

## **ENT827      NATURAL RESOURCE UTILIZATION**

Economics of utilizing and conserving land, water and energy resources, Resources Scarcity Models, Demand and Supply for Food and Fibre, land resource use, water resource use, energy resource use. Conservation and the environment. Geopolitical Territories and Cultural Heritages. Six Political Zone and State Grouping. Federal Capital Territory and its Resources. South South Cultural Heritage. South West Cultural Heritage. South East Cultural Heritage. North Central Cultural Heritage. North East Cultural Heritage. North West Cultural Heritage. Solid Waste Management in Nigeria. Characteristics and Importance of the Agricultural Sector in Nigeria. The Agricultural Sector during Pre and Post-Independence Period. Characteristics and Prospects of the Nigerian Agricultural Sector. Policy Intervention in the Nigerian Agricultural Sector. Characteristics and Importance of the Mining Sector. The Crude Oil Sector. Solid Minerals and Associated Gas Sector. The Challenges and Prospects of the Mining Sector.

**ENT827**

**NATURAL RESOURCE UTILIZATION**

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Summary

**The Natural Resources utilization** is a two credit first level course. It will be available to all students to take towards the core module of their M. Sc in Entrepreneurship. It will also be appropriate as an "one-off" course for anyone who wants to be acquainted with the Nigerian Environment or/and does not intend to complete the NOUN qualification. This course is designed to enable students to appreciate the resource endowments of Nigeria and how mineral resources could be better managed to achieve growth and human and economic development. Topics shall cover an overview of Nigeria's resources, mining and oil gas exploration, socio-cultural issues in mineral exploration, resource allocation and misapplication of resource.

There are no compulsory prerequisites for this course, although basic prior knowledge in management sciences, social sciences, biology and chemistry is very important in assisting the learner through this course. This Course-Guide tells you in brief what the course is about, what course materials you will be using and how you can work your way through these materials. It gave suggestions on some general guidelines for the amount of time you are likely to spend on each unit of the course in order to complete it

successfully. It also gives you some guidance on your tutor-marked assignments. Detailed information on tutor-marked assignments is found in a separate booklet.

### **What you will learn in this course**

The basic aim of The Natural Resources Management utilization is to acquaint learners with the basic concepts and fundamental issues and problems on Natural Resources. During this course, you will learn about what the Resources are, especially the richness of Nigeria geo-political zones, and the endowment of other resources on the globe. Some common Management problems in Nigeria

The course will give you a general overview of the geography of Nigeria's Environment, its problems and prospects. The course will help you appreciate the beauty of resources, how the nation has been surviving in the face of its resources management problems, which should provide you with necessary basis for further study.

### **Course Aims**

The aim of the course can be summarized as follows: this course aims to give learners a clear conceptualization of the basic concepts, problems and issues surrounding Natural Resources Management. This will be achieved by aiming to

- introduce you to the basic concepts of the resources
- outline essential features of the Natural resource management utilization
- explain some characteristics of the Natural resources.
- Discuss common Natural resources in Nigeria.
- Assess the status of Natural resources.
- Recommend strategies for ameliorating some resources problems
- Mention how the learner can be involved in improving the knowledge.

### **Course Objectives**

To achieve the aims outlined above, the course set an overall objective. Added to this, each unit also has specific objectives. The unit objectives are always included at the onset of each unit; you are expected to read them before you start working through the unit. You may wish to make reference to them during your course of study of the unit to guide your progress. Cultivate the habit of always going back to check the unit objectives after completing a unit. The essence of this is to ensure that you have done what was required of you by the unit.

Outlined below are the broad objectives of the course as a whole. When you meet these objectives you should have achieved the aims of the course as a whole.

When you have successfully completed this course, you should be able to:

1. Define natural resources in your own words
2. State the major components of the Natural resources
3. Outline along with sketch maps the topography of Nigeria's resources
4. Explain the geopolitical zones in Nigeria.
5. State the types of natural resources found in Nigeria.
6. Identify major commercial cities in Nigeria and resources found
7. Recommend ways of controlling and managing solid waste in Nigeria.
8. Mention the consequences of mining on the physical environment.
9. Identify the causes and consequences of oil spillage in Nigeria environment
10. Outline the consequences of gas flaring in Nigeria
11. Compare and analyse Government and oil companies' position on gas flaring come 2004.

### **Working through This Course**

To end this course you are expected to read the study units and some other materials and resources made available to you by NOUN. These will work together in facilitating your learning. You are expected to undertake all practical exercises outlined in each unit.

### **Course materials**

Major components of the course are;

1. Course Guide
2. Study units
3. Other resources.

### **Module 1: ECONOMICS OF UTILIZING NATURAL RESOURCES**

Unit 1: Economics of utilizing and conserving land, water and energy resources,

Unit 2: Resources Scarcity Models, Demand and Supply for Food and Fibre,

Unit 3: Concepts of the resources and essential features of the Natural resource management utilization

Unit 4 Characteristics of the Natural resources and common Natural resources in Nigeria.with Recommend strategies for ameliorating some resources problems.....

### **Module 2: GEOPOLITICAL TERRITORIES AND CULTURAL HERITAGES**

Unit 1 Six Political Zone and State Grouping and Federal Capital Territory and its Resources

Unit 2: South South, South West and South East Cultural Heritage

Unit 3: North Central, North East and North West Cultural Heritage

### **Module 3: MINERAL RESOURCES AND AGRICULTURAL SECTORS**

Unit 1: Characteristics and Importance of the Agricultural Sector in Nigeria .

Unit 2: The Agricultural Sector during Pre and Post Independence Period ....

Unit 3: Characteristics and Prospects of the Nigerian Agricultural Sector.....

Unit 4: Policy Intervention in the Nigerian Agricultural Sector .....

### **Module 4**

Unit 1: Solid Waste Management in Nigeria

Unit 2: Characteristics and Importance of the Mining Sector .....

Unit 3: The Challenges and Prospects of the Mining Sector .....

Unit 4 The Crude Oil Sector .....

Unit 5: Solid Minerals and Associated Gas Sector .....

## **Module 1: ECONOMICS OF UTILIZING NATURAL RESOURCES**

Unit 1: Economics of utilizing and conserving land, water and energy resources,

Unit 2: Resources Scarcity Models, Demand and Supply for Food and Fibre,

Unit 3: Concepts of the resources and essential features of the

Natural resource management utilization

Unit 4: Characteristics of the Natural resources and common Natural resources in Nigeria. with Recommend strategies for ameliorating some resources problems

## **Unit 1: ECONOMICS OF UTILIZING NATURAL RESOURCES**

### **CONTENT**

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  - 3.2 Utilization Of Land In Nigeria
  - 3.3 Economics And Utilization Of Water Resource In Nigeria
  - 3.4 Energy Utilization And Economics
- 4.0 Conclusion
- 5.0 Summary
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### **1.0 Introduction**

Nigeria is endowed with abundant mineral and natural resources, which have over the years contributed to growth of national wealth. Natural resources are important sources of wealth yet without harnessing them, exploration, mining and processing, the associated wealth can not be obtained. Adekoya, (2003) further buttressed this by linking natural resources as a major source of associated socio-economic benefits. Natural resources can be a source of a stable economy and social development.

Utilization of natural resources is even more crucial than merely having them. Liberty, Ugwushiwu, Bassey and Eke, (2013) describes the utilization of natural resources as an essential condition of human existence throughout the history of mankind; humans have manipulated natural resources to produce the materials they needed to sustain growing human populations. The word utilization means the act of making practical and effective use of something. Natural resources can be divided into two; the exhaustible: such as minerals and the inexhaustible: such as forests and grasslands.



## **2.0 Objectives**

By the end of this unit, you should be able to:

1. Define Natural Resources and its Value.
2. Understand the economics of utilizing and conserving land.
3. Understand the economics of utilizing water and energy resources.

## **3.0 Main Content**

### **3.1 Natural Resources**

What are Natural Resources?

Natural resources can be defined as stocks of materials that exist on earth independent of human actions. World Trade Report (2010) defines natural resources as stocks of materials that exist in the natural environment that are both scarce and economically useful in production or consumption, either in their raw state or after a minimal amount of processing. Natural Resources are resources that are found in the environment and are developed without the intervention of humans. Common examples of natural resources include air, sunlight, water, soil, stone, plants, animals, and fossil fuels.

#### **3.1.1 Value of Natural Resources**

The value of natural resources can be classified as follows;

- Economic value – The value of a natural resource can be economical if such a resource can be used in the production of things. Such things so produced can be monetarily valued.
- Legal value – The right to enforce ownership can be upon natural resources. The right to own, the right to a resource, the right to sell or buy, the right to clean air, rights to fresh water, rights of human beings and so on.
- Aesthetic value – Natural resources can serve as a source of aesthetics to an environment. It can be used to beautify a village, roads, ponds and an entire environment.

### **3.2 Utilization of Land in Nigeria**

Utilization of land is directly derived from the land use law of Nigeria. Land tenure as it is often referred to the various ways land is controlled by the community, family or individual either for permanent or temporary use. It also refers to the economic, legal and political arrangement regarding the ownership and management of land and its resources. Smith (2009) defines land tenure as the system of land ownership by individuals, family, community or government agency either for temporary use or as permanent property. This is very important because it affects the way land is used for both agricultural and industrial development.

According to Smith (2009) Nigeria's total land area is 92.4 m ha. About 91 m ha of this is adjudged suitable for cultivation. Also, approximately half of this cultivable land is

effectively under permanent and arable crops while the rest is covered by forest woodland, permanent pasture and built-up areas.

### **3.2.1 Classes of Land Tenure**

The Land Tenure System in Nigeria varies with tribe, clan, state or community. It can be broadly classified into four as follows:

1. Communal Land Tenure System
2. Tenure based on Individual Inheritance or Free-Hold Land Ownership
3. Lease-Hold Tenure
4. Rent land tenure
5. State or Government Ownership of Land

### **3.2.2 Communal Land Tenure System**

This is the traditional system of land ownership whereby land is generally regarded as the property of the community. This makes individual ownership rare, particularly in rural areas. The community may be a family, a village, a clan, always headed by a family head, village or clan head. In this system, every member of the community is entitled to a piece of land for farming, but individual ownership is not allowed. Land cannot be sold to strangers since there is ancestral ownership. The allocation of the land among the community members is usually decided by the head of the community acting on the authority of the entire community. The community does not control whatever is grown on the land and has no claim on the products of the land. The member to whom the land is allocated decides what should be grown on the land but not permanent crops. He also has claims over the products, especially the arable crops he has planted such as maize, rice, yams, melons, cassava etc. but the perennial crops such as oil palm belong to the community and are harvested and shared among the members of the community.

### **3.2.3 Advantages of Communal Ownership of Land**

The advantages of this system are:

- i. Each member of the community has the opportunity to request for farmland to provide food and earn some money for his family.
- ii. It is possible to organize communal and cooperative farms on such lands, since the land is extensive.
- iii. Modernized farming on an economic scale is possible.
- iv. It is easier to transfer the land to a prospective farmer since individual attachment is almost absent.

### **3.2.4 Disadvantages of Communal Ownership of Land**

The major disadvantages of communal ownership of land are:

i. Inadequate maintenance of the soil fertility:

If a farmer realizes that the portion of the land he is farming this year may not fall to him the next year he may not have enough incentive to invest enough into the soil to maintain its fertility. He will only be interested in how much he can get from the soil during the period he farms on it. This will eventually lead to rapid lowering of the soil fertility.

ii. Useful time is wasted in consulting a large number of people whenever the government wants a piece of land for developmental purposes. Often customary tenure rules are transmitted orally through generations. This resulted in lack of documented records and has led to land disputes and court cases over land ownership and boundary demarcation.

### **3.2.5 Tenure based on Individual Inheritance or Free-Hold Land Ownership**

This is the commonest method of acquiring land in some developing countries in which the land owner has the freedom to do what he likes with his land. When the farmer dies, his holdings are transferred by inheritance to his sons. The piece of land is continually fragmented from one generation to another and it is usually shared among the male children of the farmer. Each son usually prefers to invest in the land in order to improve its fertility for agricultural production. If the land is large enough mechanized farming can also be practiced. The right ownership to the land can be transferred from one man to another by outright sale or purchase. This is sometimes rare for two reasons:

- a. There is the religious and sentimental attachment to land in many communities.
- b. There is also the rigorous and unnecessarily long negotiation associated with such transfer or purchases.

### **3.2.6 Advantages of Free-Hold Land Ownership**

The main advantages are:

- i. The individual owner often prefers to invest in the land in order to improve its fertility for agricultural production since the land belongs to him.
- ii. He can also use the land as security to obtain loans from commercial banks.
- iii. This system gives the land owner security of tenure, makes for proper future planning and efficient investment on the land.
- iv. Mechanized farming can be practiced if the land is large enough.

### **3.2.7 Disadvantages of Free-Hold Land Ownership**

This system of land ownership has the following disadvantages:

- i. Lack of government control over land which is an important asset.
- ii. Over-independence and abuse of land by land owners resulting in excessive and uneconomical fragmentation of the land.
- iii. Land may belong to some people who have no interest in land development or in making the fullest use of it.

- iv. Those who have no land, or those who have very limited areas for their needs may be unable to buy or rent land from the individual owners.

### **3.2.8 Lease-Hold Tenure or Landlord-Tenant Agreement**

This is a situation whereby a farmer is permitted by the land owner to work on a piece of land for a fixed length of time and under stipulated condition. The real landowner may be an individual, government or a government agency or a community. The Taungya system in which the Forestry Department releases a portion of its fertile land to farmers for a specific period of time for the cultivation of food crops while at the same time nursing some tree seedlings is a good example.

This system permits effective control of land by the land owner or the community. At the expiration of the period of tenancy the land reverts to the land owner.

### **3.2.9 State or Government Ownership of Land**

Some land belonging to the government may be leased out to an individual. Payment by such individuals which is done by cash is paid into the government treasury. The disadvantages of this system are that the government can recover its land with a very short notice. It should be mentioned here that the disadvantages of the various systems described above are obstacles to agricultural development and cooperative societies are expected to be used to circumvent these obstacles. This is because farmer's access to communal land has been found to be faster on the platform of these Co-operative Societies rather than as individuals.

## **3.3 Economics and Utilization of Water Resource in Nigeria**

According to the Food and Agricultural Organization document, water provides four types of important economic benefits: commodity benefits; waste assimilation benefits; aesthetic and recreational benefits; and fish and wildlife habitats.

### **3.3.1 Commodity Benefits**

Individuals derive commodity benefits from water by using it for drinking, cooking and sanitation. Farms, businesses and industries obtain commodity benefits by using water in productive activities. These commodity benefits represent private good uses of water which are rivals in consumption (e.g. one person's or industry's water use precludes or prevents its use by others). Government policies and regulations that concentrate on improving market access and competition are important means for improving the productive and allocative efficiency of the commodity uses of water.

### **3.3.2 Waste Assimilation Benefits**

One increasingly important economic benefit of water is waste disposal. Water bodies have a significant, but ultimately limited, assimilative capacity, meaning that they can process, dilute and carry away wastes.

### **3.3.3Aesthetic and Recreational Benefits**

Recreation and aesthetic benefits are regarded as luxury goods outside the concern of governments. This benefit is gaining increasing attention in most developing countries, more and more people are focusing their recreational activities around lakes, rivers and seas. In developing nations, as incomes and leisure time grow, water-based recreation is becoming increasingly popular and an adequate supply of good-quality water helps provide a basis for attracting the tourist trade. Examples are cruises on the Nile in Egypt and visits to the Iguazú Falls on the Brazil-Argentina border.

### **3.3.4 Fish and Wildlife habitats**

Fish and wildlife habitats are regarded as luxury goods outside the concern of governments. This benefit is gaining increasing attention in most developing countries, information and knowledge about how humans have an impact on ecosystems have raised concern about the fish and wildlife benefits provided by water. Fish and wildlife habitats are related to both commodity and recreational uses.

Waste assimilation and recreational and aesthetic values are closer to being public goods than private goods. Public goods are non-rivals in consumption - one person's use does not preclude use by others. For example, the enjoyment of an attractive water body does not deny similar enjoyment to others. Non-rival goods require large amounts of resources to exclude unentitled consumers from using the goods. Exclusion costs are frequently very high for water services such as flood control projects and navigation systems. Goods and services that are non-rivals in consumption are normally better suited to public sector interventions, including ownership, provision and regulation.

## **3.4 ENERGY UTILIZATION AND ECONOMICS**

Energy is power derived from the utilization of physical or chemical resources, especially to provide light and heat or to work machines. According to Ayhan (2002) energy affects all aspects of modern life, therefore the demand for energy will continue to increase at an exponential rate due to growth in world population. The word utilization means the act of making practical and effective use of something. Energy utilization would therefore mean the act of making practical and effective use of either physical or chemical resources with potential ability to provide light and heat or to work machines.

