

4.9.2 Geography Paper 2 (312/2)

SECTION A

1. (a) **Name the method of irrigation used in Perkerra irrigation scheme.**

- Furrow / canal irrigation.

(1 mark)

(b) **State three factors that influenced the location of the Perkerra irrigation scheme.**

(i) Availability of extensive land for irrigation.

(ii) Availability of water from River Perkerra.

(iii) The gently sloping land that allows mechanization/easy flow of water for irrigation by gravity.

(iv) Presence of fertile loamy/alluvial soils good for the growth of a variety of crops.

(v) Dry conditions/semi arid/unreliable/low rainfall making it necessary to irrigate the area.

(vi) The area was sparsely populated.

(Any 3 x 1 = 3 marks)

2. **State four effects of human encroachment into wildlife habitats.**

(i) Leads to killing / dying of some animals.

(ii) Some animals / plants may become extinct.

(iii) Leads to wildlife predation / competition may set in.

(iv) Leads to fragmentation/reduction of the habitat.

(v) Leads to increased human / wildlife conflicts.

(vi) Leads to migration of some animals.

(Any 4 x 1 = 4 marks)

3. (a) **Name two countries to which Kenya exports petroleum products.**

(i) Uganda

(ii) Rwanda

(iii) Burundi

(iv) Democratic Republic of Congo

(v) Southern Sudan

(vi) Tanzania

(vii) Comoros

(Any 2 x 1 = 2 marks)

(b) **State four factors that influence external trade in Kenya.**

(i) Demand for goods/services.

(ii) Similarities / differences in the goods produced.

(iii) The purchasing power of the people/availability of capital.

(iv) Availability of transport / communication networks.

(v) Political stability/relationships of trading partners.

- (vi) International trade agreements / restrictions.
- (vii) The level of technology.
- (viii) Varying exchange rates.
- (ix) Availability of aids to trade

(Any 4 x 1 = 4 marks)

4. (a) **State two factors that lead to the development of nucleated settlement patterns.**

- (i) Availability of social amenities.
- (ii) Presence of a natural resource / industrial plants.
- (iii) Limitation of land for building.
- (iv) Assurance of security / defence.
- (v) Government policy on settlement.

(Any 2 x 1 = 2 marks)

(b) **Identify two differences in the functions of Nairobi and New York.**

Nairobi

- It is an inland / dry port.
- It is a national capital.
- It is a regional commercial centre.

New York

- It is a seaport.
- It is a state capital.
- It is an international commercial centre.

(Any 2 x 2 = 4 marks)

5. **Identify five measures used to control floods in Kenya.**

- (i) Constructing channels/ditches/furrows to drain off the water.
- (ii) Constructing dykes / levees along river banks.
- (iii) Dredging / widening of river channels.
- (iv) Building of dams across rivers/earth dams.
- (v) Training / re-directing / straightening of rivers.
- (vi) Planting trees in the catchment areas.

(Any 5 x 1 = 5 marks)

SECTION B

Answer question SIX and any other TWO questions from this Section.

6. **The table below shows the approximate population size of four districts in Nairobi in the year 2009. Use it to answer question (a).**

POPULATION OF FOUR DISTRICTS IN NAIROBI

DISTRICT	POPULATION SIZE
Nairobi West	685,000
Nairobi East	1,144,000
Nairobi North	1,062,000
Westlands	247,000
Total	3,138,000

Source: Kenya National Bureau of Statistics

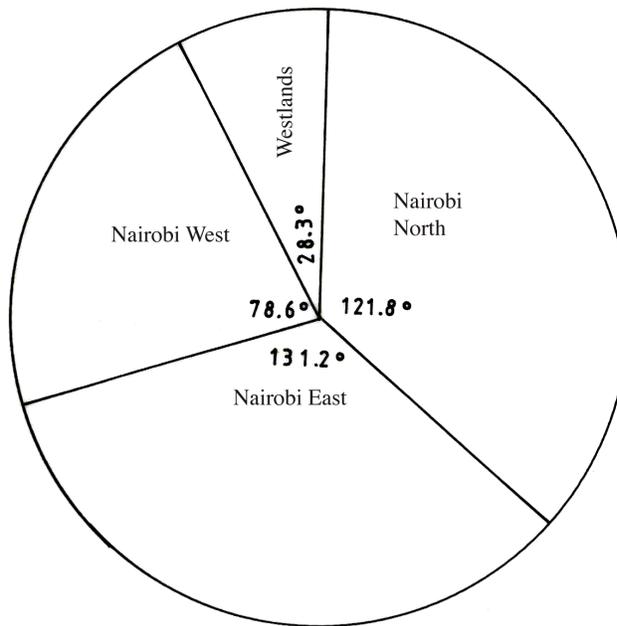
- (a) (i) **Apart from pie-chart, name two other statistical methods that can be used to represent the data in the table.**

