**ECONOMIC ACTIVITIES TAKING PLACE IN THE EQUATORIAL REGION.**

* Due to heavy rainfall received, plantation agriculture is carried out with crops like cocoa, palm oil etc being grown.
* Lumbering is curried out due to presence of dense forests.
* Fishing takes place due to the presence of numerous rivers and lakes resulting from heavy rainfall.
* Industrialization takes place due the presence of agricultural and forest raw materials.
* Hunting takes place due to the presence of many wild animals.
* Livestock farming is carried out due to the heavy rainfall which favours the growth of abundant pasture.
* Charcoal burning takes place due to presence of dense forests that result from heavy rainfall.
* Tourism is carried out due to the presence of many wild animals.

**PROBLEMS FACED IN THE EQUATORIAL REGION.**

* Pests and diseases e.g. tsetse flies and mosquitoes.
* Development of transport routes is difficult due the presence of dense forests, swamps and rivers.
* Flooding of rivers due to the heavy rainfall leading to destruction of property and loss of lives.
* Leaching due to the heavy rainfall which leads to loss of soil fertility.
* Dangerous wild animals such as monkeys, elephants, baboons, etc which are a threat to man, crops and livestock.
* Rapid growth of weeds due to heavy rainfall which affect the growth of crops.
* Severe soil erosion due to the heavy rainfall which affect soil productivity.
* Landslides especially in the highland areas due to the heavy rainfall leading to loss of lives.
* Lightening and thunder storms which leads to loss of lives and destruction of property.

**EXPLAIN THE INFLUENCE OF EQUATORIAL CLIMATE ON HUMAN ACTIVITIES.**

* The heavy rainfall and the hot temperatures encourage the growth of dense forests hence promoting lumbering.
* The heavy rainfall received increases the volume of water in rivers and hence favouring fishing.
* The heavy rainfall received favours Arable farming with crops like coffee being grown.
* The heavy rainfall received favours the growth of abundant pastures which promote livestock farming.
* The heavy rainfall and the hot temperatures encourage the growth of forests hence supporting hunting.
* The heavy rainfall increases the volume of water in the water bodies hence promoting water transport.
* The heavy rainfall has promoted agriculture and forestry which are a source of raw materials hence promoting industrialization.
* The heavy rainfall received helps in sand deposition hence encouraging mining.
* The heavy rainfall and hot temps favor the growth of dense forests which are homes to various wild animals that attract tourists hence encouraging tourism.

**Questions**

**Describe conditions / factors which have led to the equatorial type of climate.**

**(LEAVE ONE PAGE FOR THE ANSWERS TO THIS WORK)**

**TROPICAL /SAVANNAH CLIMATE.**

This is the most widespread type of climate in Africa. It boarders the Equatorial climate zone found between 50 to about 150 North and South Equator. It is found in countries like; Zimbabwe, Nigeria Malawi, Zambia, Mozambique etc.

**CHARACTARISTICS OF SAVANNAH CLIMATE.**

* Rainfall varies in the amount i.e. Areas near the equator receive about 1000mm and those near the desert receive about 500mm.
* Humidity is high during the wet season and low in the dry season.
* It experiences hot temperature throughout the year.
* It receives rainfall during the hot season while winters are dry.
* It experiences both wet and dry seasons.
* Rainfall is mainly of convectional type.
* The annual temperature range is moderate of about 80c.
* There is dense cloud cover towards the Equatorial belt and cloudless skies towards the desert.

Example.

Station N, Zimbabwe –Harare

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Month | J | F | M | A | M | J | J | A | S | O | N | D |
| Tempoc | 24 | 23 | 22 | 21 | 20 | 18 | 17 | 18 | 20 | 23 | 24 | 24 |
| Rainfall(mm) | 200 | 175 | 100 | 25 | 20 | - | - | - | - | 50 | 100 | 175 |

1. Draw a suitable graph to show the information in the table above. (leave a page 4 this graph
2. Describe the climate of station N.
3. Calculate the;
   1. Mean annual rainfall
   2. Annual temperature range.
   3. Mean annual temperature.
   4. Total annual rainfall.
4. identify the;
   1. -Hottest months.
   2. -Coolest month.
5. With a reason, identify the hemisphere in which the station is found.