Ayhan (2002) helps us understand that during the last 200 years, developed countries have shifted their energy consumption toward fossil fuels. Renewable energies have been the primary energy source in the history of the human race. Wood was used for cooking, water and space heating. The first renewable energy technologies were primarily simple mechanical applications and did not reach high energetic efficiencies. Industrialization changed the primary energy use from renewable resources to sources with a much higher

energetic value such as coal and oil. The promise of unlimited fossil fuels was much more attractive and rapid technical progress made the industrial use of oil and coal economical.

Known energy reserves of the world

1. Crude oil
2. Natural gas
3. Shale oil
4. Coal
5. Tar sands
6. Uranium
7. Deuterium

Ayhan (2002) further posits that, the share of renewable energy sources is expected to increase very significantly. Hydropower and traditional biomass are already important factors in the world's energy mix, contributing about 18% of the total world energy requirements, whereas renewables contribute only about 2% of the present world primary energy use. Biomass, wind and geothermal energy are commercially competitive and are making relatively fast progress (Fridleifsson, 2001). In the past, the chief mobilizable energy sources were human energy, animal energy, wind energy, low-energy hydropower and biomass energy.

#### 3.4.1 Old mobilizable energy sources and their usage

Source	Usage
Human energy	Daily activities
Animal energy	Animal traction
Wind energy	Windmills, sailing ships
Low energy hydropower	Watermills
Biomass energy	Mainly for home require

Source: Ayhan (2002)

#### 3.4.2 Concentrated energy sources and their usage

Source	Usage
Coal	Electric generation, heating, power plants, heavy industry, and chemicals
Oil	Engine fuel, transportation, power plants, heavy industry, heating, chemicals
Gas	Electric generation, domestic heating, power plants, and chemicals

Source: Ayhan (2002)

### 3.4.3 Sustainability of primary world energy

Source	Usage
Historic Energy Sources	Simple technologies using renewable resources: solar energy, hydropower, wind power, wood
Today's Energy Sources	Advanced technologies using premium energy resources such as oil, coal, natural gas, nuclear
Future Energy Sources	High-tech generators using renewable resources: solar energy, geothermal, hydropower, wind power, biomass

Source: Ayhan (2002)

In broad terms, Ayhan (2002) summarized that coal, oil, natural gas, biomass, hydropower, uranium, wind, and other energy resources are extracted, refined or converted into “energy carriers” such as gasoline, electricity, natural gas, etc., and then consumed by the end-user to provide energy services such as building heating and cooling, industrial motor drive, and passenger transport.

### 3.4.5 Ways Energy is Utilized

According to Ayhan (2002), energy can be utilized in various ways, some of them are stated below.

#### Energy utilization in buildings

Energy is used in buildings in two basic ways. About 50 percent is used to heat and cool buildings and to provide hot water. The remaining 50 percent is used to light the building and power its appliances and pieces of equipment, such as refrigerators, commercial freezers, televisions, washing machines, and stoves. About 55 percent of building energy is used in homes, with the remainder consumed in commercial buildings, such as offices, schools, and hospitals (Ayhan, 2002).

#### Energy utilization in transportation

The transportation sector exhibits the least variation in energy sources and uses. The transportation sector also uses comparatively small amounts of bio-energy, natural gas, and electricity. The 57 percent of transportation energy used by “light-duty vehicles” includes both cars and light trucks, with the latter now accounting for 47 percent of new vehicle sales. Alternative, non-oil transportation energy sources are increasingly used in urban areas (Ayhan, 2002).

#### Energy utilization in industry

The industrial sector is the most diverse sector in terms of both the types of energy services required and the mix of energy sources used to provide those services. Several crosscutting types of energy services are particularly important in this sector: • motor drive equipment, which accounts for 64 percent of industrial electricity use; • steam systems, both to heat products and to drive mechanical processes; and • compressed air equipment. Industrial energy use is heavily concentrated in a small number of “heavy” industries, which



generally produce commodity materials that require substantial energy to move, process, and shape. About 37 percent of the sector's primary energy use is in the form of electricity, 28 percent natural gas, 24 percent oil products, 6 percent coal, and 5 percent biomass and other energy sources (Ayhan, 2002).

### **Energy utilization in power**

Nearly all of the electricity is produced at central power stations and delivered through a network of transmission and distribution lines. Fossil fuels continue to dominate U.S. electricity production, accounting for about 71 percent of electricity produced. Bio-energy comprises a large component of the U.S. renewable energy market, accounting for 50 percent of all renewables and 88 percent of non-hydropower renewables. Hydropower is the second-largest contributor to renewable energy, comprising 44 percent of U.S. renewable energy production. Wind power is one of the fastest growing energy sources in the world, with rapid growth across both Europe and the United States. Other areas of renewable production include solar and geothermal power (Ayhan, 2002 citing Demirbas, 2001).

### **Fossil energy utilization**

Coal's role in energy use worldwide has shifted substantially over the decades, from a fuel used extensively in all sectors of the economy to one that is now used primarily for electricity generation and in a few key industrial sectors, such as steel, cement, and chemicals. Although coal has lost market share to petroleum products and natural gas, it continues to be a key source of energy because of the dominant role it has maintained in its core markets and its success in penetrating markets in emerging economies. In 1995, coal accounted for 26 percent of the world's primary energy consumption and 37 percent of the energy consumed worldwide for electricity generation (Ayhan, 2002).

### **New and renewable energy utilization**

Main new and renewable energy resources are nuclear energy, biomass energy, geothermal energy, solar energy, and wind energy. Nuclear energy is a clean energy like hydropower, wind energy, geothermal energy, and hydrogen energy. Renewable energy sources and their usage forms are given in the table below (Ayhan, 2002).

Renewable energy sources and their usage forms

<b>Source</b>	<b>Usage</b>
Hydropower	Electric generation
Wind energy	Electric generation, wind generators, windmills
Solar energy	Solar home system, solar dryers, photovoltaic cells
Geothermal energy	Urban heating, electric generation, power centra
Modern biomass	Electric generation, biogasoline, chemicals, urban heating
Nuclear energy	Nuclear reactor, electric generation, nuclear central



Source: Ayhan (2002)

#### **4.0 Conclusion**

The need to value utilization of natural resources is even more crucial than merely having them. The value of natural resources can be classified as economic, legal and aesthetic values. Energy utilization affects all aspects of modern life, therefore the demand for energy will continue to increase at an exponential rate due to growth in world population. Known energy reserves of the world includes; Crude oil, Natural gas, Shale oil, Coal, Tar sands, Uranium and Deuterium. Ways energy is utilized are; for building, transportation, industry, power and so on.

#### **5.0 Summary**

This unit has focused on the definition of natural resources and its value. Understanding the economics of utilizing and conserving land and understanding the economics of utilizing water and energy resources.

#### **6.0 Tutor Marked Assignments**

1. Define the concept Natural Resources and explain its values.
2. Discuss the economics of utilizing land, highlighting its various classes.
3. Expantiate on the economics of utilizing water and its benefits.
4. Explain the utilization of energy resources.
5. State the ways energy is utilized.

#### **7.0 References and Further Readings**

- Adekoya, J. A. (2003). Environmental Effects of Solid Minerals Mining. Journal of Physical Science, pp. 625- 640.
- Ayhan Demirbas, (2002). Energy Utilization Systems, ENERGY EXPLORATION & EXPLOITATION · Volume 20 · Number 5 · 2002 – pgs 379-389.
- Demirbas,, A. (2001). “Biomass resource facilities and biomass conversion processing for fuels and chemicals”, Energy Conversion and Management, Vol. 42, pp. 1357-1378.
- Food and Agricultural Organization document retrieved from: <http://www.fao.org/3/T0800E/t0800e0b.htm> on 27th September 2020.
- Fridleifsson, I. B. (2001). “Geothermal energy for the benefit of the people”, Renewable and Sustainable Energy Review, Vol. 5, pp. 299-312.

- Liberty, J.T, Ugwushiwu, B.O, Bassey, G.I and Eke, V.N. (2013). Effects of Natural Resources Utilization on the Ecosystem and Its Remedies in Nigeria. Available from:  
[https://www.researchgate.net/publication/311594170\\_Effects\\_of\\_Natural\\_Resources\\_Utilization\\_on\\_the\\_Ecosystem\\_and\\_Its\\_Remedies\\_in\\_Nigeria](https://www.researchgate.net/publication/311594170_Effects_of_Natural_Resources_Utilization_on_the_Ecosystem_and_Its_Remedies_in_Nigeria) [accessed Sep 27 2020].
- Smith, M.A.K. (2009). Agr 201 General Agriculture. National Open University of Nigeria. ISBN: 978-058-583-8
- World Trade Report (2010) Natural resources: Definitions, trade patterns and globalization. Retrieved from: [https://www.wto.org/english/res\\_e/booksp\\_e/anrep\\_e/wtr10-2b\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/anrep_e/wtr10-2b_e.pdf)

## **Unit 2: Resources Scarcity Models, Demand and Supply for Food, Fibre, Land and Bio Fuel.**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Understand Scarcity And The Economic Implication Of Resource Scarcity
  - 3.2 Economic Implication Of Resource Scarcity
  - 3.3 The Concept Of Resources
  - 3.4 Understanding The Concept Of Demand And Supply, Demand And Supply Expectations For Food, Fibre, Land And Bio Fuel.
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

Some key concepts critical to understanding the topic in this unit will be defined briefly. Scarcity refers to the limited available resources used in satisfying the unlimited human wants (Okonkwo, 2014). Also, **Scarcity** refers to the basic economic problem, the gap between limited – that is, **scarce** – **resources** and theoretically limitless wants (Investopedia.com). While resources can be defined as anything that is directly or indirectly capable of satisfying human wants.

### **2.0 Objectives**

By the end of this unit, you should be able to:

1. Understand Scarcity and the Economic Implication of Resource Scarcity
2. Understand Resources and Economic Assumptions about Resources
3. Understand demand and supply expectations for food, fibre, land and bio fuel.

### **3.0 Main Content**

#### **3.1 Understand Scarcity and the Economic Implication of Resource Scarcity**

##### **The Concept of Scarcity**

A scarce resource is one which, when offered to people at no cost, more would be wanted (demanded) than is available (supplied). Notice that the opposite of a scarce resource is a free resource. At no price, the quantity supplied of a free good for instance exceeds the quantity demanded leading to a surplus.

The definition of scarcity above is further explained graphically as shown below:

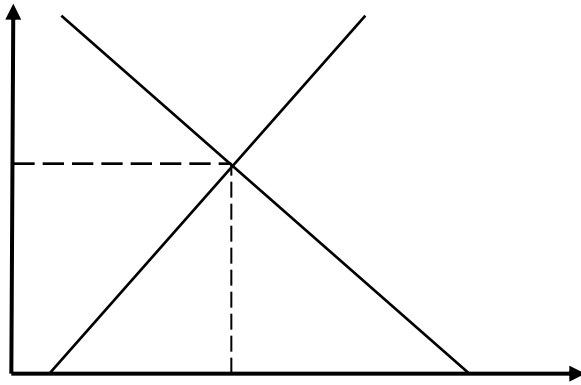
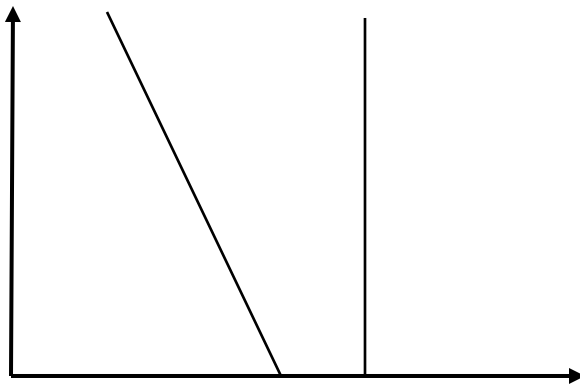


Fig x: demand and supply and market clearing (equilibrium) price for a scarce resource. Notice that at zero price (on the price axis, zero price coincides with the origin), quantity demanded is  $q^d$  and quantity supplied is  $q^s$ . Notice further that  $q^d$  far exceeds  $q^s$ , creating a shortage or scarcity. On the other hand, at zero price, the quantity demanded of a free good is smaller than the quantity supplied, creating a surplus. Considering oxygen which is freely supplied by nature, the availability of oxygen from the ambient air (supply) far exceeds the quantity demanded in a non polluted environment. Thus oxygen may be treated as a free good. The demand and supply analysis for a free good is drawn below.



Notice that at zero price (point on the origin), the quantity supplied far exceeds the quantity demanded as  $s$  is greater than  $q^d$ , counting from the origin. In economics, the situation of scarcity arises when there is less of an economic good, service or resource than people would like to have if it were free. Scarcity reflects the fact that there are not sufficient resources (inputs) to produce everything that individuals want. It should be noted that in the absence of scarcity, no difficult choices would need to be made and hence no opportunity or real cost, no prices would need to be attached to anything, and the study of economics would be rendered entirely unnecessary. Furthermore, as the economist uses the concept, scarcity is present in all societies whether rich or poor in as much as there is a gap between resource need and resource availability.

### 3.2 Economic Implication of Resource Scarcity

Considering that human wants for goods and services are immense and, worse yet, insatiable in a world of scarcity, what can be done to maximize the set goods and services that people of a given society can have at a point in time? This question clearly suggests that the significant economic problem involves rationing limited resources to satisfy human wants and, accordingly, has the following four implications:

**Choice-** the most implication of scarcity is the need to choose. That is, in a world of scarcity, we cannot attain the satisfaction of all our material needs completely. Hence, we need to make choices and set priorities.

**Opportunity cost-** every choice we make has a cost associated with it; one cannot get more of something without giving up something else. In other words, an economic choice always entails sacrifice or opportunity cost- the highest-valued alternative that must be sacrificed to attain something or satisfy a want. In a world of scarcity, “there is no such thing as a free lunch.”

**Efficiency** – in the presence of scarcity, no individual or society can afford to be wasteful or inefficient. The objective is, therefore, to maximize the desired goods and services that can be obtained from a given set of resources. This state of affair is attained when resources are fully utilized (full employment) and used for what they are best suited in terms of production (i.e., there is no misallocation of resources). Furthermore, efficiency implies that the best available technology is being used (McConnell and Bruce 1996).

**Social institutions-** as noted earlier, the essence of scarcity lies in the fact that people’s desire for goods and services exceeds society’s ability to produce them at an appointed time. In the presence of scarcity, therefore, the allocation and distribution of resources always cause conflicts. To resolve these conflicts in a systematic fashion, some kind of institutional mechanism(s) need to be established.

### 3.3 The Concept of Resources

In broad terms, resources can be defined as anything that is directly or indirectly capable of satisfying human wants. Resources can be classified from two perspectives which are;

1. Traditional economics resource classification and,
2. Environmental economics resource classification

#### 3.3.1 TRADITIONAL ECONOMICS CLASSIFICATION OF RESOURCES

Traditionally the economic notion of resources, classify resources into three broad categories: land, labour and capital.

**Land:** This refers broadly to natural resources which are the stock of living and non-living materials found in the physical environment, and which have an identifiable potential use to humans. It should be noted that land is a very inadequate expression for what in a wider context amounts to the natural resources base. This is because it could be misunderstood as a place to build factories, cities and physical infrastructures like hospitals, schools, e.t.c. By understanding land to mean all non-man made natural resources, the idea of what is in, on

and over the land is included becomes clearer. Thus, in Environmental Economics, it is better to say “natural resources” rather than simply “land”. Agricultural land, deposits of ferrous and non-ferrous minerals, water, fisheries, and other aquatic life, wilderness and its multiple products are examples of material resources.

**Labour:** Labour encompasses the productive capacity of human physical and/or mental efforts, measured in terms of ability to work or produce goods and services. Entrepreneurship is often included under labour.

**Capital:** This refers to a class of resources that are man-made for the purpose of creating a more efficient production process. In other words, capital is the stock of produced items available not for direct consumption, but for further production process. Examples include all sorts of machineries.

**3.3.2 RESOURCES** can also be classified according to whether they are replenishable or not. Thus we have the following categories.

**Renewable Resources:** resources are said to be renewable if they are replaced by natural processes at a rate comparable or faster than their rate of consumption by humans. In other words, renewable resources have a natural rate of replenishment sufficient to augment the stock. Thus, renewable resources naturally regenerate over time e.g. fish, trees, wildlife, grazing lands. The environmental economic issues revolve around the consideration of the impact of a renewable resource use (extraction or harvest) on the rate of replenishment. If too much is harvested, the rate of replenishment may not be sufficient to leave enough resources for the future. If too little is harvested, opportunities for gains are lost. The harvest decision involves a comparison of marginal benefit with marginal cost. If  $MB_{\text{harvest}} > MC_{\text{harvest}}$ , more harvest is justified, otherwise (If  $MB_{\text{harvest}} < MC_{\text{harvest}}$ ) further harvest is not advised.