- Divided rectangles
- Simple bar graphs
- Compound bar graphs/cummulative/divided bar graphs
- Proportional circles

(Any 2 x 1 = 2 marks)

- (ii) **Using a radius of 5 cm, draw a pie chart to represent the data above. Show your calculations.**

A PIE CHART REPRESENTING POPULATION SIZE OF FOUR DISTRICTS IN NAIROBI IN 2009



$$\text{Nairobi West} = \frac{685000}{3138000} \times 360^\circ = 78.6^\circ/79^\circ$$

$$\text{Nairobi East} = \frac{1144000}{3138000} \times 360^\circ = 131.2^\circ/131^\circ$$

$$\text{Nairobi North} = \frac{1062000}{3138000} \times 360^\circ = 121.8^\circ/122^\circ$$

$$\text{Westlands} = \frac{247000}{1138000} \times 360^\circ = 28.3^\circ/28^\circ$$

Title = 1 mark

Calculations = 4 marks

Each correctly drawn segment 1x4=4 marks

(9 marks)

- (iii) **Calculate the populations growth rate of Nairobi over 10 year period if the population was approximately 2,143,000 in 1999.**

population in: 2009	3,138,000
1999	<u>2,143,000</u>
difference	995,000

Growth rate over 10 year period

$$= \frac{995000}{2143000} \times \frac{100}{10} = 4.64\%$$

(2 marks)

- (b) **Explain two factors which may have led to the large population increase in Nairobi between 1999 and 2009.**

- (i) High migration into Nairobi in search of employment / due to political instability in some neighbouring countries / internal strife in parts of the country.
- (ii) Low mortality rate due to improved medical care.
- (iii) High birth rate due to the improved nutrition.

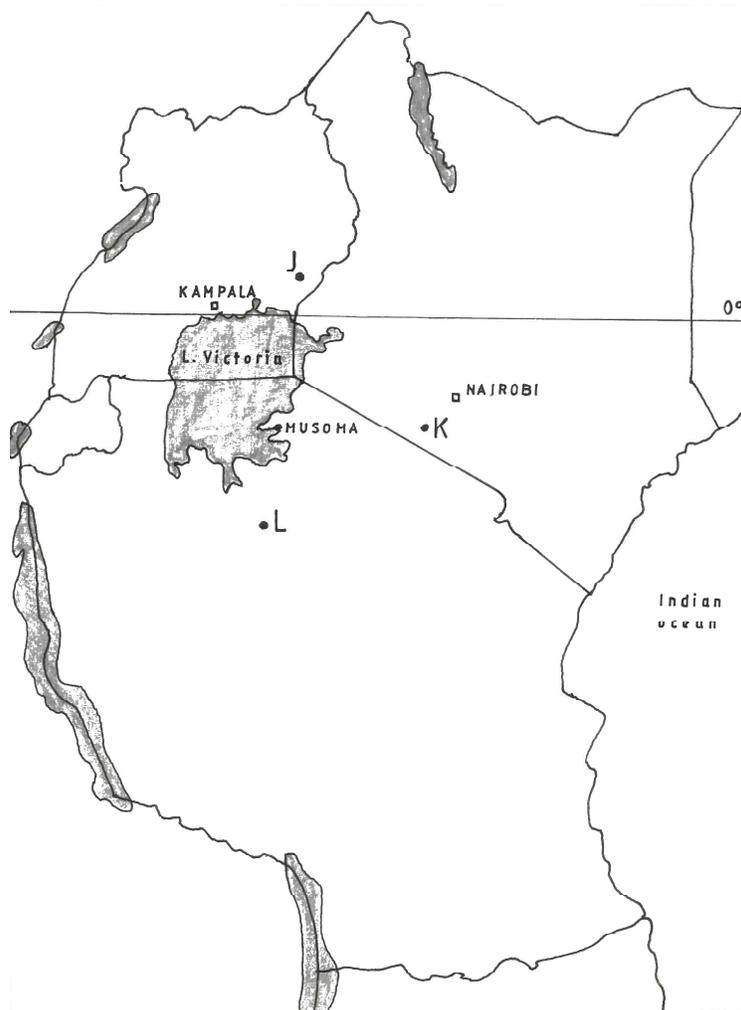
(Any 2 x 2 = 4 marks)