**POSSIBLE ECONOMIC ACTIVITIES IN THE SAVANNAH REGION**

1. The in the region consists of the grassland which provide abundant pastures hence promoting livestock farming.
2. Lumbering takes place especially in the woodlands.
3. There is bee keeping especially in the woodlands to produce honey.
4. Arable farming is carried out with annual crops like beans, maize, sorghum, being grown.
5. Industrialization takes place due to the presence of agricultural raw materials.
6. Charcoal burning takes place especially in the woodland.
7. Tourism takes place due to the presence of rich wildlife.
8. Hunting is carried out due to the presence of wild animals.
9. Trade and commerce.

**PROBLEMS FACED BY PEOPLE LIVING IN THE SAVANNAH REGION.**

* Low and unreliable rainfall which leads to crop failure.
* Bush fire especially the dry season.
* Flooding during the rainy season leading to destruction of property
* Drought which results into food shortage leading to famine and starvation.
* Pests and diseases such as mosquitoes, tsetse flies which attack man and his livestock.
* Soil exhaustion due to over cultivation which affects soil productivity
* There is a problem of overgrazing due to overstocking leading to soil

**MEDITERRANEAN CLIMATE.**

This climate is found outside the tropics i.e. 30-480 N and S of the Equator.

In N.Africa, it is found along the coast of Libya, Algeria and Morocco.

In S.Africa, it is found in Cape Town region.

**CHARACTERISTCS OF MEDITARRANEAN CLIMATE.**

* The climate has both winters and summers.
* Low relative humidity during summer.
* Moderate rainfall is received between 500 and 1000mm per annum.
* The annual temperature range is moderate.
* Summers are hot and dry with temperatures ranging between 20o-24oc
* Winters are cool and wet with temperatures ranging between 10o-13oc.
* It has both wet and dry seasons.
* It experiences cool nights during summer.
* Summer temperatures rise up to about 24oc while winter temperatures fall up to 100c.

**Example 3**

Station Q, Algiers, Algeria

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Months | J | F | M | A | M | J | J | A | S | O | N | D |
| Temp(oc) | 12 | 13 | 15 | 16 | 19 | 22 | 25 | 26 | 24 | 20 | 17 | 15 |
| Rainfall(mm) | 150 | 87 | 87 | 60 | 30 | 12 | - | - | 25 | 75 | 110 | 140 |

1. Draw a suitable graph to show the information in the table above. ( leave a full page blank for you to stick a graph paper)
2. Describe the climate of station Q.
3. Calculate the;
   * 1. Annual temperature range.
     2. Total annual rainfall.
     3. Mean annual temperature.
     4. Mean annual rainfall.

**ECONOMIC ACTIVITIES CARRIED OUT IN THE MEDITERRANEAN CLIMATIC REGION**.

* Arable farming is carried out with crops like cereals, barley,wheat and fruits like oranges, plums etc
* Viticulture is also an important activity in the area.
* Lumbering is carried out due to presence of coniferous forests
* Industrializations is also carried out due to the presence of agricultural raw materials.
* Tourism is also an important activity due to presence of various tourist attractions
* Fishing is carried out eg in the Mediterranean Sea and Southern Atlantic.
* Transport and communication.

**DESERT AND SEMI-DESERT CLIMATE**

This is the type of climate which found in the sub tropical low pressure zone ie about 20oN to 30oS of the Equator.

They include:

* Sahara desert
* Namib desert
* Kalahari desert

**CHARACTERISTICS OF DESERT NAD SEMI DESERT CLIMATE**

* Temperatures are hot throughout the year
* It has low pressure
* Absence of cloud cover
* The diurnal temperate range is high
* The total annual rainfall is very little of less than 250mm
* It experiences high evaporation rates
* It is characterized by strong winds
* Low relative humidity
* It experiences very hot days and cool nights.