**Non-Renewable Resources:** These are resources for which there is no replenishment or the rate of growth is so slow as to be imperceptible in human life span. Thus, for nonrenewable resources, the natural rate of replenishment is negligible in terms of augmenting the stock of the resource. Examples include oil, gas, uranium, aluminum e. t. c. The three stages of non-renewable resource use to consider in economics are exploration, development and extraction. The exploration, development or extraction decision also involves a comparison of the marginal benefit to marginal cost.

### **3.3.3 ECONOMIC ASSUMPTIONS ABOUT RESOURCES**

#### **Assumption 1: Resources are Factors of Production**

It is rare that basic resources of labour, capital and natural resources are used for their direct consumption without modifications. Hence resources are viewed in economics as a means to produce final goods and services that are capable of directly satisfying human wants. This is to say that basic resources are a means to an end and not end in themselves.

#### **Assumption 2: Resources have no Intrinsic Value**

Related to assumption 1 above is the notion that the economic value of resources is strictly anthropocentric. This implies that the economic value of any resource is defined by human needs and nothing else. This idea treats humans as preeminent as all other resources are deemed to exist for the human economy and not for themselves. Non-economic values of resources are not considered. This has important consequences for the conservation of biodiversity.

**Assumption 3: Only Scarce Resources are of Economic Concern**

In economic analysis, each of the above resource categories is of economic concern to the extent that they are scarce i.e found in limited quantities and/or quantities. Any resources that are not limited in supply is not of economic concern.

**Assumption 4: Resources are used in Combination**

This means that to produce a good or service requires that various forms of resources are combined together to effect transformation into the required good or service. For instance, producing bricks for building requires a combination of sand, water, human skill, cement, block making machine, shovel e.t.c in certain proportions.

**Assumption 5: Resources are Fungible**

This implies that resources are substitutable. That is, in kind resources (such as machines) can be replaced by another (such as labour) in the production process; or one type of energy resources (e.g. petroleum) can be replaced by another form of energy (such as natural gas). Fungibility implies that no particular resource is considered to be absolutely essential for production of goods and services. It should be noted however that fungibility does not in any way suggest an escape from the general problem of resource scarcity because there is the extent to which resources substitution can occur in production.

### **3.4 UNDERSTANDING THE CONCEPT OF DEMAND AND SUPPLY, DEMAND AND SUPPLY EXPECTATIONS FOR FOOD, FIBRE, LAND AND BIO FUEL.**

Demand is the quantity of commodity buyers wish to purchase at each conceivable price.

**The Law of Demand:** The law of demand states that other things being equal, as price increases, the quantity demanded of a commodity decreases. The law is saying that there is a negative or inverse relationship between price and quantity demanded of a commodity. This law is also illustrated by the downward sloping nature of the demand curve.

#### **3.4.1 Explanation of the Law of Demand**

Three reasons can be provided to explain the downward sloping nature of the demand curve.

- a. Diminishing Marginal Utility: Utility is satisfaction derived from the consumption of a commodity. Marginal utility is the satisfaction derived from the consumption of one more extra unit of the commodity. The law of demand can be explained by diminishing marginal utility. The explanation is this; the decrease in added satisfaction as one consumes additional units causes one to consume more units in order to get the same level of satisfaction.

- b. Income Effect: A lower price increases the purchasing power of money income enabling the consumer to buy more at lower prices without having to reduce demand for other goods and conversely.
- c. Substitution effect: A lower price induces the consumer to buy more of the good with the lower price and less of the relatively high-priced substitutes.

Supply may be defined as the total amount or quantity of a given good or service a producer or seller is willing, able and ready to offer for sale over a given period of time, and at a particular price. According to Udabah (1999:49) Supply is a relationship showing the various amounts of commodity that sellers would be willing and able to make available for sale at possible alternative prices during a given period of time, all other things remaining the same.

### **3.4.2 LAW OF SUPPLY**

The law of supply states that “The higher the price of a commodity, the higher the quantity supplied or vice versa”, all things being equal. Meaning, supply tends to move in the same direction with price. When prices are high, more goods and services are supplied to the market, and when prices are low, less goods and services are supplied to the market.

### **3.4.3 Demand and supply for food and Fibre**

According to Nyheter (2011), the global demand for food, fibre and fuel (sometimes added with a fourth F for “feed”, alternatively “fresh water” when water scarcity is in focus) has become a matter of high political concern. Nyheter (2011) citing Nilsson (2007) summarises the drivers behind this political interest as concerns for food security, energy security, national security, environmental security, and political security. As a consequence, issues related to these concerns are found on the agenda of virtually every UN-body, development bank, policy and research institute, NGO and others with mandates and programmes related to agriculture, forestry, energy, and the environment.

The overall question posed is how to manage land and water to feed an expected world population of 9 billion people in the year 2050 and at the same time protecting the natural eco-systems that sustain life on the planet. A starting point in addressing the challenge of managing a finite land resource is naturally an idea of what a growing world population will need and demand in terms of food, fibre and fuel.

### **3.4.4 Global demand and supply of food, fibre, and fuel in the next 20-40 years**

Nyheter (2011) posits that the most widely used agricultural projections are those of the Food and Agriculture Organization (FAO) and the International Food Policy Research Institute (IFPRI) (Smith et al., 2011). For projections of global demand in wood products and energy needs, the FAO and the International Energy Agency (IEA), respectively, are widely considered as authoritative sources. Key figures from some of these projections are presented below.



### *Expectations on food demand and supply*

World population is expected to grow by 2.3 billion people between 2009 and 2050 and nearly all of this growth is forecast to take place in developing countries. FAO projections show that feeding a global population of 9.1 billion people in 2050 would require raising overall production by 70 percent from now up to 2050. In a 20 year timeframe food production will need to increase by 50 percent (Nyheter, 2011 citing FAO, 2009).

Population growth, rising incomes, and urbanisation will continue to drive demand for some food products, especially oilseed and animal protein, and related demands for feed and industrial products. Demand for cereals, for both food and feed, is projected to reach some 3 billion tonnes by 2050, up from today's nearly 2.1 billion tonnes. However, developments in the demand for liquid biofuels, depending mainly on energy prices and government policies, has the potential to change these projections and cause world demand to be even higher (Nyheter, 2011).

Demand for other food products that are more responsive to rising incomes in developing countries (meat and dairy products, fish and aquaculture products, and vegetable oils) will grow much faster than that for cereals for food use. The livestock sector, already constituting 30 percent of agricultural GDP in the developing world, is the fastest growing sub-sector in agriculture (Nyheter, 2011 citing FAO, 2009). Prospects for increasing food availability lie mainly in intensification of production from land already under agriculture and in expansion of agricultural areas. Nyheter, (2011) citing Wirsenius et al. (2010) conclude that there is considerable agreement that increasing yields on existing agricultural land, and especially on cropland, is a key component for minimising further expansion of agricultural land.

Yet, expansion of agricultural areas seems unlikely to slow. The World Bank, in what is referred to as a conservative estimate, projects that, in developing countries, 6 million ha of additional land will be brought into production each year to 2030 (Deininger et al., 2011) .

Apart from forecasts on potential supply, there is also focus on the demand-side, where especially demand for animal protein is a crucial concern since livestock production is by far the most resource consuming agricultural activity. FAO figures (2006) showed that while meat at present represents only 15 percent of the total global diet, approximately 80 percent of the agricultural land is used for animal grazing or the production of feed and fodder for animals. This is why past years have seen calls for dietary changes from both ENGOs and UN-organisations. UNEP (2010) concludes that a substantial reduction of negative impacts on the environment from agriculture would only be possible with a substantial worldwide diet change, away from animal products. The World Bank (2010) concludes that aquaculture must, to an increasing extent, help in meeting growing demand for food, and especially animal protein.

### ***3.4.5 Expectations of Wood Fibre Demand and Supply***

According to Nyheter, (2011), there is general consensus that demand for wood fibre will continue to increase. FAO estimates from 2009 show that, up to 2030, a further increase is necessary by 1.4 percent per year for sawn-wood, and 3 percent for paper and wood-based panels to meet growing demand. However, Nyheter, (2011) submits that wood fibre is also increasingly demanded for other uses than traditional forest products. For example, the past few years have seen a dramatic increase in the global market prospects for wood pellets for heating and power. Large-scale pellet production facilities have been built in North America, and many more are announced to be constructed to meet expected demand. Sweden, Germany, the UK and Denmark are expected to have the fastest growth in consumption in wood pellets the coming 10 years, to a large extent driven by EU renewable energy targets. Development of wood pellet supply depends to a large extent on availability of wood fibre as pellet raw materials.

In the EU area, for example, a wood fibre deficit is expected in the near future as a consequence of increasing demand for wood fibre. According to figures presented by the international consultancy firm Price Water-house Coopers, 340-420 million cubic metres (under bark) of woody biomass per year is forecast to be needed solely for energy purposes by 2020, if current government policies on renewable energy continue. Under those assumptions, that would mean a wood fibre deficit of 200-260 million cubic metres within the EU by 2020. It is further concluded that new uses will make up a larger share of fibre usage, as a consequence of dropping demand for paper products in mature markets and decoupling from GDP growth in emerging ones (PWC, 2011). Nyheter, (2011) citing Roberts et al. (2008) conclude that the converging global demand for land to produce food, fibre and fuel is likely to lead to a large scale land-grab and that forest lands are likely targets for conversion to industrial agricultural use. They question whether natural forest management will be competitive when compared with the fuel and food sectors.

Many see the response lying in increasing the area of planted forests. The World Business Council for Sustainable Development estimates that the yield and harvest from planted forests will need to increase threefold by 2050, with the area under plantations increasing by 60 percent compared to today (Nyheter, 2011 citing PWC, 2011). As is the case for the agri-cultural sector, another route pursued to enhance wood fibre supply (politically supported, for example, in the whole European region) is increasing yields on existing productive forest land by different means. The Swedish government's expectation of an increased Swedish forest growth by 25-50 percent within the coming 60 years is a case in point, although this is also intended as a climate change mitigation measure.

#### ***Expectations on biofuel demand and supply***

The strong resurgence in the past decades of interest in bioenergy has been driven by several factors, including biofuel mandates, higher oil prices and instability in oil-

producing regions, extreme weather events, etc. In its World Energy Outlook 2010, the IEA concludes that the energy world at large faces unprecedented uncertainty. This holds especially true for the bioenergy sector, which, to a large extent, depends on what future government policy responses will look like to tackle the twin problem of energy security and climate change (Nyheter, 2011).

It can be noted, to start with, that there are some different usages of terms in the discussions of, and reports on, different types of bioenergy. The FAO defines bioenergy as all energy derived from biofuels, which are fuels derived from biomass (that is, matter of biological origin). This is further subdivided into type (solid, liquid, and gas) and by origin (forest, agriculture, and municipal waste). FAO thus notes that biofuels from forests and agriculture (woodfuel and agrofuel) can come from a wide range of sources, including forests, farms, specially grown energy crops, and waste after harvesting or processing of wood or food crops.

When it comes to biofuels, technology for the so-called first-generation biofuels (cereal and oil crops) is well established and major new breakthroughs in this area are unlikely according to World Bank forecasts. In contrast, the development of second-generation technology is moving forward at a rapid pace, and although producing biofuels from non-food crops is not expected to be commercially viable for another 5-10 years, demonstration-scale plants are already operating (Nyheter, 2011 citing Cushion et al., 2010). In the IEA projection period from 2010-2035, the use of biofuels (transport fuels derived from biomass) is expected to increase rapidly due to rising oil prices and government support. Advanced biofuels, including those from lignocellulosic feedstock, are assumed to enter the market by around 2020, mostly in OECD countries (IEA, 2010). Although future supply and demand for bioenergy is harder to predict than that for food and fibre, it is clear that bioenergy developments present opportunities as well as challenges for economic development and the environment. Further, it is most likely that a growing bioenergy consumption will result in increased competition for land.

### **Availability of land to meet expected demand**

Increasing global demand is expected for food, fibre, and fuel, and the sectoral responses lie to a large extent in increasing production and in expansion of land under cultivation. Many are asking where the land to serve this increased production will come from and what the consequences will be of further land expansion.

To set the scene, here are figures on current global distribution of agricultural and forested land: Earth's total land area is some 13 billion hectares, of which some 4.1 billion hectares (or 31 percent) is considered forested land (of which 7 percent is planted forests), around 1.5 billion hectares (or 12 percent) is currently under crop cultivation, and 3.4 billion hectares (26 percent) are used for pasture.

Previous AEZ results indicate that, at the global aggregate level, Earth's land, climate, and biological resources are ample to meet future food and fibre needs, also for a projected world population of over 9 billion people. The calculated total extent of land suitable for at least one crop amounts to some 3.3 billion ha (or 26 percent of total land area as compared to today's 12 percent), of which 23 percent are in land classified as forest ecosystems. It is, however, concluded that despite this positive aggregate global picture (the figure is lower, though, if only counting the most suitable land), there are reasons for profound concern in several regions and countries with limited land and water resources.

Much of the suitable land not yet in use is concentrated in a few countries in Latin America and Sub-Saharan Africa while many countries with growing populations in these regions are extremely short of land. Further, much of the land not yet in use is suitable for growing only a few crops, which might not be the most demanded ones, or suffers from varying constraints (chemical, physical, endemic diseases, lack of infrastructure) that are difficult to overcome or have important environmental characteristics (FAO, 2009). A different approach to address the question of potentially available cultivable land has been taken by Rockström et al. (2009) in exploring the planetary boundaries within which it is expected that humanity can operate safely, without jeopardising eco-systems' functioning. Regarding a planetary boundary for land-system change, it is proposed that no more than 15 percent of the global ice-free land surface should be converted to cropland in order to keep within limits. Estimates thus differ but, taken together, the picture that emerges is that although there might in theory be enough suitable land available, in reality increasing global competition for land seems to be a fact. The question thus remains as to what must and can be done to tackle such a future.

### **Challenges in meeting competing demands on a finite land resource**

Facing a future of scarce resources of cultivable land naturally means challenges and constraints of economic, ecological and social character. In an attempt to elucidate the picture, Smith et al. (2011) identify factors affecting competition for land, divided into *pressures* (or direct causes in the form of natural causes, land transition, and land degradation) and *drivers* (or underlying causes in the form of socio-economic and technology factors, societal trends, and institutional factors). As for natural constraints to be dealt with, climate change is already a factor that affects natural and managed systems (forests, agriculture, fisheries, wetlands, coral reefs) that societies depend on for the production of food, fibre and fuel. There seems to be wide agreement that climate change will mainly affect future yields negatively and thus impose a real constraint on the production of food for a growing world population.

Global water scarcity is a problem that has been present on the international agenda for a long time, particularly in connection with production of food since this is a highly water-consuming activity. Although at a global scale there is no shortage of fresh water,

resources are unevenly distributed and already in shortage in many areas. The challenge lies in using water more prudently and efficiently. Land and soil degradation, as well as loss of cultivable land due to urban sprawl, are no new problems either. These are, however, factors that intensify the competition for land since they reduce the quantity of land suitable for different types of cultivation. A quite recent global assessment (ISRIC, 2008) identifies 24 percent of global agricultural land as degrading.

As for challenges of a social character, one issue that has been widely discussed as a consequence of past years' "land-grabbing trend" is how to secure land tenure rights for local and forest-dependent people. Land acquisition contracts are often not to the advantage of local people and this fact has spurred studies and reports on how such investments should be carried out in order to be less harmful (e.g. World Bank, 2011). These are just a few of the issues and challenges addressed in reports and discussions in this context. Nilsson (2007) and others point at another overarching challenge, and that is the need to stop thinking and acting in a sectoral way and move to cross-sectoral analyses and integrated land-use policies. Calls for such a transition have been heard and seen for many years in international policy fora and policy papers, but the challenge to make it happen remains.

#### **4.0 Conclusion**

Studies have been made on global availability of potentially cultivable land. FAO, in collaboration with the International Institute for Applied Systems Analysis (IIASA), has developed the Agro-ecological Zones (AEZ) methodology and a worldwide spatial land resources database. Together, this enables us to make an evaluation of biophysical limitations and production potential of major food and fibre crops under various levels of inputs and management conditions.

#### **5.0 Summary**

This unit has focused on the understanding of scarcity and the economic implication of resource scarcity. Also, the understanding of resources and economic assumptions about resources and the understanding demand and supply expectations for food, fibre, land and bio fuel.