- (c) **Explain four positive effects of low population growth in a country.**

- (i) High purchasing power/high standard of living/reduced dependancy ratio as majority of the population is employed.
- (ii) Low dependancy ratio allows for investment/savings/high standard of living/ investments.
- (iii) Reduced pressure on land making it available for economic activities.
- (iv) Low crime rate as most people are engaged in gainful activities.
- (v) Provision of adequate social amenities as the government has few people to provide for.
- (vi) The government saves funds for investment in economic activities.

(Any 4 x 2 = 8 marks)

7. The map below shows the location of some minerals in East Africa.



(a) Name the minerals mined in the areas marked J, K, and L.

- J - Limestone
- K - Soda ash / Trona
- L - Diamond

(1 mark)

(1 mark)

(1 mark)

(b) Explain how the following factors influence the exploitation of minerals.

- (i) Mode of occurrence of minerals
- (ii) Transport
- (iii) Level of technology

(i) **Mode of occurrence of minerals**

- Minerals that occur in small quantities/ lodes/veins may limit exploitation since they are of low commercial value unless the mineral is of high value they will be exploited / large deposits are extracted as they are likely to be profitable / can sustain the mining process over a long time.

- Minerals at or near the surface/alluvial deposits are easier/cheaper to extract / the deep seated minerals are expensive to extract.
- Minerals close to the surface/beds/layers/seams are extracted using open cast method of mining/minerals that occur deep in the ground/veins/lodes are extracted using underground / shaft method.

(Any 2 x 2 = 4 marks)

(ii) Transport

- Efficient transport links allow mineral products to be moved from the mining site to the ports / markets without delay.
- Minerals that are bulky require railway/water/ cheap transport system to reduce the total cost of production.
- Mineral deposits in remote areas/poorly developed transport system are less likely to be exploited.

(Any 2 x 2 = 4 marks)

(iii) Level of technology

- Advanced technology has improved mining operations thus leading to high quality / large quantity mineral products.
- High level technology allows for effective exploration of minerals leading to accurate location of minerals.
- Advanced technology boost effectiveness in production hence reducing wastage.
- High level technology in mining operations reduces the destruction of the environment /improves the health and safety of workers.
- Low level technology limits exploitation/low quantity mined.

(Any 2 x 2 = 4 marks)

(c) Describe opencast method of mining.

- The unwanted materials / overburden laying on top of the mineral are removed.
- The soft mineral ore is removed by digging / quarrying / stripping.
- Any hard rock / mineral ore is broken up by blasting.
- Huge power shovels are used to dig up mineral deposits.
- The mineral ore is loaded onto trucks / railway wagon to the processing plant.

(Any 4 x 1 = 4 marks)

(d) Explain three benefits of petroleum mining to the economies of Middle East countries.

- The countries earn foreign exchange which is used to develop other sectors of the economy.
- Petroleum is used as a raw material leading to the growth of petroleum related industries.

- (iii) The revenue / royalties have enabled the Middle East countries' investments overseas to increase immensely.
- (iv) Petroleum mining has led to creation of employment opportunities for local population, raising standard of living.
- (v) The proceeds from petroleum mining have been used to develop social amenities / infrastructure.
- (vi) Income from petroleum mining has led to development/growth/expansion of towns.

