AGRICULTURE –CROP FARMING

1. a)

- High temperatures throughout the year temperature range of 20^0C to 30^0C.
- High rainfall that is evenly distributed throughout the year 1500mm to 2100mm,
- High relative humidity of 80% to 90%
- Plenty of sunshine during the ripening season.

b)

- Competition from other oil vegetables
- Poor road network
- Production of low quality oil
- Reduction of low quality oil
- Reduced production that has lowered the amount of oil exported.

2. b) Describe the stages involved in cultivation of tea from land preparation to the stage shown in the photograph.

- The land is cleared of vegetation
- The land is ploughed/tilled
- Seedlings are planted in nursery and allowed to grow to 20cm
- Seedlings are planted in rows which are about 1.5 metres apart.
- The plant are weeded and manured/ mulching applied regularly.
- Once the bushes start growing. The tips of branches are pruned regularly to encourage plant to form more branches.
- The crop is harvested every two weeks once it attains maturity
- After harvesting. The green tea leaves are transported to the factory within

24hrs.

c) (i) Name two districts in Eastern province where tea is grown

-Embu

-Meru North

-Meru South

-Meru Cental

(ii)

- Organizes farmer education days/ provides extension services for the farmers at a low prices
- Buying farm input in bulk and sells to farmers at low prices.
- Providing credit facilities to the farmers to enable them purchase farm inputs
- Collecting the green leaves and delivers the factory on behalf of farers
- Establishing factories where the green tea leaves are processed
- Undertaking the marketing of tea on behalf of the farmer.
- Improves feeder roads to ease transportation of green leaves
- Conducts researches on tea crop varieties/diseases/pests in order to produce high yield tea/ better quality tea.

3. a) -High temperatures/24.30^{0}C.

-High rainfall/1,200-1,500mm.

-Well distributed rainfall throughout the year.

-Deep, well drained, fertile soil/volcanic/light clays

-High relative humidity

-Shade from strong sun rays for seedlings/young plants

-Shelter from strong hamattan wind.

-Undulating lowlands/below 750m above sea level.

b) -Fluctuation of prices in the world market

-Competition from other land uses.

-Inadequate labour during harvesting

-High production costs

-Competition from other beverages like coffee, flowers, fruits, vegetables

4. a) -Temperature ranging from 14^0C – 26^0C

-High rainfall 1100mm - 2030mm per year.

-Well distributed rainfall throughout the year

-Gently sloping landscape.

-Deep, fertile, well drained soils

b) -The crop is attacked by pests and diseases

-Fluctuation f coffee prices in the world market

-Poor infrastructure

-Mismanagement of coffee co-operatives

-Inadequate rainfall

-Inaccessibility of credit/inadequate capital

-Poor marketing strategies

-Low payments

5. a) (i) -Central

-Rift Valley

-Eastern

(ii)

- Moderate rainfall/500mm to 1270mm to enhance the growth of wheat.
- Temperatures ranging from 15^0C to 20^0 C/warm conditions to facilitate growth/maturity of wheat.
- A warm /dry /sunny spell for ripening and harvesting.
- Fertile volcanic soils to sustain high production
- Gentle sloping/undulating landscape to allow proper drainage/mechanized cultivation.

b) i) Storage

- In both Canada and Kenya wheat is stored in grain silos.
- In Canada wheat on transit is stored in huge grain elevators/special car boxes while in Kenya it is stored in sacks.

ii) Transport

- In Canada wheat is transported by railways (CPR and CNR), roads and waterways while in Kenya it is transported by roads and railways.

iii) Market

- In Canada whet is for both local and export markets while in Kenya wheat is for local market
- Canada has a larger and reliable local market than Kenya.
- Kenya wheat sold through NCPD or directly to the millers, Canada sold by government/individuals.

c) i) Climate problems that affect wheat farming in Canada.

