CHAPTER 11 NIGERIA

Objectives

After studying this chapter, students should be able to:

(i) describe the location and position of Nigeria with reference to her latitude, longitude boundaries and neighbours.

(ii) describe Nigeria by size and distance.

(iii) locate states on a political map of Nigeria.

Location

In this chapter, we shall learn about our country Nigeria. We will study the position, location, size and distance of the country. Also, the physical features such as the relief, climate, vegetation, drainage and soils will be highlighted.

Nigeria is located North of the equator between latitude 4^0 and 14^0 North and East of the Greenwich meridian and between longitude3^0 and 15^0 East. It is bounded by Niger to the North, Republic of Benin to the West and Cameroun in the South-East. The Southern part is bounded by the Atlantic Ocean.

In terms of size, Nigeria is compact country with an area of 923,769 square kilometers (made up of 909,890 square kilometres of land area and 13,879 square kilometres of water area), about 1100km from North to South and 1300km from East to West.

Table 11.1 shows the States and their area size.

The population of the country from the 2006 census was 140,431,790 increasing at an average rate of 2-2.5 percent per annum. The country has 36 States and the Federal Capital Territory in Abuja.

Map of Nigeria showing 36 states.

Table 11. 1: Area of Nigeria by State

States	Hectares	Square Kilometres	Acrfes	Square Miles
Abia	490,000	4,900	1,205,400	1,914.06
Adamawa	3,870,000	38,700	9,520,200	15,117.19
AkwaIbom	690,000	6,900	1,697,400	2,695.31
Anambra	486,500	4,865	1,196,790	1,900.39
Bauchi	4,911,900	49,119	12,083,274	19,187.11
Bayelsa	905,900	9,059	2,228,514	3,538.67
Benue	3,080,000	30,800	7,576,800	12,031.25
Borno	7,260,900	72,609	17,861,814	28,362.89
Cross River	2,178,700	21,787	5,359,602	8,510.55
Delta	1,710,800	17,108	4,208,568	6,682.81
Ebonyi	640,000	6,400	1,574,400	2,500.00
Edo	1,918,700	19,187	4,720,002	7,494.92
Ekiti	543,500	5,435	1,337,010	2,123.05
Enugu	753,400	7,534	1,853,364	2,942.97
Gombe	1,710,000	17,100	4,206,600	6,679.69
Imo	528,800	5,288	1,300,848	2,065.63
Jigawa	2,328,700	23,287	5,728,602	9,096.48
Kaduna	4,248,100	42,481	10,450,326	16,594.14
Kano	2,028,000	20,280	4,988,880	7,921.88
Katsina	2,356,100	23,561	5,796,006	9,203.52
Kebbi	3,698,500	36,985	9,098,310	14,447.27
Kogi	2,774,700	27,747	6,825,762	10,838.67
Kwara	3,570,500	35,705	8,783,430	13,947.27
Lagos	367,100	3,671	903,066	1,433.98
Nassarawa	2,873,500	28,735	7,068,810	11,224.61
Niger	6,892,500	68,925	16,955,550	26,923.83
Ogun	1,640,000	16,400	4,034,400	6,406.25
Ondo	1,582,000	15,820	3,891,720	6,179.69
Osun	902,600	9,026	2,220,396	3,525.78
Oyo	2,650,000	26,500	6,519,000	10,351.56
Plateau	2,714,700	27,147	6,678,162	10,604.30
Rivers	1,057,500	10,575	2,601,450	4,130.86
Sokoto	2,782,500	27,825	6,844,950	10,869.14
Taraba	5,628,200	56,282	13,845,372	21,985.16
Yobe	4,660,900	46,609	11,465,814	18,206.64
Zamfara	3,793,100	37,931	9,331,026	14,816.80
FCT (Abuja)	760,700	7,607	1,871,322	2,971.48
Total	90,989,000	909,890	223,832,940	355,425.78

Source: Annual Abstract of Statistics, 2009

Relief

The relief(surface features of the land) of the country can be divided into two namely, highlands and lowlands. The continental landmass is made up of mountains, plateau, basins and plains.