(Any 3 x 2 = 6 marks)

8. (a) (i) **What is agriculture?**

- It is the practice of cultivating crops and rearing of livestock.

(2 marks)

(ii) **Identify four characteristics of plantation farming in Kenya.**

- The holdings / farms are large/40 hectares and above.
- Ownership is by individuals / groups.
- Farming is scientifically managed.
- It requires heavy capital outlay.
- There is high yield per unit area.
- There is growing of a single crop/monoculture.
- Farms are highly mechanised.
- The produce is for commercial purpose.
- Some farms are labour intensive.

(Any 4 x 1 = 4 marks)

(b) **Give four physical factors that influence the growing of tea in Kenya.**

- (i) Undulating / gently sloping land / 1,500 to 2,400 metres above sea level/high attitude.
- (ii) Deep well drained soils/volcanic soils.
- (iii) Slightly acidic soils / pH of between 4 to 6.
- (iv) High annual rainfall / 1000 to 2000 mm of rainfall.
- (v) Well distributed rainfall throughout the year.
- (vi) Moderate to high temperatures / average temperatures of 21°C/15-30°C/warm to hot climate.

(Any 4 x 1 = 4 marks)

(c) **Explain four problems facing small scale tea farming in Kenya.**

- (i) Delayed payments to farmers mismanagement lowers their morale.
- (ii) Pests eg. thrips/spidermite/crevice mite/weaving/beatles destroy tea plants there by reducing quality / yields.
- (iii) Poor road networks in some tea growing areas leads to delay in collection of the harvested tea resulting into wastage / losses to farmers.

- (iv) High cost of farm inputs makes them unaffordable to the farmers leading to low yields / low profit margins.
- (v) Climatic hazards / hailstone/drought/frost weather conditions lead to destruction of the crop thus lowering quality / quantity of leaf production.
- (vi) Fluctuations of tea prices in the world market leads to uncertainty in earnings making it difficult for farmers to plan ahead.
- (vii) Shortage of labour during tea picking season makes the hiring of labour expensive/lowering farmer income.
- (viii) Diseases eg. Amillaria/root rot kills the tea bushes/lower yields.
- (ix) Low payment to farmers lowers their morale.
- (x) Poor marketing strategy leads to low earnings.

(Any 4 x 2 = 8 marks)

(d) **You plan to carry out a field study in a tea farm.**

(i) **Give four reasons why you need a route map for the study.**

- To show the direction to be followed during the field study.
- To assist in estimating the time required for the study.
- To help in deciding the technique of data collection.
- To help in estimation of distances to be covered during the study.
- To help in drawing up a work schedule.

(Any 4 x 1 = 4 marks)

(ii) **What information are you likely to gather about marketing of processed tea during the study? Tea is marketed:**

- Through factory door sales.
- Directly to local / overseas buyers.
- To Kenya Tea Packers Limited (KETEPA)/other packers.
- Through Mombasa Tea auction.

(Any 3 x 1 = 3 marks)

9. (a) **Identify three sources of renewable energy.**

- (i) Wind
- (ii) Sun
- (iii) Water
- (iv) Tides / waves
- (v) Geothermal steam
- (vi) Biomass
- (vii) Wood/trees
- (viii) Drought animals

(Any 3 x 1 = 3 marks)

(b) (i) **Name three main hydroelectric power stations along the river Tana.**

- Masinga

- Kamburu
- Gitaru
- Kindaruma
- Kiambere

(Any 3 x 1 = 3 marks)

(ii) **Apart from providing electric power, state four other benefits of the dams along the River Tana.**

- The reservoirs provide water for domestic use /industrial use/irrigation.
- The dams / reservoirs are tourist attractions.
- The reservoirs are fresh water fisheries.
- The reservoirs modify local climate.
- The dams act as bridges across the river.
- The dams and reservoirs control floods downstream.

(Any 4 x 1 = 4 marks)

(iii) **Identify two problems that affect the production of power along River Tana.**

- Fluctuations of water levels in the reservoirs.
- Inadequate capital for maintenance / high cost of dredging/expansion.
- Silting of the reservoirs.

