegetation
  - ❖ The trees are shorter more scattered
  - ❖ The trees are umbrella shaped
  - ❖ Some trees are stunted and have scaly barks/ drought resistance
  - ❖ River valleys have tall trees and thick bushes/ riverine vegetation
  - ❖ During the wet season, the grass withers away/ trees shed their leaves/trees are deciduous
  - ❖ During the dry season, the grass sprouts and the dormant seeds germinate.
  - ❖ Some trees/ shrub are deep rooted
  - ❖ Some trees i.e baobab have thick back/ trunks
- (iii) The temperatures are too low to support plant growth
- ❖ There is no soil to support plants/ bare rock
  - ❖ Water is always in a frozen state.
- (b) The frequent outbreak of bush fires destroys the grass retarding its regeneration
- ❖ The increasing human population is encroaching into the grasslands replacing them with settlements and cultivated land
  - ❖ Pests such as armyworms/ locusts destroy the grass reducing the rate of growth and regeneration

- ❖ Frequent droughts experienced in the country destroy the grass and the vegetation degenerates into a semi – desert type.
- ❖ Wild and domestic animals over graze and cause stunted growth of grass

- (c) (i) To find the types of vegetation at different altitudes
- ❖ To find out the changing characteristics of vegetation at different altitudes
  - ❖ To find out the species of trees/ grass at different heights
  - ❖ To find out other factors influencing vegetation distribution other than altitude
  - ❖ Accept other relevant objections
- (ii) Taking photographs
- |                             |                       |
|-----------------------------|-----------------------|
| - Tallying                  | - Field sketching     |
| - Tape recording            | - Note taking         |
| - Tabulation                | - Labeling samples    |
| - Filling in questionnaires | - (Any 3 x 1 = 3 mks) |
- (iii) Density maps/ chlopleth      Distribution map (1 mk each) 2mks)

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**GEOGRAPHY PAPER 312/2 K.C.S.E 1999**  
**MARKING SCHEME**

**SECTION A**

1. To protect the endangered animals/ Plant species
  - ❖ To promote tourism/ tourist
  - ❖ To generate foreign exchange/ revenue
  - ❖ To keep them from posterity/ future generations
  - ❖ To sustain the raw materials for supply of drugs
  - ❖ For education/ research purposes
  - ❖ For aesthetic value/ beauty
  
2. Poor marketing strategies
  - ❖ High prices of poultry feeds/ other farm inputs of vaccines
  - ❖ Competition from other sources of protein and competition among farmers/ countries
  - ❖ The intensive care requirement
  - ❖ Diseases/ pests/ new cattle/ fowl pox/ fowl typhoid/ avian luekosi/ coccidiosos/ fleas/worms
  - ❖ Inadequate initial capital
  - ❖ Inadequate knowledge about poultry keeping
  
3. (a) (i) Provision of water for domestic use
  - ❖ Provision for water for irrigation
  - ❖ The dams serves as bridge across the river
  - ❖ The dams and the reservoirs are tourists attractions
  - ❖ The reservoirs have modified the local climate
  - ❖ Control of floods

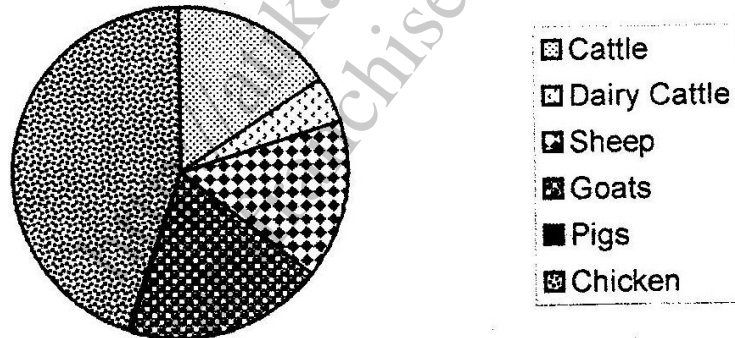
(ii) Changes in the river regime/ fluctuation/ seasonality

  - ❖ Poor maintenance of the machinery at the powerhouses
  - ❖ Sitting of reservoirs
  - ❖ Inadequate capital to purchases spare parts
  
- (b) Limited number of suitable sites
  - ❖ Inadequate capital investment
  - ❖ Scarcity of skilled labour
  
4. (a) Railways can carry more goods over long distances at once
  - ❖ Railway are cheaper than roads
  - ❖ Railways are less susceptible to traffic jams
  - ❖ Once built, railways do not require frequent relaying unlike roads, which are frequently resurfaced
  - ❖ Railways are more efficient because they operate on rigid timetable
  - ❖ Railways are free to accidents
  