1. Highland region: This consists of the following: a) North-Central Plateau in the North which reaches its highest point on the Jos Plateau(1800 above sea level).

b) Western Highlands is located in the Western part of the country with elevation between 300 and 600metres above sea level. Examples include Idanre Hill and Effon ridge.

c) Eastern Highlands in the eastern borderlands and south of Benue river where the heights are between 1800 and 2000 metres above sea level. For example, adamawa highland, Mandara hills and Oban hills.

d) North-Eastern highlands to the northeast and north of River Benue with heights of about 900metres above sea level.

2. Lowland region:

a) Sokoto plains:This region occupies the north-western part of Nigeria. It has a generally uniform flat landscape at an average height of 150m above sea level. A sedimentary region of sandstone, it is dissected by the Sokoto river and its tributaries, with large quantities of sediment deposition to form broad floodplains. Fluvial action on the plain surface has left few isolated flat-topped hills standing about 30m above the uniform plain. With improved irrigation schemes, the Sokoto-Rima basin is now intensively cultivated in the fadamas. The Sokoto plain is also highly influenced by wind action, as the depressions and valleys have been covered by drifting sands to further attain the uniformity in their relief.

b) Niger-Benue trough: The Niger-Benue trough runs from the southern boundary of the Sokoto plains in the north-west to the northeast near Yola, having passed through Lokoja from where it extends south to the Onitsha gap, north of the Niger Delta. The surface lies below 300m a.s.l. and it is underlain by sedimentary rocks. Denudational actions by the Niger-Benue river system liberate enormous alluvial sediments to form extensive flood plains along the trough. The area is thus favoured for agriculture, water for irrigation farming and a major source of fish.

c). South-Eastern Scarplands: These form a unique physiographic region truncated by the Niger-Benue trough as it runs southward. The scarplands of Nigeria exhibit plateau-like features with dip slopes terminating steeply into valleys of drainage basins. The most prominent is the Udi-Nsukka escarpment which terminates, by a steep slope, into the Cross River Basin. As the watershed of the numerous rivers flowing into the Cross River Basin, the scarpland to the east of the Niger is notable for incidences of gulling and severe soil erosion. To the southwest of it, and close to the Niger valley near Onitsha, are the Awka-Orlu uplands which terminate with an east-facing escarpment into the Mamu valley. The steep escarpment, formed near the lower Niger valley where the upland of the Esan area of Edo State terminates, forms the western extension of the Udi-Nsukkascarpland. The Asaba upland forms the western extension of the Awka-Oriuscarpland. The nature of landforms under the prevailing geomorphic processes in this physiographic region has led to far-reaching land degradation problems, particularly of gulling and soil erosion.

c) Southern coastlands: The Niger Delta through which river Niger empties its water into the Atlantic is bounded on both the east and west sides by a strip of low-lying coastal plain known as the coastal

lowlands, hardly more than 30m above sea level. This area consists of a maze of lagoons, creeks and river estuaries bordering the entire shoreline washed by the Gulf of Guinea. The coastal lowlands to the west depict a remarkably intricate network of lagoon inlets, meandering creeks and extensive lagoons, with the Lagos Lagoon representing the largest lagoon system in West Africa. This area is also characterised by well developed river estuaries, such as those of the rivers Ogun, Shasha and Benin which flow into the vast network of creeks and lagoons.

Drainage

The drainage system of the country consists of the rivers and lakes into which some rivers flow. The areas where the water drains into a particular river is called the river's drainage basin. The five major drainage basins in Nigeria are as follows: 1. River Niger basin

2. River Benue basin
3. Lake Chad basin
4. South Atlantic basin
5. Cross river basin

1. River Niger Basin: This is drained by the River Niger. River Niger takes its source from the Fouta Djallon and Guinea highlands in Guinea and enters the country through the North Western borders. It is the longest river in the country. It has four main tributaries namely Sokoto, Kaduna, Benue and Anambra rivers. It pours out its water into the Atlantic ocean through a delta (Niger delta). The river is navigable up to kainji where it is dammed for hydroelectricity generation.
2. River Benue basin: This is drained by River Benue itself. River Benue rises from Cameroun highlands. Its main tributaries are river Gongola, Danga and Katsina Ala. The Benue is navigable up to Makurdi in the dry season and to Garua in Cameroun during the wet season. River Niger joins the Benue at Lokoja from where it flows to the Atlantic.
3. Lake Chad basin: This is the largest lake in Nigeria The Nigerian rivers that drain into the lake Chad are Gana, Hadeija, Yedseram, Yobe, Ngoada, the Lake Chad and the rivers are in land drainage lakes and rivers because they do not drain into the sea. The lake occupies a structural depression in the earth crust. It used to be extensive covering an area of about 13 000m However, overtime the volume of water in the lake has shrinked significantly due to the following reasons: i. The sag which the lake occupies is shallow.

ii. The rivers which supply water to the lake and the lake itself is located in the desert margin which looses water through evaporation and sand encroachment.

iii. The lake has no visible outlet outlet but it looses water through an underground drainage in a northeasterly direction to the oasis in the Sahara desert.