(Any 2 x 1 = 2 marks)

(c) **Explain four measures the Government of Kenya has taken to conserve energy.**

- (i) Encouraging people to use renewable sources in order to reduce the overreliance of fossil fuels.
- (ii) Developing energy saving technologies in order to reduce the high consumption of energy.
- (iii) Enforcing the legislation against indiscriminate cutting down of trees for fuel thus conserving existing resources.
- (iv) Educating the public on the careful use of energy in order to save it.
- (v) Progress taxation on energy consumption in order to discourage the misuse of energy.
- (vi) Proper planning of road networks in urban areas to reduce traffic jam hence saving on fuel consumption.
- (vii) Encouraging the use of public transport/walking/cycling/railway in order to reduce the number of vehicles on the roads thus reducing energy consumption.
- (viii) Discouraging importation of high fuel consumption vehicles to reduce amount of fuel used.
- (ix) Encouraging afforestation/reafforestation for continuous supply of wood fuel.

(Any 4 x 2 = 8 marks)

(d) **Some students carried out a field study on sources of energy by sampling the households around their school.**

(i) **Identify two sampling techniques the students may have used during the study.**

- Stratified
- Random
- Systematic

(Any 2 x 1 = 2 marks)

(ii) **Give three advantages of sampling the households for the study.**

- To save on time.
- To reduce bias.
- To allow for detailed study.
- To reduce cost.

(Any 3 x 1 = 3 marks)

10. (a) **Differentiate manufacturing industries from tertiary industries.**

Manufacturing industries change raw materials into semi-processed / finished products while tertiary industries provide services to consumers.

(2 marks)

(b) **Explain why the Government of Kenya encourages the setting up of industries in rural areas.**

- (i) It creates employment opportunities in rural areas thus reducing migration into urban areas/raising standards of living.
- (ii) It leads to utilization of locally available raw materials that would otherwise be left idle.
- (iii) It leads to improvement of transport / communication networks thus opening up rural areas for development.
- (iv) It leads to improvement of social amenities thereby raising the standards of living of rural communities.
- (v) It enables the rural population to sell products / raw materials to industries thus earning income.
- (vi) It leads to diversification of the economy thus reducing the over reliance of rural community on agriculture.

(Any 4 x 2 = 8 marks)

(c) **Explain four factors that have contributed to the development of electronics industry in Japan.**

- (i) Advanced technology / highly skilled labour has increased efficiency leading to mass production of high quality goods.
- (ii) Highly developed sources of energy provide the power required in the industries.

- (iii) A large population/high purchasing power provides a large local market.
- (iv) Availability of capital has enabled entrepreneurs to set up / expand the industries.
- (v) The ruggedness of the land does not favour agriculture hence more concentration has been on industrialization.
- (vi) Well developed transport network has enabled the movement of raw materials to the industries / finished products to the market.
- (vii) Availability of large external market has led to more production.
- (viii) Advanced scientific research led to adverse/high quality products.
- (ix) Government emphasis on technical/science oriented education led to rapid development of industries.
- (x) The industrious nature/entrepreneurship of the Japanese has led to sustained/ high production.
- (xi) A large population/high purchasing power provides a large local market.

(Any 4 x 2 = 8 marks)

(d) **You intend to carry out a field study in a nearby post office.**

(i) **Identify two characteristics of a good hypothesis for the study.**

- It should be simple but not obvious.
- It should be related to the stated objective(s).
- It should be testable/measurable.
- It should be comparative / have independent and dependent variables.
- It leaves room for yes or no answer.

(Any 2 x 1 = 2 marks)

(ii) **State three advantages of using the interview method to collect data during the study.**

- It is possible to seek clarification for unclear responses / provide room for detailed information.
- It provides first hand information.
- It provides instant information.
- It enables one to gauge the accuracy of the responses.
- It allows for flexibility in seeking of information.
- It allows for extraction of information from people who cannot read/write.

(Any 3 x 1 = 3 marks)

(iii) **Give two challenges facing postal services that you are likely to find out during the field study.**

- Competition from more efficient service providers.
- Vandalism of communication equipment.
- Inadequate funds to maintain the services.
- Mismanagement of the organization.
- Obsolete technology / equipment.

(Any 2 x 1 = 2 marks)