- (b) (i) X - Nakuru  
Y – Eldoret

- (ii) They are expensive to maintain
    - ❖ They are not flexible
    - ❖ They do not serve intermediate locations
    - ❖ They can cause excessive loss incase of leakages
    - ❖ A pipe can be used only for one type of oil product at a time.
5. (a) Lightening
- ❖ Strong winds
  - ❖ Hailstorms
  - ❖ Dust storms
  - ❖ Pest/ diseases/ cholera/ typhoid/ malaria
  - ❖ Floods
  - ❖ Landslide
  - ❖ Pollution Garbage
  - ❖ Soil erosion
  - ❖ Fire ( any 2 x 1 = 2mks)
- (b) Population pressure/ clearing of forests for farming/ settlement
- ❖ Climatic changes/ Global warming/ direction of Ozone layer
  - ❖ Accidental fires
  - ❖ Poor methods of farming/ overgrazing

### SECTION B

6. (a)



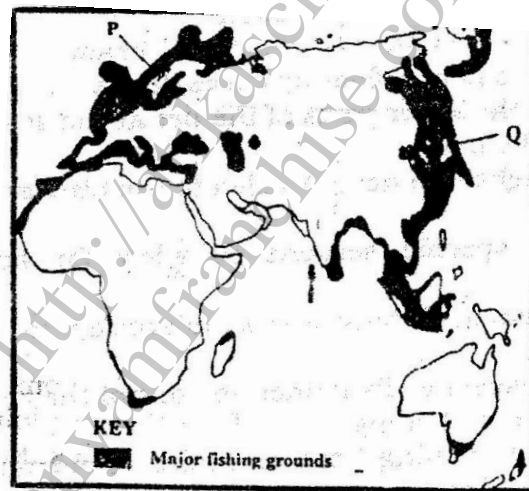
- (b) Sheep survive in a variety of climatic conditions while dairy cattle are restricted to cool and wet climate
- ❖ The farm inputs required for dairy cattle are more expensive than those for sheep
  - ❖ Some breeds of sheep are more resistant to diseases than dairy cattle thus they are more widespread.
  - ❖ The management of dairy cattle is more demanding than that of sheep
- (c) The government has set up demonstration ranches to educate the pastoralists on better ways of keeping livestock. Cattle dips have been constructed to control pests
- Extension services are provided to give advice to the pastoralists



- Boreholes and dams have been constructed to provide water for their livestock
  - Roads have been constructed to enable the pastoralists to transport their produce to markets
  - Through formal education, the pastoralists have learnt the advantage of keeping manageable sizes of herds
  - The government encourages ranching to enable the pastoralists to view livestock Keeping as a commercial undertaking
  - Replacement of coarse grasses with alfalfa and corn has improved the quality of pastures of the beef cattle.
  - Crossbreeding of traditional with higher quality breeds/ Hereford Aberdeen
  - Angus shorthorn has improved the quality of the yields
  - The maritime climate of the area makes grazing of cattle possible throughout the Year
  - Availability of water supplied using wind pumps ensures constant supply of water for cattle
  - Availability of vast lands suitable for cattle grazing encourages beef ranching
  - Availability of market both local and external encourages the farmers to expand the beef industry/ sustains the industry.
  - Availability of refrigeration facilities enables beef to reach far off markets in good condition.
7. (a) Describe the characteristics of the population represented by the pyramid
- The number of male and female population is almost equal at all levels
  - From 0- 14 years, the population is low
  - From 14 -44 the population is high
  - The ageing population is low
  - The population has high life expectancy
  - The dependency ration is low
  - The population has a low birthrate
  - The population has a low death rates
- (b) There is likely to be unemployment rate/ job opportunities do not increase at a rate that can cope with the increasing number of job seekers/ low standard living.
- The government is not able to provide adequate social amenities
  - It may lead to a high dependency ratio which will show down the economic growth
  - Strain on natural resources/ scarcity of land which would lead to landlessness and land fragmentation
  - There would be food production/ food shortages
- (c) Improving medical facilities/ immunization of children to control diseases  
This has created a healthy/ environment for child survival

- Providing more education opportunities for parents ensures better care for their children e.g. in providing balanced diet
  - Introduction of family planning programs has led to emergence of manageable sizes of families which promotes higher chances of child survival
  - Carrying out research on infant related diseases to cope up with ways of controlling them ensures higher chances of survival
- (d) Presence of large towns with industries has attracted large numbers of job seekers
- High rainfall which influences production of a wide variety of crops hence sufficient food.
  - Fertile and which attracts settlements / farming
  - High fertility rate leads to a high natural increase
  - The fairly level land encourages agriculture/ settlement
  - Increased commercial activities e.g. trade attract a large number of population
  - Early settlement in the region encouraged growth of towns which formed a focus for migration
  - Developed communication has enhanced movement in the area.