4. South Atlantic drainage basin; Rivers in this basin are River Ogun, Osun, Osse, Oyan, Siluko,and others. These rivers rise from the Western highlands and flow southwards in the direction of the slope to the sea. The stronger ones erode into the valleys of the weaker rivers forming features known as river capture , for example, Imo, olokomeji and Ogun rivers.
5. Cross river basin: The basin lies east of the Udi hill in south eastern Nigeria.It is drained by Cross river and its tributaries. The cross river rises from the Bamenda highlands in Cameroun. It circumvents the Oban hills and empties its water through an estuarine delta below Calabar.

Characteristics of the drainage system

1. The volume of water in the rivers and lakes vary with the seasons.
2. Some rivers have rapids, waterfalls and cataracts.

3. The rivers carry a lot of materials in suspension and solution.
4. Some of the rivers are consequents e.g South Atlantic basin rivers.
5. Rivers in Northern Nigeria rise from the North central plateau forming a radial drainage pattern.
6. Most rivers are short and swift flowing.
7. Rivers have shallow depths.
8. Some rivers have water weeds.

Importance of rivers

1. Rivers are important fishing grounds.
2. Inland waterways such as rivers and lagoons are used as means of transportation for the movement of people and goods.
3. Dams are constructed on rivers to generate hydroelectricity, for example kainji on the river Niger and Shiroro on Kaduna river .
4. Rivers in the north are used for irrigation.
5. Rivers provide water for domestic and industrial purposes.
6. Provides employment.

Climate

The climate of Nigeria is characterized by two seasons namely, wet and dry seasons. These seasons are determined by the movement of the overhead sun.

a). Wet season: This occurs from mid-October to mid-April. The overhead sun arrives the south first between March and April and temperature is 270C. In the north, the overhead sun arrives between May and June with temperature of 320C. Pressure is low in the North but high in the South. Warm and moist tropical maritime air-mass or South West wind blows from the Atlantic high pressure belt to the sahara low pressure zone in the North bringing in rains. Relative humidity is 90% in the south and 70% in the north.

b) Dry season: This season lasts from mid-October to mid-April. It is associated with the harmattan period which is dry and dusty. Temperature is low, the nights are cool and morning chilly due to loss of heat by radiation through the cloudless sky. The south has low pressure while the north has high pressure. The tropical continental air-mass or North east trade wind which originates from the Sahara desert blows from the north towards the southern part of Nigeria. conditions The air-mass influences the country with its dry and dusty conditions particularly in December. During this period the tropical maritime air-mass moves backwards and leaves the country from the south. Humidity and rainfall are low.

Rainfall Regime

Rainfall regime refers to the pattern of rainfall distribution throughout the year. The rainfall pattern has the following features: 1. The amount of rainfall decreases from the south to the north. This is because the rain bearing winds pass through the south which is close to the Atlantic twice but once in the north.

2. There is double maxima rainfall in Ibadan and Brass in June/July and September/October while the north has only a single maximum in July/ August. Rainfall is low in the south in August. (August break) 3. The length of rainy season decreases from the south to the north. The rainy season last 4-5 months in the north but 9-12 months in the south.

Vegetation

The vegetation of Nigeria can be classified into two types: forests and grasslands. Montane vegetation is found on highland. The forest can be further subdivided into three, namely: i) Salt water swamp/mangrove forest ii) Freshwater swamp forest iii) Tropical rainforest