- Low rainfall/Unreliable rainfall which leads to carop failure
- Low temperature/long and cold winters which limit outdoor activities/delays cultivation of wheat.
- Frost which destroys wheat leading to low yield.
- Hailstones which destroys wheat leading to low yield
- Strong winds causes soil erosion especially affects ploughing resulting to loss of fertile soils

ii)

- Uses of wheat
- Used as animal feed
- Used as human food
- Used for brewing/distilling alcohol
- Used for making adhesives/glues
- Used for paper and straw boards.

d)

-Nakuru -Samburu

-Uasin Gishu -Trans Mara

-Narok -Nyandarua

-Trans nzoia -Keiyo

-Laikipia -Mt.Elgon

e) -Alberta

-Saskatchewan

-Manitoba

f)

- Wheat growing in Canada is more mechanized leading to higher production than in Kenya
- More capital is available in Canada enabling farmers to sustain production
- Farmers in Canada are more experienced due to long history of wheat production than in Kenya
- Advanced scientific research in Canada enables the production of higer yielding seeds/better farm inputs/control of pests and diseases/overcome limitations of weather
- Wheat farmers in Canada specialize in wheat production while in Kenya, farmers practice mixed farming
- In Canada, there are more extensive tracts of land suitable for wheat growing than in Kenya.

6 a)

- Cool/warm climate/10^0C to 18^0C throughout the year.
- High rainfall/100-2000 mm per year
- Well distributed rainfall throughout the year
- Areas that are frost-free
- Deep, light and well-drained soils
- Gently sloping/undulating land
- Acidic/volcanic soils
- High altitude/1200 mm -2300 mm

b)

- Delayed payments/low payments that lower the morale of the farmers.
- Mismanagement /embezzlement of funds thus farmers are discouraged
- Poor feeder roads in the tea growing areas lead to delays in collection/delivery of the green leaf hence wastage.
- Adverse weather conditions such as long droughts/hail storms lead to destruction of the crop.
- Fluctuation of prices in the world market makes it difficult for the farmers to plan ahead.
- High production costs due to high prices of farm inputs leads to lower yields since most farmers cannot afford to buy them
- Pests/ Fungal diseases destroy/reduce yields
- Inadequate /unreliable transport facilities delay the collection/delivery of green leaf reducing the quality.

7. a) W- Kapenguris

X- Kericho /Kisii

Y- Meru/Embu/Nyeri/Kirinyaga/Mt Kenya region

b)

- 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 bushes are ready only the two top leaves 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. The leaves are weighed again at the factory.
- The tea leaves are spread out on long wire trays.
- 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 them/the leaves are crushed.
- The leaves are placed in containers for fermenting reducing tanning acid and changing the above to grey-brown.
- The leaves are passed through a conveyor belt which takes them to a tunnel which is a temperature of 100^0 C for roasting after which they turn black.
- The leaves are sifted for grading /lasted for classification.
- The graded tea is packed in tea sets for export and small packages for local market.

8. Cocoa growing areas

-Kumasi

-Tokoradi

-Accra

9.

- High rainfall 1200-1500 mm per year
- High temperature throughout the year 24-27^0C
- Deep soils which are well drained
- Shelter from strong sunrays
- Plenty of labour force during harvesting

- High relative humidity 70-90%

10. Types of commercially cultivated coffee.
    - Arabica
    - Robusta
    - Liberia

11. Ways through which Brazilian government responds to problems facing coffee industry.

- The government has established an institute for the permanent defence of coffee. The institute manipulates the amount of coffee released to the international market thus creating artificial shortages consequently maintaining high prices.
- The government lobbies for higher quota in the international market
- The government has been encouraging crop diversification/mixed farming by introducing annual cops such as sugar cane and soya beans in the coffee growing areas to reduce over dependence on coffee.
- When the prices are low the government buys coffee from farmers and stores it thus stabilizing the prices for the farmers.
- To solve the problem of overproduction the government prohibits planting of more coffee.

12 Use of maize

- Animal feed
- Industrial use in manufacturing of alcohol
- Vegetable oil, rayon, olastics, paper and wall boards.
- Fuel (stalks, cobs, especially in rural areas)

- Manure.

13. Problems facing maize farmers

- Pests and diseases (stalk borer, rodents
- Unreliable rainfall
- Poor storage facilities leading to loss of harvest (rodents/Weevils)
- Exploitation by middlemen
- Rising production costs e.g expensive fertilizer, chemicals, certified seeds
- Fluctuating market seeds

14. Processing of cocoa

- Cocoa pods are split open with a machete
- Beans embedded in the pulp are removed by hand
- Beans are fermented for a week by heaping them into a single heap and covering them with banana leaves
- Beans are washed after fermenting cleaned and sun dried.
- They are cleaned roasted and husks removed to produce cocoa nuts
- Cocoa nibs are ground into powder as cocoa butter is separated
- The powder is mixed with milk.