#### **7.0 Tutor Marked Assignments**

1. Define Scarcity.
2. In a world of scarcity, what can be done to maximize the set goods and services that people of a given society can have at a point in time?
3. Define Resources and its various classifications.
4. Define the concept of demand and supply. Relate it to food and fibre

#### **References and Further Readings**

- Deiningenr, Klaus (2011) Challenges posed by the new wave of farmland investment. *Journal of Peasant Studies*, 38:2, 217-247.
- ECO 292 COURSE TITLE: INTRODUCTION TO ENVIRONMENTAL ECONOMICS
- FAO (2009) *How to Feed the World in 2050*. FAO, Rome.
- IEA (2010) *World Energy Outlook 2010*. OECD/IEA, Paris.
- www.Investopedia.com
- Nyheter (2011). The global need for food, fibre and fuel – is there enough land to satisfy the demands? Retrieved from: <https://www.sifi.se/nyheter/the-global-need-for-food-fibre-and-fuel-%E2%80%93-is-there-enough-land-to-satisfy-the-demands/> on the 27th September 2020.
- Nilsson (2007). The Three F's: Food, Fiber, and Fuel. Presentation by Sten Nilsson, Forestry Program, and Günther Fischer, Land Use Change and Agriculture Program, IIASA. Available at: [www.iiasa.ac.at/Admin/PUB/podcast/15nilsson.pdf](http://www.iiasa.ac.at/Admin/PUB/podcast/15nilsson.pdf)
- Okonkwo, J. C., (2014). *Principles of Economics 1*. Spakle Printers and Publisher, Enugu.
- PWC (2011) *Growing the Future: Exploring new values and new directions in the Forest, Paper & Packaging industry*. PricewaterhouseCoopers, February 2011. Available at: [www.pwc.com/en\\_GX/gx/forest-paperpackaging/](http://www.pwc.com/en_GX/gx/forest-paperpackaging/)
- Roberts, Don et al. (2008) Convergence of food, fuel and fibre markets: driving change in the world's forests. *ArborVitae* 37(2008), IUCN.UNEP (2010) *Assessing the Environmental Impacts of Consumption and Production: Priority Products and Materials*. A Report of the Working Group on the Environmental Impacts of Products and Materials to the International Panel for Sustainable Resource Management, UNEP, Nairobi.
- Wirsenius, Stefan et al. (2010). How much land is needed for global food production under scenarios of dietary changes and livestock productivity increases in 2030? *Agr. Syst.* (2010)
- World Bank (2010) Chapter 3: Managing Land and Water to Feed Nine Billion People and Protect Natural Systems. In: *World Development Report 2010*, The World Bank, Washington DC

## **UNIT 3: CONCEPTS OF THE RESOURCES AND ESSENTIAL FEATURES OF THE NATURAL RESOURCE MANAGEMENT UTILIZATION CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
- 3.1 Concept of Natural Resources
- 3.2 Natural Resources Utilization
- 3.3 Classifications of Natural Resources
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

This unit would expose the readers to the concept of resource while exploring the essential features and characteristics of natural resources management. It will discuss the resource management spectrum and resource utilization. Let us identify the key objectives of the unit before delving into the full work.

### **2.0 Objectives**

By the end of this unit, you should be able to:

1. Explain the concept of natural resources
2. Discuss natural resources utilization.
3. Identify and discuss the classification of natural resources

### **3.0 Main Content**

#### **3.1 Concept of Natural Resources**

Resources can be defined as those things which are endowed by nature, which are of great value to man. It is any physical material that constitutes part of the earth and which people need and value. Obviously, resources cover a large field. Resources could be environmental, material or energy resources. Resource is a form of energy and/or matter which is essential for the functioning of organisms, populations and ecosystems.

Natural resources provide the all-important basis for human existence and activities. Natural resources determine the course of development and constitute the challenge which may or may not be accepted by the human mind.

Natural resources are found in the environment and they exist without the intervention of humans. Common examples of natural resources include air, sunlight, water, soil, stone,



plants, animals, and fossil fuels. Natural resources can be thought of as natural capital assets, distinct from physical and human capital in that they are not created by human activity.

Natural resources are naturally occurring materials that are useful to man or could be useful under conceivable technological, economic or social circumstances or supplies drawn from the earth supplies such as food, building and clothing materials, fertilizers, metals, water, and geothermal power. The exploitation of natural resources is an essential condition of human existence, throughout the history of mankind; humans have exploited natural resources to produce the materials they needed to sustain growing human populations (Liberty, Ugwushiwu, Bassey & Eke, 2013).

### **3.2 Natural Resources Utilization**

Optimum utilization of natural resources demands proper management. Environmental management is the process of allocating these resources, both natural and man-made, so as to make optimum use of the environment in satisfying not only the present basic human needs but also those of the coming generations. Natural resource management is a very crucial issue that affects all mankind.

Liberty, Ugwushiwu, Bassey and Eke (2013) acknowledged that the utilization of natural resources is an essential condition of human existence, throughout the history of mankind; humans have manipulated natural resources to produce the materials they needed to sustain growing human populations. This refers primarily for food production and economic development but many other entities from the natural environment have been extracted.

Proper valuation and accounting of natural resources are necessary for robust development planning. Just as necessary are transparent institutions and good governance. Effective governance for natural resources requires an understanding of social, economic and ecological factors. Maximizing the value of natural resources for sustained growth and development, and avoiding the resource curse, requires policies that formalize and codify revenue management procedures. Poor resource management includes failing to manage renewable resources on a sustainable basis-such as when fish stocks collapse due to overharvesting-as well as failure to properly invest the revenue from the sale of non-renewable resources, and the failure to collect proper rents from resource concessions, thereby allowing most of the gain from resources to go to private actors at the expense of the public.

Natural resource management refers to the management of natural resources such as land, water, soil, plants and animals with a particular focus on how management affects the quality of life for both present and future generations. Natural resource management deals with bringing together land use planning, water management, biodiversity conservation and



the future sustainability of industries like agriculture, mining, fishing, etc.

### **3.3 Classifications of Natural Resources**

A common classification of natural resources includes the following types of resources:

1. non-renewable and non-recyclable resources, such as fossil fuels
2. non-renewable but recyclable resources, such as minerals
3. quickly renewable resources, such as fish
4. slowly renewable resources, such as forests
5. environmental resources, such as air, water and soil/flow resources, such as solar and wind energy

However, natural resources can also be broadly classified into two renewable resources and non renewable resources.

#### **3.3.1 Renewable resources**

Renewable resources are those resources which can be replenished rapidly through natural cycles, e.g., solar radiation, tidal and wind energy, and all biological organisms like forests, grasslands, wildlife etc. Non-renewable resources are defined as all resources that do not grow or otherwise renew themselves over time. Another way of putting this is that non-renewable resources exist in infinite quantities, so every unit consumed today reduces the amount available for future consumption. The most common examples of non-renewable resources are fossil fuels and mineral deposits. The term exhaustible is sometimes used as a synonym for non-renewable, but it is worth noting that renewable resources may also be exhaustible if they are over-exploited.

Renewable natural resources can, in principle, be maintained in perpetuity so long as their rates of use do not exceed their rates of regeneration. However, a continued draw-down of the stock above a certain level may be unsustainable and lead to permanent reduction of the stock and to lower reproductive capacity. There is, however, a non-market mechanism to make this reduction in capital stock visible to users or policy makers.

#### **3.3.2 Non-renewable resources**

Non-renewable resources are those which cannot be replenished rapidly or not replenished at all through the natural processes like ores of aluminum, copper, mercury, fossil fuels and nuclear energy. Non-renewable resources can by definition only be depleted, as they do not regenerate themselves over humanly meaningful time spans. So understood as natural capital, the revenue generated from non-renewable resource depletion should be measured as a loss of capital rather than as income comparable to the income derived from the flows of renewable resources (OECD, 2011).

#### **4.0 Conclusion**

Natural resources are very useful for nations' development and need to be properly managed. A large large part of natural resources are non-renewable, meaning that they are depleted over time without being replaced, therefore care must be applied in the exploration of the natural resources.

#### **5.0 Summary**

This unit has focused on the definition of natural resources, natural resources utilization and the classifications of natural resources (renewable and non-renewable resources). The next unit will explore the characteristics of natural resources, the common natural resources in Nigeria and the solution to resource problems.

#### **6.0 Tutor Marked Assignments**

1. In your own language define natural resources
2. Describe what you understand by resource resource utilization
3. Classify natural resources and briefly discuss each.

#### **7.0 References and other other Resources**

- Frederick, A.J. & Joseph, S.T. (2016) Utilisation of Natural Resources & Its Role in Sustainable Development in Indian Perspective, International Journal of Advanced Research, Volume 4, Issue 2, [Link Here](#)
- Liberty, J.T., Ugwushiwu, B.O., Bassey, G.I and Eke, V.N. (2013), Effects of Natural Resources Utilization on the Ecosystem and Its Remedies in Nigeria, International Journal of Scientific & Engineering Research, Volume 4, Issue 8.
- Mayomi, A.O., & Omachoko., A. (2017) Resource Management as Panacea for Sustainable National Economic Development and National Unity, International Journal of Scientific Journal of Scientific and Technology Research Volume 6, Issues 01, [Link here](#)
- OECD (2011) The Economic Significance of Natural Resources: Key points for reformers in Eastern Europe, Caucasus and Central Asia
- Uchegbu S.N (2003) Sustainable Management of Natural Resources and Biodiversity as a poverty reduction strategy in Nigeria, Environmental Studies & Research Journal, [Link Here](#)
- Ushie, V. (2013) The Management and Use of Natural Resources and their Potential for Economic and Social Development in the Mediterranean, IAI Working Papers 1329, Istituto Affari Internazionali, [Link Here](#)

## **UNIT 4: CHARACTERISTICS OF NATURAL RESOURCES AND COMMON NATURAL RESOURCES IN NIGERIA.**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
- 3.1 Characteristics of Natural Resources
- 3.2 Common Natural Resources in Nigeria
- 3.3 Problems of Resource Curse and solutions to the natural resources problems in Nigeria
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

This unit examined the characteristics of natural resources. It gives learners the opportunity to know the key features which characterize natural resources in Nigeria and identify some natural resources common in Nigeria. This unit also gives a view of strategies for solving some resource problems

### **2.0 Objectives**

By the end of this unit, you should be able to:

1. identify the characteristics of natural resources;
2. enumerate common natural resources in Nigeria
3. proffer solutions to the natural resources problems in Nigeria

### **3.0 Main Content**

#### **3.1 Characteristics of Natural Resources**

The key features of natural resources include; exhaustibility, uneven distribution across countries, negative externalities consequences in other areas, dominance within national economies and price volatility (World Trade Report, 2010).

##### **1. Exhaustibility**

The term exhaustible is sometimes used as a synonym for non-renewable, but it is worth noting that renewable resources may also be exhaustible if they are over-exploited. In general, the sustainable management of any resource rests on a capacity to monitor the evolution of stocks and take corrective action in cases of significant degradation or decline. In the case of man-made physical assets, the cost of maintaining, renewing, expanding and improving the capital stock is an explicit part of production costs (capital depreciation is accounted for as an expense). For natural resources, however, this is not always the case. The value of natural capital is often not accounted for at the level of the individual firm or

in national accounts. This implies that neither their contribution to growth nor the extent and impact of their degradation are fully measured and recognized by policymakers.

## 2. Uneven distribution across countries

Many natural resources are concentrated in a small number of countries, while others have limited domestic supplies. International trade can help to alleviate these kinds of disparities in natural endowments by allowing resources to move from areas of excess supply to areas of excess demand, which may also serve to promote the most efficient use of these products. However, since natural resources are indispensable inputs for production and are also necessary for maintaining a high quality of human life, the unequal distribution of resources can cause friction among nations.

## 3. Externalities

An externality occurs when the actions of one economic agent affect other agents indirectly, in either a positive or negative way. Another way of putting this is that the outcomes of certain activities may impose external costs on, or provide external benefits to, consumers or firms not involved in the relevant production or consumption decision. These “externalities” can be negative or positive. An example of a negative externality would be when a production process results in pollution that adversely affects the health of people who live nearby, or that damages the natural environment in a way that reduces the well-being of individuals indirectly. A positive externality might occur when home owners make improvements to their properties that raise the market value of neighbouring houses as well. From a perspective of social well-being, externalities cause goods to be overproduced or under-produced, depending on whether the externality is positive or negative. This is because the market price of the good in question does not reflect its true cost or benefit to society.

## 4. Dominance of natural resources

Another important feature of natural resources is the dominant position of this sector in many national economies. Many of these countries tend to rely on a narrow range of export products. The dominance of natural resources in exports conforms with predictions from trade theory that countries will specialize in the production of goods where they have a comparative advantage, and export them in exchange for other goods.

## 5. Volatility

This is especially true for fuels, which have experienced sharp price rises from time to time since the 1970s, only to collapse at a later date. Prices for minerals and metals have also fluctuated dramatically in recent years, although their importance for the world economy is perhaps lessened by their smaller share in world trade.

### 3.2 Common Natural Resources in Nigeria

In Nigeria, all the states have large resources in their bosom which are explored in varying quantities. The list below shows the various states and their natural resources endowment.

#### 3.2.1 Distribution of Natural Resources in Different States of Nigeria

S/N	State	Natural Resources
1	Abia	Gold, Lead/Zinc, Limestone, Oil/Gas & Salt
2	Abuja	Cassiterite, Clay, Dolomite, Gold, Lead/Zinc, Marble & Tantalite
3	Adamawa	Bentonite, Gypsum, Kaolin & Magnesite
4	Akwa Ibom	Clay, Lead/Zinc, Lignite, Limestone, Oil/Gas, Salt & Uranium
5	Anambra	Clay, Glass-Sand, Gypsum, Iron-ore, Lead/Zinc, Lignite, Limestone, Phosphate & Salt
6	Bauchi	Gold, Cassiterite (tine ore), Columbite, Gypsum, Wolfram, Coal, Limestone, Lignite, Iron-ore & Clay
7	Bayelsa	Glau, Gypsum, Lead/Zinc, Lignite, Limestone, Manganese, Oil/Gas & Uranium
8	Benue	Barite, Clay, Coal, Gemstone, Gypsum, Iron-Ore, Lead/Zinc, Limestone, Marble & Salt
9	Borno	Bentonite, Clay, Diatomite, Gypsum, Hydro-carbon, Kaolin & Limestone
10	Delta	Clay, Glass-sand, Gypsum, Iron-ore, Kaolin, Lignite, Marble & Oil/Gas
11	Ebonyi	Gold, Lead/Zinc & Salt
12	Edo	Bitumen, Clay Dolomite, Phosphate, Glass-sand, Gold, Gypsum, Iron-ore, Lignite, Limestone, Marble & Oil/Gas
13	Ekiti	Feldspar, Granite, Kaolin, Syenite & Tatum
14	Enugu	Coal, Lead/Zinc & Limestone
15	Gombe	Gemstone & Gypsum
16	Imo	Gypsum, Lead/Zinc, Lignite, Limestone, Marcasite, Oil/Gas, Phosphate & Salt
17	Cross River	Barite, Lead/Zinc, Lignite, Limestone, Manganese, Oil/Gas, Salt & Uranium
18	Jigawa	Butyles
19	Kaduna	Amethyst, Aqua Marine, Asbestos, Clay, Flosspar, Gemstone, Gold, Graphite, Kaolin, Hyacinth, Mica, Rock Crystal, Ruby, Sapphire, Sphalerite, Superantinite, Tantalite, Topaz & Tourmaline
20	Kano	Cassiterite, Copper, Gemstone, Glass-sand, Lead/Zinc, Pyrochlore & Tantalite

21	Katsina	Kaolin, Marble & Salt
22	Kebbi	Gold
23	Kogi	Cole, Dolomite, Feldspar, Gypsum, Iron-ore, Kaolin, Marble, Talc & Tantalite
24	Kwara	Cassiterite, Columbite, Feldspar, Gold, Iron-ore, Marble, Mica & Tantalite
25	Lagos	Bitumen, Clay & Glass-sand
26	Nasarawa	Amethyst (Topaz Garnet), Barytex, Barite, Cassirite, Chalcopyrite, Clay, Columbite, Coking Coal, Dolomite/Marble, Feldspar, Galena, Iron-ore, Limestone, Mica, Salt, Sapphire, Talc, Tantalite, Tourmaline Quartz & Zircon
27	Niger	Gold, Lead/Zinc & Talc
28	Ogun	Bitumen, Clay, Feldspar, Gemstone, Kaolin, Limestone & Phosphate
29	Ondo	Bitumen, Clay, Coal, Dimension Stones, Feldspar, Gemstone, Glass-Sand, Granite, Gypsum, Kaolin, Limestone & Oil/Gas
30	Osun	Columbite, Gold, Granite, Talc, Tantalite & Tourmaline
31	Oyo	Aqua Marine, Cassiterite, Clay, Dolomite, Gemstone, Gold, Kaolin, Marble, Silimonite, Talc & Tantalite
32	Plateau	Barite, Bauxite, Betonite, Bismuth, Cassiterite, Clay, Coal, Emerald, Fluoride, Gemstone, Granite, Iron-ore, Kaolin, Lead/Zinc, Marble, Molybdenite, Phrochlore, Salt, Tantalite/Columbite, Tin & Wolfram
33	Rivers	Clay, Glass-Sand, Lignite, Marble & Oil/Gas
34	Sokoto	Clay, Flakes, Gold, Granite, Gypsum, Kaolin, Laterite, Limestone, Phosphate, Potash, Silica Sand & Salt
35	Taraba	Lead/Zinc, Kaolin
36	Yobe	Soda Ash & Tintomite
37	Zamfara	Coal, Cotton & Gold

### 3.3 Problems of Resource Curse and solutions to the natural resources problems in Nigeria

The “resource curse”

The relationship between natural resources and economic development has been a topic of great debate among economists, political scientists and development related specialists and policy makers for many decades. Research shows a consistently negative correlation between natural resource abundance and sustained economic growth. For instance, Sachs and Warner (1995) found a negative relationship between GDP growth and the ratio of

natural resource exports to GDP in 97 developing countries between 1971 and 1989. Increasingly, states are taking steps to learn from experience and put into place policies that ensure that natural resources are converted into sustainable growth and contribute positively to social well being (OECD, 2011)..