The grasslands can be subdivided into three namely:

i). Guinea savanna

ii) Sudan Savanna

iii) Sahel savanna

Characteristics of vegetational zones

1. **Mangrove swamp forest:** This occurs in the creeks, lagoons, Niger delta and coastal plain where salty water from the oceans mix with freshwater from the rivers. It is found in Rivers, AkwaIbom and Bayelsa States. It consists of tall woody trees about 25 metres, mainly red, white mangrove, trees have aerial roots which help them take in air, dense tangles of undergrowth, trees have broad leaves and are evergreen. The mangroves are used for boat building, and railway slippers and construction of houses.
2. **Freshwater Swamp forest :** This is found immediately after the salt water forest in Ondo, Edo, Delta, and Cross River States where rainfall is over 200cm. Features include presence of fresh water plants e.g raffia plam, dense undergrowth, made up of shrubs and lianas, more open forest hence sunlight could reach the ground. Trees have broad leaves and are evergreen. Agricultural produce include Coconut and swamp rice.
3. **Tropical rainforest:** This zone is located in Oyo, Osun, Ekiti, Imo, and Cross River States where rainfall is over 150cm and rainy season lasts for 8 months. Features include presence of many plant species, trees are tall about 60m high, trees are not in pure stands but forms a canopy, trees have evergreen and broad leaves, presence of little undergrowth due to canopy of the forest, forest has three distinct layers: upper layer with trees that that grow up to 50m high, tall straight trunks without branches, buttress roots and umbrella shaped crowns; middle layer with trees that grow 17-30m high, trees are close together forming a close canopy; bottom layer with trees that are about 3-10m high. Plants include climbers, creepers, epiphytes, and parasitic plants. Trees include Iroko, obeche, mahogany, walnut *etc.* Agricultural produce include oil palm, cocoa, coffee, rubber, root crops and fruits.
4. **Guinea savanna:** This is the transition zone between the forest and savanna belt hence has both trees and grasses.it can be found in Oyo, Kwara, Niger, Kogi, Benue and Taraba Sates *etc.* .The characteristics of the Guinea Savanna include:

- the largest of all vegetation belts in Nigeria covering ;
- tall grasses;
- few scattered trees;
- tree types are oil palm, dum palm, shea butter, isoberlina, etc;
- trees are deciduous;
- trees have thick barks;
- trees have long tap roots;
- trees have tiny leaves to reduce transpiration;
- some trees have umbrella shaped canopy;
- grasses are green during rainy season and turn brown in the dry season.

5. **Sudan Savanna:** It is located in Sokoto, Zamfara, Kano, Bauchi, katsina, Jigawa States. It consists of shorter grasses due to reduced amount of rainfall less than 100cm and shorter duration. Trees such

as acacia, silk cotton and baobab dominate due to their adaptation to drought. Trees adapt by having long tap roots, narrow leaves, shedding of leaves during dry season and baobab stores water in its back. Vegetation changes with season as a result of marked dry season.

6. **Sahel savanna:** This is found in Northern tip of Borno state. Rainfall is below 65cm and dry season lasts for nine months. The grasses are short and coarse, there are no trees, shrubs are thorny to reduce evapotranspiration.
7. **Montane vegetation:** It is found on highlands such as Jos plateau, Adamawa and Alantika highlands. The number and height of trees and grasses decrease with altitude. Temperate trees are found at the top of the highlands due to low temperature.

The effects of rainfall on the distribution of vegetation include:

- as rain decreases northwards, density of vegetation decreases
- areas which have rainfall between 1000 mm and 1500 mm produces Guinea Savanna type of vegetation
- areas which have rainfall under 500 mm produces Sudan savanna type of vegetation
- areas with rainfall between 1500 mm – 2000 mm produce montane vegetation (e.g. Jos and Eastern highlands)
- high and continuous rainfall give rise to evergreen vegetation
- high rainfall areas of over 2000 mm gives rise to forest vegetation
- heavy rainfall supports tall trees in the south
- low rainfall supports growth of short deciduous trees in the north

Uses of Vegetation Resources

- They provide sites for tourism · Sources of food-fruits and game · Timber for construction purposes · Source of wood for fuel · Provide raw materials for industries · Leaves and grasses are used for roofing · Roots, barks and leaves are used as medicinal herbs.
- Source of employment for hunters, lumbermen and forest officers.
- Grasses are used as pasture for animals

Soil

The soil in Nigeria can be classified into four major types:

- Northern zone of sandy soils.
- Interior zone of lateritic soils.
- Zone of alluvial soil.
- Southern zone of forest soils.

1. **Northern Zone of sandy soil:** It is found in the northern part of the country in the sudan and sahel savanna belts such as Borno, Sokoto and Kastina States. The characteristics are as follows: · The soil is formed under arid condition.