**Example iv: Station K z Walvis Bay, Namibia**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Months | J | F | M | A | M | J | J | A | S | O | N | D |
| Temps | 18 | 19 | 19 | 18 | 17 | 16 | 14 | 15 | 17 | 18 | 16 | 17 |
| Rainfall(mm) | 3 | 3 | 7 | 3 | - | - | - | - | - | - | - | 3 |

Station O, Windhoek, Namibia

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Months | J | F | M | A | M | J | J | A | S | O | N | D |
| Temps(0C) | 27 | 27 | 26 | 25 | 22 | 20 | 20 | 23 | 25 | 27 | 29 | 30 |
| Rainfall(mm) | 125 | 75 | 50 | 10 | 7 | 5 | 3 | 3 | - | 3 | 7 | 35 |

1. For station K, draw a suitable graph to show the information in the above.
2. Calculate the:
3. Annual temperature range
4. Total annual rainfall
5. With a reason, identify the hemisphere in which station K is found.

**ECONOMIC ACTIVITIES CARRIED OUT IN THE DESERT REGIONS**

* Irrigation farming is carried out eg the Gezira irrigation scheme In Sudan
* Mining is also carried out due to the presence minerals like oil, sand.
* Such areas are used for nomadic pastoralism
* Tourism is carried out due to the presence of various tourist attractions like sand dunes.
* Crop cultivation especially around the oases.
* Industrialization is carried out e.g. oil refineries.
* Filming and recreation.
* Transport and communication.

**PROBLEMS FACED BY THE PEOPLE LIVING IN DESERT AREAS.**

* Presence of pests and diseases e.g. tsetse flies which attack man and livestock.
* Low and unreliable rainfall which leads to crop failure.
* There is a problem of food shortage (famine) leading to loss of lives.
* Severe soil erosion caused by strong winds.
* Excessive hot temperatures during day time.
* Shortage of pasture for animals.
* Poor visibility due to the dense fog and dust.
* Limited water supply for livestock and human consumption.
* Infertile sandy soil which cannot support crop cultivation.
* Prolonged drought leading to massive death of animals.

**THE INFLUENCE OF DESERT CLIMATE ON HUMAN ACTIVITIES**

* The little rainfall received encourages the growth of some pastures hence promoting livestock farming/ nomadism.
* The strong winds lead to accumulation of sand creating desert features like sand dunes hence promoting tourism.
* The dry and hot conditions encourage irrigation farming.
* The very hot temperatures lead to high evaporation rates hence encouraging salt mining.
* The hot and dry conditions promote the growing of drought resistant crops like millet, sorghum etc.

**DROUGHT / DESERTIFICATION**

Drought is a condition of little or no rainfall. In Africa, drought is experienced in the following countries.

* Botswana - Sudan - Niger
* Somalia - Burkina Faso - Chad
* Senegal - Mali - Ethiopia
* Eritrea - Nigeria - Mauritania

**CONDITIONS FOR THE OCCURANCE OF DROUGHT/ DESERTIFICATION**

* The influence of cold ocean currents eg the cold Benguela leads to dry conditions in the adjacent areas.
* Deforestation which eliminates the sources of water vapour hence reducing the rainfall amount
* Distance from the water bodies whereby areas which are far away from large water bodies don’t enjoy the effects of land and sea breezes leading to dry conditions.
* The influence of dry winds eg the North East trade winds which cause aridity in Northern Kenya.
* High evaporation rates leading to loss of moisture hence causing dry conditions.
* Poor farming methods eg overgrazing due to over overstocking which leads to destruction of vegetation.

**EFFECTS OF DROUGHT/ DESERTIFICATION**

* It leads to loss of lives due famine.
* It leads to reduction in the productivity of the land.
* It leads to massive death of livestock.
* It leads to rampant migration of people and animals.
* It leads to crop failure leading to food shortage.
* It leads to reduction in the supply of surface water
* It leads to conflicts over the limited resources eg water, food etc.
* It leads to increased land degradation through wind erosion.

**SOLUTIONS TO THE PROBLEMS ABOVE**

* Afforestration and reforestation to help in rainfall formation.
* Carrying out irrigation farming eg the Gezira irrigation scheme in Sudan etc
* Sensitization of the masses about environmental conservation.
* Planting of drought resistant crops eg millet, sorghum etc
* Construction of valley dams and boreholes.
* Reduction in the number of livestock to avoid over grazing.
* Developing alternative energy sources e.g solar, HEP etc to reduce on the rate of forest destruction.