8. (a) (i)



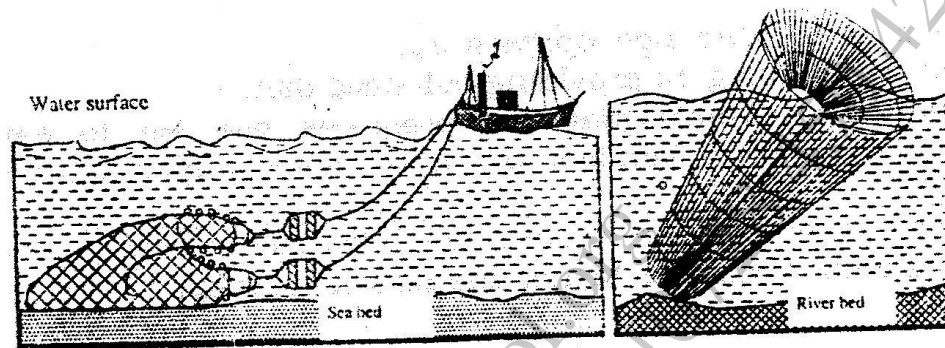
P- Norway

Q- Japan

- (ii) The area has cool waters which have abundant supply of plankton which is the main food for fish
- The areas have shallow continental shelves which allow light to penetrate to the sea bed encouraging the growth of micro-organisms used as food by fish
  - The areas experience convergence of warm and cool currents which result in upwelling of ocean waters thus bringing minerals for fish and plankton from the sea bed to the surface

- Most of the coast are indented/ have numerous sheltered bays which provide secure breeding grounds for fish.
- The shelters bays provide suitable sites for building fishing ports/ fish landing sites
- The large population in these area limits agricultural activities thus people turn to fishing as an alternative economic activity/ cold climate also limit agriculture
- Cold climate provides natural preservation of fish

(b)



(iii) R – Trawling

S – Basket fishing

(IV)

Basket fishing

- The basket funnel shaped to allow easy entry for fish
- At the mouth there is a non- return valve which restricts the outward/ escape movement of fish once inside the basket it is held in position with tropes/ stones/ sticks to prevent it from being swept downstream
- The basket is left in that position for sometime/ overnight then removed for landing the fish

Trawling

- A bag – shaped net is attracted to a ship – trawler
- The nets mouth is kept open by otter boards/ head beam
- The upper part of the net is kept a float by corks/ floats
- Weights are used to keep the lower parts of the net at the seabed
- The trawler drags along the net
- After sufficient fish is caught, the net is hauled to the trawler

(c) Fishing is restricted to specific seasons to allow for breeding and maturing of fish

- The size if the nets used in fishing are standardized to ensure that fingerlings are not caught
- Licenses are issued to prospective fishermen to control their number and to ensure that there is no over fishing
- The law of the sea restricts fishing in the exclusive economic zones/ this ensure the protection of marines fisheries from external exploitation

- Fish farming is being encouraged to ensure that there is sufficient supply of fish from other sources other than the natural fisheries
- There is restriction of the water remain artificial fertilization is carried out is special hatcheries to sustain the supply of fish/ restocking of over fished waters

9. (a)

(i)

W- Kapenguria/ Kitale/Cherangani/ Mt. Elgon

X-Kericho/ Kisii /Nyamira/ Bomet / Gucha / Buret

Y – Meru / Embu / Nyeri / Kirinyaga / Mt. Kenya region / Nyambene

(ii)

- Cool/ warm temperatures throughout the years during the growing period
- High rainfall 1000 – 2000 mm of rain
- Well distributed rainfall throughout the year
- The areas are frost free
- The tea growing areas have deep soils
- The areas have well drained/ soil have gently sloping land

(b)

(i)

136,000

56,000

81,000

= 144.6% increase 145%

81,000 x 100

56,000

(ii)

- Expansion of tea growing areas and the establishment of the Nyayo tea zones
- Increase in the number of small – scale tea farms in the country
- Improved marketing strategies through KTDA
- Expansion / increase in the number of tea factories

(c)

When the business are ready only the two top eaves and a bud/ flush are picked

- The green leaves are transported in airy baskets to a collecting centre/ for weighing
- The weighed leaves are transported by lorries fitted with bags to the processing factories and the tea leaves are again weighed in factory
- The tea leaves are again weighed in factory
- The leaves are then dried by blasts of warm air from beneath the trays
- The dry leaves are passed through a set of rollers to chop stem/ the leaves are crushed
- The leaves are placed in containers for fermenting, reducing tannic acid and changing the colour to grey – brown

- The leaves are passed through a conveyor belt which takes them to a tunnel which is at a temperature of 100<sup>0</sup>C roasting/ dry based after which they turn black
- The leaves are sifted grading tasted for classification
- The graded tea is packed tea chest for export and small packages for a local market.

(d)

- Poor feeder roads in the growing areas lead to delays in collection delivery of the green leaf hence causing wastage
- Delayed payments for the tea delivered mismanagement of funds lowers the morale of the farmers]
- Long droughts/ hailstorms lead to destruction of the crop/ lower the quality and the quantity of the yield
- Fluctuation of prices in the world market makes it difficult for the farmers to plan a head  
High prices of farm inputs/ reduce the farmers profit margin/ leads to low yields as some farmers cannot afford

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