- The soil is friable, loose and porous.
- Soil is dark in colour.
- Soil is fertile, · Soil grains are coarse in texture · Soils are not heavily leached · Soils are sand-loam and easy to cultivate · Soils support crops like groundnut, cotton, and maize.

2. Interior zone of laterite soils : these are found in flat and undulating lands where leaching is heavy thereby dissolving the minerals and leaving iron and aluminum compounds. It is found in Niger, Nazarawa and Plateau State.

- Usually reddish or brownish in colour · They are of medium fertility · It is generally sticky when wet and hard when dry · They are heavily leached · They are impervious · They contain iron and aluminum compounds · The soil is used for growing food crops such as yam, cocoyam, cassava *etc.*

3. Alluvial soils: They are found along rivers, coastal plains and the chad basin.

- They are formed by materials deposited by rivers, lakes and waves such as Bayelsa, Rivers and Akwa Ibom States.
- Rich in humus · Colours vary according to deposits · Soils are fine grains · Support growth of rice, sugarcane, cassava *etc.*

4. Forest soils: They are found in the high forest belt with thick vegetation cover.

- Found in the southern part of the country.
- Rich in humus · Heavily leached due to high rainfall.
- Some are acidic.
- Support growth of economic trees such as mahogany, obeche, iroko *etc.*

Summary

- Nigeria is located between latitude 4^0 and 14^0 North and between longitude3^0 and 15^0 East.
- The relief is made up of mountains, plateau, basins and plains.
- The five major drainage basins in Nigeria are as follows: River Niger basin, River Benue basin, Lake Chad basin, South Atlantic basin, Cross river basin. The major rivers are Niger and Benue.
- The amount and duration of rainfall varies from one location to another and according to the seasons.
- Wet season is caused by the influence of the Tropical maritime air-mass from the Atlantic Ocean while tropical continental air-mass from the Sahara desert brings in dry and dusty conditions.
- Rainfall is the main factor that determines the variation in vegetation since temperature is high generally. Therefore areas with high rainfall are associated with forest vegetation (south) while areas with low rainfall are dominated by the savanna (north).
- Soil zones can be classified into four: Northern zone of sandy soils, interior zone of lateritic soils, alluvial soil and southern zone of forest soils.

Revision Questions

Objective Questions

1. Which of the following factors least affects the distribution of vegetation?
   a. Man
   b. rainfall
   c. Wind
   d. Soil
2. The longitudinal extent of Nigeria is
   a. 8^0
   b. 10^0
   c. 12^0

d. 15^0

3. Which of the following soil types is reddish in colour due to the presence of iron?
   a. Northern zone of sandy soils.
   b. Interior zone of lateritic soils.
   c. Zone of alluvial soil.
   d. Southern zone of forest soils
4. Which soil type supports the cultivation of groundnut?
   a. Northern zone of sandy soils.
   b. Interior zone of lateritic soils.
   c. Zone of alluvial soil.
   d. Southern zone of forest soil
5. Rivers State is located in which vegetation belt?
   a. Sudan savanna
   b. Sahel savanna
   c. Rain forest
   d. mangrove swamp forest
6. The distance from North to South in Nigeria is
   a. 1100km
   b. 1300 km
   c. 1500 km
   d. 1900 km
7. Nigeria has _____ states
   a. 29
   b. 36
   c. 19
   d. 21
8. Which of these is not a highland region in Nigeria?
   a. Jos Plateau
   b. Idanre hills
   c. Lake Chad
   d. Adamawa highlands
9. Which of these is an inland drainage river?
   a. Kaduna
   b. Imo
   c. Yobe
   d. Osun
10. Which of these rivers is the longest in Nigeria?
   a. Benue
   b. Kaduna
   c. Niger
   d. Cross River

Answers

1. A 2. D 3. B 4. A 5. D 6. A 7. B 8. C 9. C 10. C

Essay Questions

1. (a) Draw a sketch map of Nigeria to show any three vegetation belts.

(b) Describe the effects of climate on the vegetation of one of the belts.

(c) Name any two resources found in the vegetation belt shown in a) above and describe ant two uses of each.

2. (a) On a sketch map of Nigeria, locate and name any four vegetation belts.

(b) Highlight four ways in which the vegetation contributes to the economy of the country.

(c) Outline any four problems associated with the exploitation of the forest vegetation.