The causes of the resource curse are not fully understood, although several factors may be operative simultaneously to bring about economically undesirable consequences of resource exploitation. Explanations for the resource curse include a number of possible effects of natural resource abundance and resource exploitation including:

1. Rent seeking and corruption,
2. The crowding out of manufacturing and underinvestment in human capital,
3. Rising exchange rates and consequent underperformance of other sectors (—Dutch Disease),
4. The unsustainability of non-renewable resource extraction (depletion of natural capital),
5. Boom and bust cycles

Natural resource abundance lends itself easily to rent seeking and corruption by governments and elites, which have significant knock-on effects throughout the economy, impeding growth and development. A possible explanation for the relationship between resource abundance and rent seeking is that natural resource extraction concessions are usually given by governments that control or own the land and resources, and that concessions are usually given to large enterprises, whether governmental or private.

Unfortunately, in many cases, the windfall of revenues that natural resources often produce is an obstacle to creating and maintaining the very institutions that would counteract the tendency towards succumbing to the resource curse.

Efforts to enact policies that allow countries to escape the resource curse are subject to both intensive discussion (Humphries, Sachs and Stiglitz, 2007) and interventions by international organizations, notably the World Bank. Relevant steps must be taken to ensure that natural resources in Nigeria do not turn to resource curse for us. These actions should include;

- i. transparency and accountability lie at the heart of policy prescriptions to cure the curse. Government policy thus has a crucial role in relation to the sustainable development of natural resources.
- ii. Facilitating the development of property rights and markets;
- iii. Removing subsidies that hamper sustainable resource use;
- iv. Reducing resource degradation and enhancing the provision of environmental services;
- v. Improving the management of publicly owned natural resources.
- vi. Reducing pollution by natural-resource-based industries;

- vii. Dealing with information shortfalls; and
- viii. Addressing distributive implications of natural resource management policies.

#### **4.0 Conclusion**

The availability of natural resources in a country has the tendency of making the country rich but when it is not properly utilized, it could turn to resource curse, hence the management and utilization of natural resources are very important.

#### **5.0 Summary**

This unit has focused on the characteristics of natural resources, the various natural resources in Nigeria spread to the various states in Nigeria and dealt with resource curse and how to take care of natural resource problems in Nigeria.

#### **6.0 Tutor Marked Assignments**

1. What are the characteristics of Natural resources?
2. Identify 6 natural resources in Nigeria and highlight where they can be found in Nigeria.
3. In your own words, what are the solutions to resource curse.

#### **7.0 References**

- Adangor, Z. (2018), Proposals for Equitable Governance and Management of Natural Resources in Nigeria, International Law Research; Vol. 7, No. 1
- Akanwa, A. O. & Ikegbunam, F. I. (2019) Natural resource Exploitation in Nigeria: Consequences of Human Actions and Best Practices for Environmental Sustainability- A Review, Sparkling International Journal of Multidisciplinary Research Studies. [Link Here](#)
- DAC Guidelines and Reference Series Natural Resources and Pro-Poor Growth: The Economics and Politics, Organisation for Economic Co-operation and Development (OECD). [Link Here](#).
- Humphreys, M., Sachs J., & Stiglitz, J., (2007). Escaping the Resource Curse. New York: Columbia University Press.
- OECD (2011) The Economic Significance of Natural Resources: Key points for reformers in Eastern Europe, Caucasus and Central Asia
- Sachs, J. D., & Warner, A. M. (2001), The curse of natural resources. European Economic Review, Vol. 87 (2), pp. 184-88.
- World Trade Report (2010), Natural resources: definitions, trade patterns and globalization, [https://www.wto.org/english/res\\_e/booksp\\_e/anrep\\_e/wtr10-2b\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/anrep_e/wtr10-2b_e.pdf)



## Module 2

### UNIT 1: SIX POLITICAL ZONE AND STATE GROUPING

#### CONTENT

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Geopolitical zones in Nigeria
  - 3.2 Reason for the Zones
  - 3.3 Zones
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

#### 1.0 Introduction

Since you have gone through the course guide, you would have acquired a general overview of what this unit is about, how it links specifically to the course. This unit will help you acquire a basic understanding of what the Nigeria environment is and her state components.

Before we do this, let us have a view of what you should learn in this unit, as indicated in the unit objectives below.

#### 2.0 Objectives

By the end of this unit, you should be able to:

- Define the six geopolitical zones
- Identify state grouped in each zone

#### 3.0 Main Content

##### 3.1 Geopolitical zones in Nigeria

**The Six Geopolitical Zones in Nigeria** is a major constitutional division in Nigeria, created during the regime of Military President Ibrahim Babangida. Nigerian economic, political and educational resources are often shared across the zones.

##### 3.2 Reason for the Zones

Nigeria is made up of approximately 400 ethnic groups and 450 languages. There was a need for the government to merge similar groups for effective allocation of resources.

##### 3.3 Zones



- |                       |                    |                     |
|-----------------------|--------------------|---------------------|
| <u>1. Abia</u>        | <u>13. Ekiti</u>   | <u>25. Nasarawa</u> |
| <u>2. Adamawa</u>     | <u>14. Enugu</u>   | <u>26. Niger</u>    |
| <u>3. Akwa Ibom</u>   | <u>15. Gombe</u>   | <u>27. Ogun</u>     |
| <u>4. Anambra</u>     | <u>16. Imo</u>     | <u>28. Ondo</u>     |
| <u>5. Bauchi</u>      | <u>17. Jigawa</u>  | <u>29. Osun</u>     |
| <u>6. Bayelsa</u>     | <u>18. Kaduna</u>  | <u>30. Oyo</u>      |
| <u>7. Benue</u>       | <u>19. Kano</u>    | <u>31. Plateau</u>  |
| <u>8. Borno</u>       | <u>20. Katsina</u> | <u>32. Rivers</u>   |
| <u>9. Cross River</u> | <u>21. Kebbi</u>   | <u>33. Sokoto</u>   |
| <u>10. Delta</u>      | <u>22. Kogi</u>    | <u>34. Taraba</u>   |
| <u>11. Ebonyi</u>     | <u>23. Kwara</u>   | <u>35. Yobe</u>     |
| <u>12. Edo</u>        | <u>24. Lagos</u>   | <u>36. Zamfara</u>  |

1. **South South (Nigeria):** loosely known as Niger Delta; includes Edo State, Delta State, Rivers State, Cross-River State, Akwa-Ibom State and Bayelsa State.
2. **South West (Nigeria):** includes Lagos State, Osun State, Oyo State, Ogun State, Ekiti State and Ondo State
3. **South East (Nigeria):** includes Abia State, Anambra State, Imo State, Enugu State and Ebonyi State

4. **North Central (Nigeria):** loosely known as Middle Belt; includes Benue State, Kogi State, Kwara State, Nasarawa State, Niger State and Plateau State
5. **North East (Nigeria):** Adamawa State, Bauchi State, Borno State, Gombe State, Taraba State and Yobe State
6. **North West (Nigeria):** Jigawa State, Kaduna State, Kano State, Katsina State, Kebbi State, Sokoto State and Zamfara State.

#### **4.0 Conclusion**

The consistent agitation by minority groups and call for good distribution of the National resources had resulted in the split of Nigeria zones into six (6) geopolitical zones as identified above.

#### **5.0 Summary**

This unit has focused on the definition of the geopolitical zone with conditions that led to the further splitting of Nigeria region. The six (6) geopolitical zones share the benefits of resources allocation and good egalitarian involvement in governance. The next seven (7) Units shall consider Natural resources in states across the geopolitical zones.

#### **6.0 Tutor Marked Assignments**

1. Using your own words define political zone
2. Make a list of TWO state(s).in each geopolitical zone

#### **7.0 References and other Resources**

Above, M.A.N (2001), Environmental Management and Education: An Introduction:  
Lagos. Goldenpen Books.

## **UNIT 2: FEDERAL CAPITAL TERRITORY AND ITS RESOURCES**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
- 3.1 Federal Capital Territory- Area
- 3.2 Local Government in FCT
- 3.3 Resources Endowment in FCT
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

The previous unit mentioned six geopolitical zones in Nigeria. Unlike the previous one, this unit will discuss resources endowment of the FCT. This unit points out the essential features of FCT (component). It is important before we proceed into the discussion to identify what you are expected to have acquired at the end of this unit as articulated in the objectives.

### **2.0 Objectives**

By the end of this unit you should be able to:

- Explain what is meant by FCT.
- Identify History of the territory
- Explain in detail resources endowment of FCT.
- Outline the surrounding states and their resources endowments. .

### **3.0 Main Content**

#### **3.1 FEDERAL CAPITAL TERRITORY - ABUJA**

The seat of Government which was in Lagos was formerly relocated to the Federal Capital Territory (FCT) Abuja on December 12, 1992. The FCT is strategically situated in the centre of the country. It lies above. The hot and humid lowlands of the Niger and Benue rivers, North of the alluvial plains formed by the confluence of the two rivers. The Jema's platform, a continuation of the Jos Plateau, extends well into the middle of the territory. Within the geographical context, the Federal Capital Territory consists of a tilted plain rising from an elevation of 300 feet in the south-west corner to above 2,000 feet at the north-east corner. Rising out of this tilted plain are numerous rocky knobs and several ranges of low mountains. The entire

Federal Capital Territory occupies an approximate land area of 8,000 square kilometers.

### **3.2 Local Government in FCT**

Abuja is made up of six local government areas namely; Gwagwalada, Kuje, Abaji, Abuja Municipal, Bwari and Kwali.

### **3.3 Resources Endowment in FCT**

The inhabitants of the Abuja countryside are predominantly farmers. In an effort therefore to boost self-sufficiency in food production, the Federal Capital Development Authority (FCDA) established the Department of Agriculture. This department is responsible for carrying out the agricultural policy of FCDA. Food Crops here include; yam , rice, millet and groundnuts. In the area of education, adequate provision has been made for the residents in the territory. There are primary and post primary schools spread all over the capital city and the territory as a whole. In

In addition, the University of Abuja is highly operational. As a new capital, Abuja has great potential. To this end, Government has put in place structures and policies that facilitate the rapid development of the city. Abuja now boasts of at least three Five Star and one Four Star hotels. They are the NICON Noga Hilton Hotel, the Abuja Sheraton and Towers Hotel, the Agura Hotel and the Hyatt Regency (yet to be completed). There are also other private owned hotels.

### **4.0 Conclusion**

This unit has pointed out and discussed briefly on the history of FCT and six(6) main LGA's. A brief description of the resources endowment and components of structures in the territory where likewise described. Thus, discussion on these components is not different from what operates in other states of the federation.

### **5.0 Summary**

The focus of this second unit was a discussion on the FCT as strategically situated in the centre of the country; it's endowed with fertile land. The inhabitants of the Abuja countryside are predominantly farmers. Food crops plantation in FCT include; yam, rice, millet and groundnuts. FCT as the seat of power is rich in modern infrastructure.

### **6.0 Tutor Marked Assignments**

1. Using your own words discuss resource endowment in FCT.

### **7.0 References**

- Above, M.A.N. (2001) Environmental Management and Education: An Introduction. Lagos. Goldenpen Books.
- Miller, G. T. (1991). Environmental Science: Sustaining the Earth. California. Wadsworth Publishing Company

## **UNIT 3: SOUTH-SOUTH CULTURAL HERITAGE**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Edo State
  - 3.2 Delta State
  - 3.3 Rivers State
  - 3.4 Cross River State
  - 3.5 Akwa Ibom State
  - 3.6. Bayelsa State
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

The last unit focused on the federal capital territory- Abuja, the unit discussed the resources endowment and local government areas of the FTC.

The next unit shall consider the resource endowments, major towns, local government areas and other facilities found within the six(6) geopolitical zones.

### **2.0 Objectives**

By the end of this unit, you should be able to:

- I) Have detail knowledge of state in the geopolitical territory of the south –south
- II) Be familiar with major towns and history of state in the south south
- III) Identify resources endowments in the south-south states
- IV) Know the cultural heritage of the state in the south- south

### **3.0 Main Content**

#### **3.1 EDO STATE**

**Date Created:** August 27, 1991.

**Capital:** Benin City

**Main Towns:** Benin City, Ubiaja, Auchi, Abudu, Uromi, Irrua, Ewu, Okpella, Ekpoma, Uzebba, Afuze, Ibillo, Urhonigbe, Sabongida-Ora, Igarra. Edo State shares boundaries with three other states of the federation. It is bounded on the north and the east by Kogi State, on the west by Ondo State and on the south by Delta State. Generally, it is a low-lying area except in the north where it is marked by undulating hills. There are 18 local government areas in the State namely: Esan North-East, Esan Central, Esan West, Egor, Ukpoba-Central, Etsako Central,

Igueben, Oredo, Ovia SouthWest, ovia South-East, Orhionwon, Uhunmwonde, Etsako East and Esan South-East. The State is made up of the following ethnic groups: Edo, Esan, Etsako, Owan and Akoko Edo.

Edo State is endowed with abundant natural resources. The principal mineral resources include crude oil, natural gas, clay chalk, and marbles. Agriculture is the predominant occupation of people in this State. The major cash crops produced are rubber, cocoa and palm produce. In addition, the State produces such crops as yams, cassava; rice, plantains, guinea-corn, and assorted types of fruits and vegetables. Industrial enterprises in the State are Bendel Cement Company, Okpella, Bendel Brewery, Benin City, Bendel Pharmaceutical; PLC, Benin City, and Bendel Feed and Flour Mills, Ewu. Other small-scale industries abound.

The role of education in the development of any nation cannot be over-emphasized hence the State Government gives it utmost importance. To this end, there are many approved primary and secondary schools scattered all over the state. The State also has one Women Education Centre in Benin city, a special Education Unit in Benin City, one Teacher Training College, four Technical Colleges and a College of Education, Ekiadolor, Benin City. At the tertiary level, Edo State has Edo State University, Ekpoma and the University of Benin, Benin City.

Health facilities are fairly distributed throughout the state. There are about 20 government hospitals and many health centre's. As a practical demonstration of the official recognition which the government accords the practice of traditional medicine in the overall health care delivery system. Edo State has given the traditional doctors an opportunity to contribute to health care in the State. In terms of health related man-power training institutions, Edo State has a School of Midwifery, one School of Health Technology and one School of Nursing, all in Benin City. These institutions train the required paramedical staff for both the curative and preventive health care delivery services. Edo State has a rich cultural heritage. Benin City, the state capital is famous for its unique bronze, brass and ivory works of arts which are found all over the world in museums. Tourist attractions in the State are the Royal Palace of Benin, Benin Museum, Benin Moat (Iya), Emotan Status, Somorika Hills in Akoko-Edo. Others are Udo Tourist Centre in Esan East local government area and Okomu Wildlife Sanctuary near Benin City. For the comfort of visitors, good hotels abound all over the State.

### **3.2 DELTA STATE**

**Date Created:** August 27, 1991

**Capital:** Asaba

**Main Town:** Agbor, Asaba, Sapele, Warri, Ughelli.

Delta State was created on August 27, 1991. It was carved out of the now defunct

Bendel State. The State comprises 25 local government areas namely: Oshimili, Aniocha, Aniocha South, Ika South, Ika North-East, Ndokwa West, Ndokwa East, Isoko south, Isoko North, Bomadi, Burutu, Ughelli South, Ughelli North, Ethiope West, Ethiope East, Sapele, Okpe, Warri North, Warri South, Uvwie, Udu, Warri Central, Ukwani, Oshimili North and Patani. The States bordering Delta are Edo to the north, Ondo to the north-West, Anambra to the east and Rivers to the southeast. On its southern flank is the Bight of Benin. The Major ethnic groups are Urhobo, Igbo, Ezon, Isoko and Itsekiri. All the ethnic groups claim a common ancestry, consequently, their cultures are similar. These similarities are manifested in their religious folklores, dances, art and crafts and festivals. History has it that the majority of the people in the State migrated from Benin, the heart of Benin Kingdom.