**THE WARM TEMPERATURECLIMATE.**

The type of climate is found in Mozambique, Natal province and the East Cape Province.

**Characteristics of temperature climate**

* The annual temperature range is moderate about 70- 100c.
* Rainfall is heavy during winters and less in summers.
* Temperatures are fairly hot throughout the year although winters are cooler than summers.
* Humidity is low in summers and high in winters.

**Station M, Durban, Natal**

S

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Months | J | F | M | A | M | J | J | A | S | O | N | D |
| Temp0c | 25 | 26 | 24 | 22 | 20 | 17 | 17 | 18 | 19 | 21 | 23 | 24 |
| Rainfall (mm) | 112 | 125 | 135 | 85 | 50 | 25 | 25 | 37 | 75 | 125 | 125 | 125 |

**ECONOMIC USES OF TEMPERATE CLIMATE.**

* Dairy farming and market gardening take place especially around big towns.
* The warm moist coastal belt is ideal for sugarcane growing.
* Cattle rearing takes place especially in the Zulu land.
* Fruits like pineapples; bananas etc are grown under irrigation.

**MONTANE/MOUNTAIN CLIMATE.**

This is the type of climate which is experienced in highland/mountainous areas of Africa eg Atlas mountains, Drakensberg etc.

**CHARACTERISTICS OF MONTANE CLIMATE**

* Temperatures decrease with increase in altitude.
* They receive heavier rainfall than surrounding areas.
* The wind ward sides are wetter and the lee ward sides are dry.
* They receive relief type of rainfall.

**Revision Questions.**

1(a) Draw a sketch map of Africa and on it mark and name;

(i)Equatorial; savannah and Mediterranean.

(ii)Ocean currents; Benguela,Canary and Agulhas.

(iii)Prevailing winds; North East and South East trade winds

(iv)Latitudes; Equator and tropic cancer.

(b) Describe the characteristics of either Savannah or Equatorial climate.

(c) Explain the problems faced by the people living in the climatic region chosen in (b) above.

(d) Outline the economic activities carried out in the region chosen in (b) above.

2. Study the table below showing the climate of station A, Altitude 100m A S L, 20N.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Months | J | F | M | A | M | J | J | A | S | O | N | D |
| Temp0c | 30 | 31 | 31 | 31 | 30 | 29 | 28 | 28 | 29 | 29 | 29 | 30 |
| R/fall mm | 250 | 250 | 325 | 306 | 213 | 25 | 25 | 25 | 100 | 275 | 380 | 200 |

(a)Draw a suitable graph to show the climate of station A.

(b)Describe the characteristics of the climate of station A.

(c)Explain the influence of climate on the economic activities carried out in the area where the station is found.

(d)Outline the problems faced by people living in the area where the station above is found.

3. Study the table below showing the occurrence of drought in 1991 in the selected countries and answer the questions that follow.

|  |  |
| --- | --- |
| Country | Years of drought |
| Ethiopia | 10 |
| Mauritania | 08 |
| Malawi | 02 |
| Namibia | 04 |
| Zambia | 07 |

(a)Draw a bar graph to show the information in the table.

(b)Name the country with the;

(i) lowest

(ii)Highest occurrence of drought.

(d)Explain the causes of drought in the country named in b(i) above.

(d)Outline the effects of drought on human activities in Africa.

(e) Outline the steps being taken to address the problems of drought in Africa.

NATURAL VEGETATION IN AFRICA

Vegetation refers to the plant cover found on the earth’s surface.

TYPES OF VEGETATION IN AFRICA

* Africa has many vegetation types. There is a close relationship between climate and the resulting vegetation.
* The major vegetation types in Africa are;
* Mediterranean vegatation
* Equatorial vegetation
* Savannah vegetation
* Desert and semi-desert vegetation
* Montane/mountain vegetation
* Temperate vegetation
* Swamp vegetation

A SKETCH MAP OF AFRICA SHOWING THE VEGETATION TYPES.

(**Please leave enough for the map)**

**EQUATORIAL VEGETATION/ TROPICAL RAIN FORESTS**

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