The State has a tropical climate marked by two distinct seasons, the dry and rainy season. The dry season occurs from November to April and the rainy season from May to October. There exists a brief dry spell in August commonly referred to as August Break. From December to February, the dry harmattan wind blows over the state. The state government accords various forms of assistance to farmers in the areas of fisheries, agriculture, forestry, veterinary services, produce planning and research. Most local governments in the state boast of fisheries extension units which cater for advisory inputs - nets, engines ropes, lead, floats and others. The state government has invested adequately in fisheries due to the natural resources which Delta State is blessed with. Fresh fish, crabs, shrimps and dried fish abound in almost all the local governments. Delta State is also rich in major tubers and root crops such as cassava, cocoyams, yams and sweet potatoes. There are programmes initiated to encourage agriculture in the state. These include Delta Agricultural Development Programme (DADP), Task Force on Communal Farming, Agricultural Loan Schemes to small scale farmers; Fishermen Farm Settlement Scheme, Tree Crop Unit and Livestock Production are also encouraged. Industries in Delta State include Glass Factory at Ughelli, the African Timber and Plywood Factory, Sapele and Asaba Textile Mills.

Delta State is endowed with crude oil ranking second to Rivers State. The oil producing local government areas are Ward North and South, Burutu, Isoko North and South, Ughelli North and South, Okpe, Ethiope East and West, Sapele and Ndokwa East and West. The nation's second refineries as well as petrochemical plants are located in the state at Warri. The celebration of traditional festivals is an annual community affair throughout Delta State. Almost every village celebrates a traditional festival and this draws both indigene and non-indigene to the village. Traditional festivals normally come between March and December every year. These festivals offer occasions for reunion of members of the family, friends and well wishers from far and near. Some of the important festivals celebrated in the State are Adane Okpe, Iyeri, Edjenu, Okere Juju, Ine, Ulor, Ukwata and Ore-Uku. Delta State boasts of quite a number of hotels



for the comfort of visitors. These hotels are located in all major towns in the State.

### **3.3 RIVERS STATE**

**Date Created:** May 27, 1967

**Capital City:** Port Harcourt

**Major Towns:** Port Harcourt, Bonny, Ahoada, Okrika, Degema, Opobo, and Gokana. River State was created on May 27, 1967 and constituted one of the earliest states which came into being in replacement of the old regional structure. Rivers State is currently made up -of 22 local government areas. These are Ogba/Egbema, Ndoni, Ahoada, Ikwerre, Etche, Andoni/Opobo, Bonny, Okrika, Iyigbo, Ehana, Gokana Tai/Elemé, Obio/Akpor, Emohua, Degema, Aseri Toru, Akuku, Abua/Odial, Omumma, Opobo/Nkoro, Ogu/ Bolo, Ahaoda West and Elemé. Rivers State is bounded by Delta State, Imo State, Akwa Ibom State and Bayelsa State. Much of the State is covered by mangrove forest with marshy areas. Rivers State is a multi-linguistic state. Some of these include Ekpeye, Ibami, Ikwerre, Kalabari, Okrika, Kolokuma, Nembe etc. However, English remains the official language while pidgin is also widely spoken.

**Agriculture** is the main occupation of the people of Rivers State and the agricultural policy of the state government is anchored on food production. This provides employment for young school leavers and university graduates. These agricultural activities are grouped under the Community Block Farming Scheme, Community Fishing Scheme, Livestock Scheme and Rabbitry. The Forestry Department runs programmes on Forest Conservation and Development Timber and Fruit Trees Establishment, Wildlife Management and- Soil Conservation. Forest resources include timber (fresh water and mangrove) as well as minor forest produce such as cane, (calamus) etc. River State is also one of the industrial states of Nigeria. Among the industries involved with the manufacture of various products are West African Glass Industries Limited, Pabod Breweries, Eastern Wrought Iron Limited, Engineering Works Limited, Metalloplastic and other industries.

However, it is the production of oil and gas that Rivers State is most famous. With enormous reserves of crude oil and natural gas, Rivers State accounts for more than 40% of Nigeria crude oil production. Apart from this, there are many petrochemical related industries in the state which also harbour the first petroleum refinery in Nigeria. The culture of the people of Rivers State is distinctive. Masquerades, mostly colourful and artistic in their make-up and paraphernalia, are a common sight during festive occasions. Masquerades are either religious or historical personifications of the rich legends of the people. The Iria (puberty and marriage ceremony) of the Kalabaris, the fishing festivals in Kaiama and Amassaona, the yam festivals in Ikwerre and Ogba, the burial rites and wrestling ceremonies in Degema and the war canoe displays or boat regattas in Bonny are among the major cultural activities of the people as well as the main tourist attractions.

### **3.4 CROSS RIVER STATE**

**Date Created:** May 27, 1967

**Capital:** Calabar

**Main Towns:** Akamkpa, Calabar, Ikon, Obubra, Odukpani, Ogoja, Okundi, Ugep, Obudu, Obanliku and Akpabuyo. Created as a former South-Eastern state on May 27, 1967, the state was renamed Cross River in February 1976. In 1987, Akwa-Ibom State was excised from Cross River State. It shares boundaries with Benue State to the north, Enugu and Abia States to the west, to the east by the Cameroon Republic and to the south by Akwa-Ibom and the Atlantic Ocean. There are 18 local government areas in the State, namely: Akpabuyo, Odukpani, Akamkpa, Biase, Abi, Ikom, Yarkur, Odubra, Boki, Ogoja, Yala, Obanliku, Obudu, Calabar South, Etung, Bekwara, Bakassi and Calabar Municipality.

There are three major language groups in Cross River State - Efik, Ejagham and Bekwara. The cultures of the different groups in the State bear striking similarities. Each rhythm and dance expresses the inner feelings of the people which relate to particular events, festivals, or simply their way of life. Dances in Cross River State include: Ekpe, Nkwa, Obon, Udoiminyang, Abang, moninkim, Acharbor, Onat Ekertedi, Ayita, Udiang Otichui and many others. Traditional festivals relating to farming activities are observed in Yala, Yarkur, Obubra, Wont, Ogoja, Obudu, Obanliku and Boki local Government areas. These festivals are observed annually to celebrate the rich harvest of the season. The Cross River State economy is predominantly agricultural and is sub-divided into two sectors - the public and the private sectors. The private sector is dominated by local subsistence farmers while the public sector is run by the Government and features large plantations and demonstration farms.

The main crops are cassava, yams, rice, plantain, banana, cocoyam, maize, cocoa, rubber, groundnut and palm produce. The State government emphasizes on fish farming as a measure to diversify its economy. To this end it took measures to boost fish production in areas including: fish farming, processing, storage, marketing, in-shore fishing and monitoring of fish resources. Major livestock in the State are cattle; goats and sheep. Rearing activities are mainly undertaken by local farmers and nomadic Fulanis, except in Obanliku at the Obudu Cattle Ranch where organised cattle ranching takes places. The raising of poultry, pigs, rabbits and turkeys is carried out on a commercial scale in some parts of the State but mainly in Calabar Municipality. Mineral resources in Cross River State include limestone, titanium, tin ore, ceramic raw materials and hard stone.

Cross River State was one of the first centres of western education in Nigeria. There are more than 230 pre-primary schools, 648 primary schools, 145 post-primary schools and a Polytechnic in the state. Also, there is a State College of Education and a Federal University of Calabar. Health care delivery service is given top priority in the state.

Consequently, there are more than 17 hospitals in the state, two comprehensive health centres, nine primary health centres, 79 health dispensaries, 17 maternal and child centres in different parts of Cross River State.

As regards tourism, Cross River State offers both its visitors and interested indigene many centres of attraction. The outstanding ones are Obudu Cattle Ranch, Obudu, Old Residency Museum, Calabar, Agbokin Waterfalls, Ikom, Etanpim Cave, in Odukpani local government area and Mary Slessor's Tomb, Calabar, Cross River National Park and Kwa Falls in Akamkpa local government area, Obubra Lake, Obubra and the Calabar Cenotaph, Calabar, Beaded works which are a peculiarity of Cross River State are sold in crafts shops. Common works are beaded bags, beaded wall hangings, and shoes, Ekpe masquerade made with raffia, cane chairs, brass trays, raffia clocks, motif work and a lot more. The State capital, Calabar, can be reached by air, sea and road while other parts of the state are accessible by road. There is an international airport in Calabar.

### **3.5 AKWA IBOM STATE**

**Date Created:** September 23, 1987

**Capital:** Uyo

**Major Towns:** Abak, Etinan, Ikot Abasi, Ikot Ekpene, Itu, Mkpato, Enin, Oron, Ukanafun, Uyo, Ibiono-Ibom, and Ibino.

Akwa Ibom State was carved out of the Old Cross River State. The state occupies the South-East corner of Nigeria and is bounded on the north by Abia State, on the south by the Atlantic Ocean, on the east by the Cross River State and on the west by Rivers State. There are 31 Local Government areas in the state with Ikot Ekpene, the oldest local government area in Nigeria created in 1951, as one of them. Others are: Abak, Eket, Ekpe, Atai, Essien Udim, Etinan, Etim Ekpo, Ikono, Ikot Abasi, Ini, Itu, Mbo, Mkpato, Enin, Nsit. Ibom, Nsit Ubium, Okobo, Onna, Oron, Oruk Anam, Ukanafun, Uquo Ibino, Uruan, Urue Offong/Oruko, Uyo, Obot Akara, Ibesikpo Asutan, Ibiono Ibom, Eastern Obolo, Udung Uko, Ika, Ibino.

The geographical area known today as Akwa Ibom is inhabited by three major ethnic groups - the Ibibio, Anang and Oron who speak one language, Ibibio with minor dialectical differences. About 60% of the population is agrarian and such related employ, 25% is commercial oriented while the remaining 15% constitute the civil and public sector. The homogenous nature of the people is accountable for the minor difference in traditions and customs, including all other aspects of their cultural life. For example little or no difference exists in their dances, songs, myths, shrines, funerals, folklore, and mode of dressing, foods, cults, festivals and monuments. The people are noted for wood carving, sculpture, pottery and most importantly cane end raffia works. It is important to note that Ikot Ekpene is known internationally for its raffia products hence the term RAFFIA CITY.

The state is endowed with various mineral resources. It is the third largest producer of petroleum in Nigeria. Other resources include limestone, clay, natural gas, salt, coal, giber nitrate and glass sand. The state has one of the largest palm forests in the federation which harbours large varieties of wildlife. The climate of the state allows for favourable cultivation and extraction of agricultural and forest products such as palm produce, rubber, cocoa, rice, cassava, yam, plantain, banana, maize, and timber. Investment opportunities abound in the state in areas of commerce, industries, agriculture, housing, motels and tourism. The state government has given incentives for the development of medium and large scale industries. There are quite a number of tourist attractions in the state. Notable among these is the Ibeno Beach which stretches over 330 km along the Atlantic Coast line of the State with excellent opportunities for water sports. Others include the Mobil Tank farms, the Oron Museum, and the Ibom Connection, etc.

### **3.6 BAYELSA STATE**

**Created:** October 1, 1996

**Capital:** Yenagoa

**Main Towns:** Yenagoa, Sagbama, Obi, Kauama, Oloibiri, Ogbla, Oporama, Koluama, Brass, Opokuma.

Bayelsa State was created out of Rivers State on October 1, 1996. It is bounded to the north by Delta State, to the east by Rivers States, to the south and the west by creeks and rivers spreading through the Atlantic Ocean. There are nine local government areas in the state. They are Yenagoa, Sagbama, Ekeremor, Southern Ijaw, Ogbia, Brass, Nembe, Kolokuma/Opokuma and Kembe. The main occupation of the people of Bayelsa are fishing and farming. Bayelsa State has industries like Ahoada and Yenagoa Industrial Estates; and a host of other oil companies which help in generating income for the state. In the educational sector, the state has a lot of primary, secondary and some government tertiary institutions. Private schools are also established to encourage and improve education. To ensure adequate health care delivery, the government has established general hospitals and health centres while private clinics are encouraged. Culturally, Bayelsa State is richly endowed. Tourist attractions include its numerous beaches, fishing festivals, the canoe war displays and boat regattas and dances.

### **4.0 Conclusion**

This unit considered the South-South geopolitical zone(Nigeria). The six states, major town local government areas, date of creation, and capital city in each of the states. The resources endowment and cultural heritage across states in the geopolitical zone were explained in detail.

### **5.0 Summary**

The south-south geopolitical zone(Nigeria) where broadly identified i.e Edo state, Delta

state, Cross River state, Rivers state, Bayelsa state and Akwa Ibom state. Consequently, fish farming is the common traditional occupation across the state in the south south region. The aim of this unit is for students to understand the numerous mineral resources, their extraction as well as complex industrial activities found in the geopolitical zone.

#### **6.0 Tutor- Marked Assignment**

- 1) Identify the dates of state creation of each in the south-south region.
- 2) Summarise the resources endowment in Edo and Akwa- Ibom state.

#### **7.0 REFERENCES/ FURTHER READINGS**

<http://www.kingdomsofnigeria.com/states.php>  
<http://www.hrw.org/news/2015/05/31/nigeria-corruption-and-misuse-rob-nigerians-rights>  
<http://www.lagospowerkids.gov.ng>.

## **UNIT 4: SOUTH-WEST CULTURAL HERITAGE**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Lagos State
  - 3.2 Solid Minerals
  - 3.3 Geological Services
  - 3.4 Oil and Gas
  - 3.5 Power
- 3.6. Osun State
- 3.7 Oyo State
- 3.8 Ogun State
- 3.9 Ondo State
- 3.10 Ekiti State
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

The last unit focused on the **South South (Nigeria)**, the unit discussed the resources endowment and local government areas in the region. The next unit, shall consider the resource endowments, major towns, local government area and other facilities found within the six(6) geopolitical zone of **South West (Nigeria)**.

### **2.0 Objectives**

By the end of this unit, you should be able to:

- a. Have detail knowledge of state in the geopolitical territory of the **South West (Nigeria)**
- b. Be familiar with major towns in the **South West (Nigeria)**
- c. Identify resources endowments in the **South West (Nigeria)** states
- d. Know the cultural heritage of the state in the **South West (Nigeria)**

### **3.0 Main Content**

#### **3.1 LAGOS STATE**

**Date Created:** May 27, 1967

**Capital:** Ikeja

**Major Towns:** Ikorodu, Epe, Badagry, Lagos, Apapa, Victoria Island, Ikoyi and Ikeja.

Lagos State is one of twelve states created in May 1967 - Prior to its emergence as a state; -

Lagos has served as the Federal Capital Territory. With an area of 3,577 square metres, the state is the smallest in the federation as it constitutes only 0.4% of the landmass-of the federation. The state is bounded in the north and east by Ogun State, in the west by Republic of Benin and in the south by the Atlantic Ocean. For administrative convenience, the State is divided into five divisions, namely: Lagos, Ikeja Badagry, Ikorodu and Epe. There are 20 Local government areas and 37 Local Council.

Lagos State has taken giant strides in fulfilling the educational aspirations of its citizenry. The state has 906 primary schools with 859,456 pupils. The state also has 360 secondary schools with 633,247 students, 5 Technical Colleges with 3,223 students, two Colleges of Education including that for Primary Education, a Polytechnic and a University - the Lagos State University (LASU) located at Ojo. It also houses the federally owned University of Lagos. The thrust of the government educational policy is the provision of qualitative education and the pursuit of academic excellence.

The state has a Tourism Policy which recognizes tourism zones, namely: Bar Beach Water Argentinad recreational zone; Lekki-Maiyegun resort Argentinad zone; Kuramo Water Argentinad tourism zone; Epe-Marina Cultural tourism zone; Badagry Marina Recreational and Cultural zone. Prominent tourist attractions in the state include; City Hall (headquarters of the Lagos Island Local Government); the National Theatre, National Museum, Onikan; Holy Cross Cathedral, Lagos, the seat of Catholic Archdiocese; Relics of Brazilian and other colonial quarters; the site of the fallen Agia tree, Badagry, where Christianity was first preached in Nigeria in 1842; Oso-Lekki Breakwaters; First storey building in Nigeria (1845) at Badagry. Others are the Bar Beach. Tarkwa Bay, Badagry Beach and Lekki Peninsula. There is also the Eyo festival which is held to mark important events in the state.

In the sphere of health management in Nigeria, Lagos State has remained in the forefront. There are many health institutions in the state including a Teaching Hospital, LUTH, General Hospitals Specialist Hospitals, the National Orthopaedic Hospital, Igbobi and a host of others. Lagos State is the nation's economic nerve centre with over 2,000 industries. 65% of the country's commercial activities are carried out in the state. Two of the nation's largest seaports -Apapa and tin-Can Ports are located in Lagos State.

### **3.1.1 Energy and Mineral Resources Management In Lagos State**

The Ministry of Energy and Mineral Resources formerly Office of the Special Adviser on Mineral Resources Development was created in July 2011 in a move aimed at developing capacity to attend to the power needs of residents and explore the hydrocarbon, oil and gas potentials as well as other mineral resources of the State.

The Ministry has an overall responsibility of strategizing, promoting and developing sustainable policies for energy planning to ensure availability of reliable energy for all

residents in Lagos State as well as making Lagos State an investment destination using available mineral resources {solid, liquid and gas} as catalyst. It also assists in creating an enabling environment for would-be private investors who are willing to participate in the exploration and exploitation of minerals in Lagos State as well as collate available data on minerals and their locations. The Ministry regulates sand dealing and sand dredging activities in the State with the issuance of operational permit to persons, corporation, partnership or body involved in sand dealing and sand or sand dredging operation in the State as well as monitoring any mining related project in the State especially sea dredging, land reclamation and quarrying in conjunction with other relevant government agencies. Lagos lies within the sedimentary belt of South Western Nigeria on longitude 20 42'E and 3 22'E and between latitude 6 22' N and 6 22'N, its landmass is about 3577km<sup>2</sup>{22% of which consists of Lagoons and creeks} which unfortunately has been poorly explored. The state needs to identify the potential mineral resources of the state with a view to harnessing them. Past research work have indicated the existence of industrial minerals which include clay sand (ball clay, fire clay, kaolin etc), construction sands (filling sand, sharp sand, plastering sand, etc.), silica sand and hydrocarbon deposits (in the form of oil, gas and bitumen).

### **3.1.2 VISION**

“To make Lagos State a global economic and financial hub through the development of sustainable energy strategy and safe exploitation of available mineral resources”

### **3.1.3 MISSION**

“Promoting and attracting investments in the energy and mineral resources sectors to enhance infrastructural and socio-economic development for wealth and job creation in the State.”

## **3.2 SOLID MINERALS**

Solid mineral exploration and mining industry is an integral part of the State economy..

### ***3.2.1 Revenue Generation and Sustainable Environment***

The Ministry facilitates the development and exploration of solid minerals in the State by issuing appropriate **Operational Consents** to miners to exploit solid minerals - Laterite, sharp-sand, filling-sand, etc. in the three (3) main mining axes of the State (Badagry, Ajah/Ibeju-Lekki/Epe and Ikorodu). Revenue is generated from sand hauled from approved mining sites through revenue consultants appointed by the Ministry. The Ministry also ensures full compliance with mining regulations through verification of documents submitted by Miners and effective monitoring by Officers of the ministry in order to ensure sustainable mining and maintain a decent environment.

### ***3.2.2 Enforcement***

Assisted by men of the State Taskforce on Environmental & Special Offences, the Ministry carries out periodic enforcement exercises on erring mine operators in all the mining axes



of the State. Such erring operators usually have their operational machines and or trucks confiscated and are made to pay stipulated fines before their release. In some instances, the personnel of such operators are charged to court.

### ***3.2.3 Professionalism***

The Ministry proposed to the State Executive Council mining reforms and approval was received for implementation. His Excellency's approval was obtained to collaborate with the Ministry of Waterfront and Infrastructure Development in conducting Geochemical Analysis with Research and Development as one of the requirements in obtaining an operational permit for dredging. When fully implemented, this will in no small measure highlight further the vast mineral resources potentials of Lagos State. This will enhance professionalism among members of staff and ultimately boost the revenue accruable to the State.

## **3.3 GEOLOGICAL SERVICES**

The Ministry propels the formulation of policies and programmes in the mineral resources sector in the Ministry. The Department is also responsible for producing and archiving geological information about mineral resources in the State. Thus, the actualization of Geological Consultancy that will gather, archive, manage and produce subsurface data for research purposes and public benefit is of paramount importance.

### ***3.3.1 Lagos State Geological Mapping Project - Lagos West Senatorial District***

Following the successful completion of Lagos East Senatorial District Geological Mapping project which revealed a speculative occurrence of 12.744MT of Limestone deposit and other interesting discoveries, the Ministry commenced Lagos West Senatorial District Geological Mapping project covering Badagry, Ojo, Alimosho. The field geological and geophysical investigations are currently ongoing. The project is about 60% completed

### ***3.3.2 Ground Water Resource Management in Lagos State***

Coalition of Subsurface data with a view to understanding and solving underground contamination in Lagos State. It will also help to simulate the underground water model for the State. The Ministry completed the Saltwater Intrusion Mapping Project for Victoria Island and Apapa areas of the State. The project is aimed at determining the extent of saltwater intrusion in the State's ground water resources and to assist relevant MDAs in putting in place appropriate regulations to prevent further incursion.

## **3.4 OIL AND GAS**

The Oil and Gas Department of the Ministry is saddled with the responsibility of promoting the sustainable development of oil and gas activities in the State both in the upstream and downstream sectors as well as to ensure that all benefits accruing from these are harnessed. The Department collaborates with oil and gas exploration and production companies within the Lagos area with a view to creating an enabling environment to ensure increase in exploration activities in the area and possible resultant increased hydrocarbon discovery. The bill establishing Ibile Oil & Gas Corporation was signed into law on the

10<sup>th</sup> of June, 2013 by His Excellency, Mr. Babatunde Raji Fashola. The EKO Gas Initiative was officially launched at Masha Round-about, Surulere on June 11, 2013 during which a 4 metric ton LPG Skid Plant was commissioned by His Excellency, Mr. Babatunde Raji Fashola. As part of the EKO Gas Initiative, a 10 metric ton LPG Skid Plant in Ginti village, Ewu-Elepe on 29<sup>th</sup> October, 2013 by Her Excellency, the Deputy Governor of Lagos State. The Ministry Liaised with Pipeline Products and Marketing Company (PPMC) and initiated the establishment of a committee comprising relevant State and Federal MDAs to look into the problems of Pipeline Vandalism and encroachment of the Pipeline Right of Way (ROW) in Lagos State.

Hosted a workshop on Petroleum Industry Bill on the 7<sup>th</sup> of November, 2013 in order to inform Lagos State Government Officials on the Bill which is presently being discussed on the floor of the National Assembly. Disbursed 1000 EKO Gas cylinders to beneficiaries in Ikorodu, and some other parts of Lagos State free of charge as part of the State Government's intervention to promote the use of LPG amongst Lagosians. About 19,000 cylinders have been ear-marked for distribution to Lagosians in the course of the year as part of the EKO Gas Initiative.

Two Hundred (200)3kg EKO Gas Cylinders were provided to the Lagos H.O.M.S. committee to be presented to beneficiaries of the Lagos H.O.M.S. Scheme during the first raffle draw of the scheme. The Ministry was present at the raffle draw and it seized the opportunity to showcase the objectives of the EKO Gas Initiative to the General Public. His Excellency's approval was obtained to install 4Nos. LPG SKID Tanks in four (4) strategic locations within Lagos State under the EKO Gas Initiative.

### **3.5 POWER**

The Ministry is entrusted with the responsibility of preparing, integrating, coordinating and deploying all plans, programs, and projects on conventional and non-conventional energy to meet identified needs in the area of power and energy generation for the State. It facilitates thriving, competitive, reliable, efficient and environmentally responsible utilization of electricity, alternative energy and energy efficiency for the benefit of Lagos State citizens.

#### **3.5.1 Development of State Energy Policy and Master Plan**

The Ministry is putting together an Energy Policy and Energy master plan for the State. Policy Draft for Energy policy and Energy Master Plan has been concluded and has been presented to the State Executive Council. The policy is currently undergoing the internal stakeholders consultations pending approval for public hearing which will facilitate further developments in the sector.

**3.5.2 Provision of Operational Support for Development of all Lagos State IPPs Through Private Sector Investment is ongoing;** Akute IPP, Lagos Island IPP, have

been done. 8.8MW IPP for Old Secretariat and General Hospital LASUTH Ikeja and 6MW IPP at Lekki to power water corporation facilities/Streetlights in the Lekki Axis are under construction. A 10.4 gas fired power plant (Alausa Power Plant) to ensure constant supply of power to the State Secretariat and other government facilities within the Alausa has been commissioned and is functioning. The Ministry has facilitated the Power Purchase Agreement for the 4No projects mentioned above and is supervising the Power Projects in conjunction with Lagos State Electricity Board.

### **3.5.3 SOLAR POWER INSTALLATIONS**

The Ministry Provide 6No 3KW solar Power supply for computer centers in 6 No primary schools in the state. The schools are:

- i. Ereko Computer center Lagos Island
- ii. Army Children primary school Computer center, Abule egba
- iii. LG Primary School, Apa, Badagry
- iv. LG Primary School, Epe
- v. Oga Primary School, Ikorodu
- vi. Adegoke Primary School , Surulere

### **3.5.4 LAGOS STATE ELECTRICITY BOARD (LSEB)**

The Lagos State Electricity Board (LSEB) is the implementing agency under the Lagos State Ministry of Energy and Mineral Resources responsible for Energy development, Independent Power Projects and Public Lighting in Lagos State.

### **3.5.5 Development of IPP Projects**

Lagos State Government (LASG) currently has the most aggressive energy development plan in Nigeria. It is the only State with a dedicated Ministry for Energy Development (Ministry of Energy and Mineral Resources) as well as an agency (Lagos State Electricity Board). In the last three (3) years, LASG has successfully commissioned two power plants (Akute and Island Power) and one transformer manufacturing factory. Also, plans are currently underway to develop more IPPs around the State.

With the continued implementation of projects in line with its objectives, the Lagos State Electricity Board will greatly improve the quality of life of residents in Lagos State; vastly reduce crime rate and foster a conducive environment for economic growth, all through the constant supply of electricity.

### **3.5.6 Energy Audit Program**

The LASG, through its implementation agency LSEB, set up the Lagos State energy audit program with the goal of creating a comprehensive database of energy/power consumption within the state Objectives of the audit program are:

- To educate and create awareness regarding energy usage, consumption patterns, and conservation opportunities.
- To document existing conditions for planning purposes.

- To give information on Health and safety issues with regards to pollution and carbon emissions from self generation.
- To capture data on the amount and condition of public lighting on Lagos State streets. To capture data that will assist Eko and Ikeja distribution companies.

#### **3.5.7 Audited Locations To Date:**

Somolu Printing community, Matori Industrial estate, Ilupeju Industrial estate, Ikorodu Industrial estate, Lagos Island (Broad Street & Marina), Ikeja GRA, Oba Akran, Agidingbi, Omole I & II, Dolphin Estate, Iporin, Gbagada, Lekki, Magodo I & II.

### **3.5.8 LAGOS STATE ENERGY AND ENVIRONMENTAL CONSERVATION AWARENESS CAMPAIGN**

#### **AIM**

- "To develop an energy and environmental conservation culture within Lagos State"

#### **3.5.8.1 Lagos power kids Programme**

The Lagos State Power Kids (LAPK) Program is designed to be an interactive, extra-curricular club activity aimed at students of the Junior Secondary School sector, with the hope that learning about electricity and alternative forms of Energy will play a part in the students' subject choices in senior Secondary School.

LSEB in collaboration with the EKO project has designed a 10 week curriculum to teach the students about electricity, history of electricity, calculating energy consumption, energy efficiency, energy conservation, electrical hazards and safety, but they will also learn about various sources of energy and alternative to electricity which will be enhanced by a visit to the LSEB offices to see its solar farm.

The students will graduate from the Program with a good knowledge of electricity, forms of energy, improved energy awareness and conservation consciousness. The Year 2013 Power Kids award ceremony took place on Tuesday, 14<sup>th</sup> May, 2013 at the Memorable Gathering, Alausa-Ikeja. Osadere Gideon who was crowned the winner of this year's competition got a solar laptop while Ayedere Junior High School who emerged the overall winning school received a solar powered media room with 100 tablets.

### **3.6 OSUN STATE**

**Date Created:** 27 August, 1991

**Capital:** Oshogbo

**Main Towns:** Ile-Ife, Oshogbo, Iwo, Ila-Orangun, Ejigbo, Ilesha and Ikirun. Osun State, known as the state of the living spring occupies a land mass of approximately 8,602 square kilometres carved out of the old Oyo State. The state is bounded on the west by Oyo State, Ondo and Ekiti States in the east, Kwara State in the north and Ogun State in the South. There are 30 local government areas that make up Osun State. They are: Ayedade, Ayedere, Atakunmosa, Atakunmosa East, Boripe, Boluwaduro, Ede, Ede North, Egbedore, Ejigbo, Ifedayo, Ife East, Ife Central, Ife North, Ife South, Ifelodun, Ila, Ilesha

East, Ilesha west, Irepodun, Irewole, Isokan, Iwo, Obokun, Odo-Otin, ula-Oluwa, Olorunda, Oriade, Orolu and Oshogbo.

Agriculture is the traditional occupation of the people of the state. The main cash crops are cocoa, palm produce while food crops include yam, maize, cassava, millet, plantain and rice. The federal government has indicated its presence in the state through the citing of two major industries namely: Osogbo Steel Rolling Mills and the Nigerian Machine Tools at Osogbo, the state capital. Other industries in the state include the Cocoa Products Industry at Ede and the supreme Oil Industry at Ilesha. Other small and medium industrial ventures are spread over the state. Osun State apart from being rich in agricultural products is also endowed with a number of mineral resources such as gold, clay, limestones and granite.

The state is a repository of Yoruba culture. Ile-Ife, known to be the cradle of the Yoruba race is a very attractive tourist centre. It has the renowned Oranmiyan Staff, the Ife Museum, the Osun shrine and the Olumirin waterfalls at Erin Ijesha. Others are the Mbari-Mbayo heritage, Idi-Baba Cultural Centre and the Adunni Susan Wings Art Works Centres located at Osogbo. Above all the state is recognized internationally through its colourful annual Osun Osogbo festival.

Educationally, the state has reached an advanced level. It has 1,112 public primary schools and a number of Technical and Grade II Teachers' Colleges. Also Colleges of Education, Polytechnic and a Federal University are also located in the State. The State is also committed to an effective health care delivery system. There are State and General Hospitals, Comprehensive Health Centres, Primary Health Centres, Dispensaries and Maternity Centres. In addition there are many registered private Health Centres in the State.

### **3.7 OYO STATE**

**Date Created:** February 1976,

**Capital:** Ibadan

**Main Towns:** Ibadan, Ogbomosho, Oyo, Iseyin, Shaki Igboho, Kisi, Igbo-Ora, Okeho, Lalupon and Iletu.

Oyo State was created in February, 1976 and covers a total of 27,249 square kilometres of land mass. It is bounded in the south by Ogun State and in the north by Kwara State, in the west is bounded partly by Ogun State and partly by the Republic of Benin while in the east it is bounded by Osun State. It consists of thirty two local government areas. These are: Afijio, Akinyele, Egbeda, Ibadan Central, Ibadan NorthEast, Ibadan South-West, Ibadan South-East, Ibarapa, Ido, Ifedapo, Ifelaju, Irpo, Iseyin, Kajola, Lagelu, Ogbomosho North, Ogbomosho South, Oyo West, Atiba, Atigbo, Saki East, Itesiwaju, Iwajowa, Ibarapa North, Iyamapo/Olorunsogo, Oluyole, Ogo-Oluwa, Surulere, Orelupe, Orire, Oyo, Ona-

Ara. The state is homogenous and comprises the Oyos, the Ibadans and the Ibarapas, all belonging to the Yoruba family and speaking the same Yoruba language. People from within and outside the country trade and settle in the state mostly in the urban areas. The capital, Ibadan is reputed to be the largest city in Africa, south of the Sahara.

Agriculture is the main occupation of the people of Oyo State. The climate in the state favours the cultivation of crops like maize, yam, cassava, millet, rice, plantains, cocoa, palm produce, cashew etc. There are a number of government farm settlements in Ipapo, Ilora, Eruwa, Ogbomosho, Iresaadu, Ijaiye, Akufo and Lalupon. There is an abundance of clay, kaolin and aquamarine.

There are also vast cattle ranches at Saki, Fasola and Ibadan, a dairy farm at Monatan in Ibadan and the state-wide Oyo State Agricultural Development Programme with headquarters at Saki. A number of international and federal agricultural establishments are located in the state.

Educationally, the state has reached a level of advancement. There are 324 secondary schools, 1,576 public primary schools, five Technical Colleges located at Ogbomosho, Oyo, Saki, Ibadan and Igbo-Ora. Two Colleges of Education are located in Ibadan as well as the famous University of Ibadan and Ladoke Akintola University of Technology, Ogbomosho. There is also the Polytechnic, Ibadan with satellite campuses at Eruwa and Saki and Special Science Schools located within the state. In the health sector, about ten percent of the state's annual budget is allocated to the health sector. A number of State Hospitals, Health Institutions and Health Care Centres are spread all over the state to provide adequate medical care for the citizens.

In the area of tourism, various centres of attraction are located in the state. These include: Agodi Gardens, Ado-Awaye Suspended lake, Mapo Hall, University of Ibadan Zoological Garden, Ido Cenotaph, Trans Amusement Park, Oke-Ogun National Park, Bowers Tower and the Cultural Centre, Mokola.

### **3.8 OGUN STATE**

**Date Created:** 1976

**Capital City:** Abeokuta

**Main Towns:** Abeokuta, Ijebu-Ode, Sagamu, Ilaro, Ijebu-Igbo, Ota and Aiyetoro. Ogun State which covers a land area of approximately 16,406,226 square kilometres is bounded in the west by the Republic of Benin, on the south by Lagos State and the Atlantic Ocean, and on the east by Ondo State and in the north by Oyo State. Ogun State has a total of 19 local government areas. These are: Abeokuta North, Abeokuta South, Ogun Water Side, Ije Ode, Ijebu North, Ijebu East, Odogbolu, Ikenne, Sagamu, Obafemi Owode, Odeda, Ifo, Ado-Odo/Ota, Egbado North, Egbado South, Ilugun Alaro, Imeko-Afon,

Idarapo Ipokia and Ewekoro. Its natural resources include an extensive fertile soil suitable for agriculture and mineral deposits. The climate and soil of the state are suitable for the cultivation of a wide range of crops. The major food crops include rice, maize, cassava, yam and banana. The main cash crops include cocoa, kolanut, rubber, palm oil and palm kernels. Ogun State is one of the largest producers of kolanut in the country. It also produces timber and rubber on a large scale. About 20% of its total area is constituted of forest reserve suitable for livestock. Cultural heritage sites in the state are many. Some leading traditional festivals observed include Olumo, Ogun, Igunnuko, Egungun, Gelede, Obalufon and Oro. The state is famous for its Adire (tie and dye) textile products and also the Aso-Oke materials which are very colourful and eye-catching traditional festivals in the state held at regular intervals are a good source of interest to the tourist. Ogun State has good tourist potentials both natural and artificial. The famous Olumo Rock is an interesting source of attraction to tourists.

The State has enormous industrial potential. Its natural resources, manpower and geographical proximity to Lagos make it a potential industrial zone to the nation. Its extensive limestone deposit according to scientists can last for some five hundred years. The multi-million naira cement factory in Sagamu is the largest cement factory in West Africa. Both this factory and Ewekoro Cement factory depend on the local limestone resources for raw materials. Other mineral resources available include chalk, phosphate, high quality stones and gravels for construction works. There are also other modern industries producing high quality beer, bicycle tires, ceramic goods, high quality clay bricks, and carpet and clothing materials. There are about 1,371 primary schools, 230 secondary schools and a number of vocational schools and seven technical colleges. Higher institutions include a Teacher Training College of Education at Ijebu Ode, a Polytechnic at Abeokuta and Ogun State University, Ago Iwoye. Other institutions are owned by the Federal Government and they include two Federal Government Colleges, the Federal Polytechnic and Federal University of Agriculture.

### 3.9 ONDO STATE

**Date Created:** February 3, 1976

**Capital:** Akure

**Main Towns:** Owo, Akure, Ore, Oka-Akoko and Ondo.

Ondo State was carved out of the old Western State as one of the seven states created on February 3, 1976. It is bounded by Kogi, Edo, Ogun, Osun and Ekiti States, the last of which was carved out of Ondo state on the 1st of October, 1996. Ondo State is a multi-ethnic state with the majority being Yorubas while there are also Arogbos and Akpois who are Ijaw extraction and are mostly located in the riverine areas of the state. Agriculture (including fishing) constitutes the main occupation of the people of the state. Indeed Ondo state is the leading cocoa producing state in Nigeria. Other agricultural

products include yams, cassava and palm produce.

Education is accorded high priority by the state government with the state reputed as the education factory of Nigeria as a result of emphasis in this sector over the years with thousands of primary schools and hundreds of secondary schools, there are also tertiary institutions in the state. These include the Federal University of Technology, Akure, Ondo State Polytechnic, Owo, Federal College of Agriculture, Akure and Adeyemi College of Education, Ondo.

Major industries in Ondo State include Nigeria/Romania Wood Industries in Ondo, the Okitipupa Oil Palm Mill, Alpha Industries, Arigidi-Akoko, Cocoa Processing factory, Ile-Oluji, Oluwa Glass Company, Igbokoda and the Premier Metal Industry, Ondo. Places of attraction in the state include the Ipole-Iloro Waterfalls, the Oke Maria at Oka-Akoko and the Aiyetoro Community Island. The local governments that constitute Ondo state are Ondo, Odigbo, Okitipupa, Ilaje, Irele, Akure, Idanre, Ile-Oluji/ Oke-Igbo, Ose, Akoko North-West, Ifedore, owo, Akure North, Ilaje West, Ondo East and Akoko South East.

### **3.10 EKITI STATE**

**Date Created:** October 1, 1996

**Capital:** Ado Ekiti.

**Main Towns:** Ado, Ikere, Efon, Ikole, Aramoko-Ekiti, Ode and Oye-Ekiti.

Ekiti state was created by the Abacha administration on October 1, 1996. It was carved out of Ondo State. It shares boundaries with Kwara state to the north, Kogi state to the east, Ondo state to the south and Osun State to the west. Ekiti State has a total of 16 local government areas. They are Ado, Ekiti-East, Ekiti-West, Emure/Ise/Orun, Ekiti South-West, Ikare, Irepodun, Ijero, Ido/Osi, Oye, Ikole, Moba, Gbonyin, Ise/Orun and Ilejemeje.

The people of the state are Yoruba and they share the same cultural values with other Yoruba's. The Ekitis are homogenous hard working people. Agriculture is the mainstay of the economy of the people. A wide variety of cash crops and food crops are grown in Ekiti State. Some of the cash crops are cocoa, palm produce, timber and rubber. Others are citrus, kolanut, plantain, maize, rice, cowpea, yam and cassava. Ekiti state has a fair amount of mineral resources. These are kaolin, clay, cassiterite, tin ore, columbite, bauxite (aluminum ore), foundry sand, granite and elarconits. Ekiti state has both public and private companies. The public companies are the O'dua Textile Mills, AdoEkiti. Ire Burnt Bricks Works, Ire-Ekiti, Ekiti Oasis Companies Limited located in different parts of the state, Road Materials and Construction Company, Igbemo-Ekiti, Owena Motels, Ado-Ekiti and Medical Products Industry Ikere-Ekiti. While the private companies are Polamp Electric Industries, Ikole-Ekiti, Adegbemile Food Industries, Oye-Ekiti, Omotayo Standard



Press Limited, Ado-Ekiti, Star Printers Nig. Limited, Ado-Ekiti and Celtic Company Ltd., Ilawe Ekiti.

Education is very important to the people and government of Ekiti State. There are 541 public primary schools in the state while there are 141 public secondary schools. There are also four State Unity Secondary Schools. Ekiti has four Technical Colleges, four Women Education Centres and Five Nomadic Schools. The tertiary Institutions in the State are the College of Education, Ikere Ekiti, Federal Polytechnic, Ado-Ekiti. There are Special Schools for Handicapped Children and School for the Mentally Retarded. Health establishments in the state include a Specialist Hospital and six General Hospitals at different locations in the state. To get health care delivery closer to the people, there are also district hospitals and comprehensive health centres in all the local government areas. Ekiti State is a tourist haven. The popular Ikogosi Warm Spring Resort is located in Ikogosi, Ekiti. Other tourist attractions are Arinta Waterfalls, Ipole-Iloro, Olosunta Hills, Ikere-Ekiti, Fajuyi Memorial Park, Ado-Ekiti, Ero Dam, Ikun-Ekiti, Egbe Dam, Egbe-Ekiti and Natural Caves in Ikere-Ekiti. Closely linked to the tourism potential of the state is the festivals that are held seasonally. Some major festivals are common to all the Ekitis and these are Egungun festival, Ogun festival and New Yam festival.

#### **4.0 Conclusion**

This unit considered the South-West geopolitical zone (Nigeria). The six states, major town local government areas, date of creation, and capital sits in each of the states. The resources endowment and cultural heritage across states in the geopolitical zone were explained in detail.

#### **5.0 Summary**

The south-south geopolitical zone(Nigeria) where broadly identified i.e Oyo state, Osun state, Ondo state, Ekiti state, Lagos state and Ogun state. Consequently, farming is the common traditional occupation across the state in the south west region. The aim of this unit is for students to understand the numerous mineral resources, their extraction as well as complex industrial activities found in the geopolitical zone.

#### **6.0 Tutor- Marked Assignment**

- 1) Identify the date of state creation of each in the south-wast region.
- 2) Summarise the resources endowment of Ogun and Ondo State state respectively.
- 3) Identify the beneficiaries solar power installations

#### **7.0 REFERENCES/ FURTHER READINGS**

<http://www.kingdomsofnigeria.com/states.php>

<http://www.hrw.org/news/2007/01/31/nigeria-corruption-and-misuse-rob-nigerians-rights>

<http://www.lagospowerkids.gov.ng>.

## **UNIT 5: SOUTH-EAST CULTURAL HERITAGE**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Abia State
  - 3.2 Anambra State
  - 3.3 Imo State
  - 3.4 Enugu State
  - 3.5 Ebonyi State
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

The last unit focused on the **South West (Nigeria)**, the unit discussed the resources endowment and local government areas in the region. The next unit, shall consider the resource endowments, major towns, local government area and other facilities found within the five (5) geopolitical zone of **South East (Nigeria)** .

### **3.0 Objectives**

By the end of this unit, you should be able to:

- a. Have detail knowledge of state in the geopolitical territory of the **South East (Nigeria)**
- b. Be familiar with major towns in the **South East (Nigeria)**
- c. Identify resources endowments in the **South East (Nigeria)** states
- d. Know the cultural heritage of the state in the **South East (Nigeria)**

### **3.0 Main Content**

#### **3.1 ABIA STATE**

**Date Created:** August 27, 1991

**Capital:** Umuahia

**Main Towns:** Aba, Isuikwuato, Umuahia, Arochukwu, Ohafia, Bende, Abiriba, Omoba, Nbawsi. Abia State was carved out of Imo State on August 27, 1991. Abia State consists of 17 Local Government Areas, namely: Aba North, Aba South, Isiala-Ngwa North, Ukwa West, Ukwa East, Obingwa, Isiala Ngwa South, Ikwuano, Bende, Arochukwu, Ohafia, Isuikwuato, Umuahia, Ugwunagbo, Osisioma, Umuahia South and Nneochi. The State shares boundaries with Imo State in the west, Cross River State in the east, Akwa Ibom and Rivers in the south and Ebonyi and Enugu States in the north. The people of Abia State are predominantly traders and Aba is regarded as one of the commercial towns in the country. Its people are travellers and they carry their

trade to whichever place they find themselves. Besides trading, the people of Abia State are farmers and crops obtained in the State include palm produce, maize, rice, yam, cassava, fruits and vegetables. Abia State is blessed with mineral resources such as lead, zinc, fine sand, limestone and petroleum. Education is given top priority in the state and this is evident by the numerous private schools in the state. There is the Abia State University at Uturu, Isuikwuato LGA, Abia State Polytechnic, Aba, Federal University of Agriculture, Umudike-Umuahia and other higher institutions and Colleges of Education.

As regards tourism, there are many tourist centres in Abia State but the most outstanding are the National War Museum, Umuahia, the Azumini Blue River, Ukwa East and the Long Juju of Arochukwu. Main hotels include Banana Hotel in Umuahia and Crystal Park hotel in Aba. There are also the Abia Hotels at Aba and Umuahia. Abia State is one of the few states that have commercial, agricultural and mineral potentials in the country. The Abia people are very creative. They dominate the productive sector of the economy. Many of the home-made products generally come from Aba in Abia State. Major industrial concerns in the state include Golden Guinea Breweries, Umuahia, Aba Textile Mills, International Glass Industries, Aba and Modern Ceramics, Umuahia. It could likely be said that there is nothing that could not be produced in Abia State if the necessary raw materials and equipment are made available. Abia State is rightly tagged the "Japan of Nigeria".

### **3.2 ANAMBRA STATE**

**Date Created:** August 27, 1991

**Capital:** Awka

**Main Towns:** Awka, Onitsha, Nnewi, Obosi, Ihiala, Aguata.

Anambra State was carved out of the former, larger Anambra State on August 27, 1991. It is bounded by Delta State to the west, Imo State to the south, Enugu State to the east and Kogi State to the north. There are 21 local government areas in the state namely: Anaocha, Njikoka, Nnewi North, Nnewi South, Onitsha North, Onitsha South, Anambra, Oyi, Ihiala, Akwa North, Awka South and Aguata. Others are Orumba North, Orumba South, Ogbaru, Idemili, Idemili South, Ayamelum, Ekwusigo, Anambra West and Dunukofia. The industrious and hospitable people of Anambra State are Igbos. The people of the state are great industrialists, entrepreneurs, and craftsmen. Awka is the state capital and seat of the Anambra State Government. The town is also the Argentina of Nigeria's blacksmiths iron-monger and carving.

Educationally, there are the Nnamdi Azikiwe University, Awka, the Federal Polytechnic, Oko, College of Education, Nsugbe, and College of Agriculture, Igbanam. Literacy in the state is comparatively high, and abundant qualified personnel can be found in virtually all areas of endeavour. School enrollment in the state is one of the highest in the country. Culturally, the State has a very rich heritage. There is the yearly Ofala festival, the

Ijele masquerade and also the yearly new yam festival. Anambra State has good communication and transport links with other states of the federation. The River Niger with the famous Niger Bridge links the bustling commercial town of Onitsha, with the ports of Port Harcourt in the Rivers State, and Bururu and Warri in Delta State. Several raw industrial materials and agro-products are located in various parts of the state and they include Oil Palm, Maize, Rice, Yam, Cassava, and Fish. There are the Enamel-ware and Cotton Textile Mills at Onitsha. Onitsha has the largest market of its kind in the ECOWAS sub-region.

### **3.3 IMO STATE**

**Date Created:** February 1976

**Capital:** Owerri

**Major Towns:** Okigwe, Orlu, Oguta, Nkwerre, Owerri and Mbaise.

Imo State was created on 3rd February, 1976. The state is bounded by Anambra state to the north, Abia state to the east, and Delta and Rivers to the west and south respectively. It has a total of 27 local government areas as at 1996. They are Aboh-Mbaise, Ahiazu-Mbaise, Ezinihite, Ideato South, Ihitte/Uboma, Ikeduru, Mbaitoli, Obowo, Nkwerre, Orsu, Orlu, Oguta, Ngor Okpala, Ohaji Egbema, Okigwe, Isiala-Mbano, Owerri, Oru and Owerri West. Others are Owerri North, Oru West, Isu, Onuimo, Nwangele, Njaba, Ehime-Mbano and Ideato North. Imo State has many rivers. The main rivers in the state are Imo, Otamiri and Njaba. The major lakes are Oguta and Abadaba. The State is blessed with abundant natural resources. These include crude oil, lead, zinc, white clay, fine sand, limestone and natural gas in commercial quantities. The state also produces agricultural produce such as palm produce, cocoa and rubber. The main staple crops are yam, cassava and maize.

Education is given priority in the state. In the 1996 school year. Imo State primary school enrollment was 561,214. There are currently 2,040 primary schools, 305 secondary schools, 15 private secondary schools, four Technical Colleges and 65 approved private vocational/commercial colleges in Imo State. Total enrollment for secondary school in the 1996 school year was 186,026. Enrolment in technical colleges and vocational/commercial colleges for the same year was 22,650. Total number of teachers in both primary and secondary for the same was 22,121. There are five institutions of higher learning in the state namely: Imo State University, Owerri, Alvan Ikoku College of Education, Owerri; Federal University of Science and Technology, Owerri, Michael Okpara College of Agriculture, Umuagwo; and the Polytechnic, Nekede.

In the industrial sector, major state-owned industries in Imo State include: Standard Shoes Company, Owerri, which produces different types of footwear; Clay Products; Ezinachi-Okigwe, which produces burnt bricks for all kinds of buildings; Sack Hercules, Owerri, which assembles motor-cycles and bicycles; Nsu tile Factory, Ehime-Mbano, Imo Health

Foods Limited, Ubakalo, Adapalm Nigeria Limited; Imo Modern Poultry Limited, Avutu-Obowo; Modern Produce Inspection Laboratory, Owerri, and Oguta Motels Limited, Oguta

Industries under partnership include - Fuason Industries, Owerri, which produces galvanized iron sheets, the Afrik Enterprises, Awo-Omama, a pharmaceutical company, Imo Concord Hotel, Owerri. Industries that had been partially privatized include card packaged Industry, Orlu, Resin Paints Limited, Aboh Mbaise and Aluminium Extrusion Industry, Inyisi. Industries in the private sector include Sab Spare Parts and Allied Accessories, Okigwe, which make motor-spare parts, Oma Pharmaceutical, Awomoma, which produces drugs and medicines, Magil Industries, Atta which makes steel, sponge, bread, polythene and paper.

In the area of healthcare services, there are 45 mission hospitals, 2 jointly-owned hospitals, 346 private hospitals/clinics and maternity homes. There are also three Federal/ State/Local Government Basic Health Service Clinics and a total of 37 dispensaries. The State Government has a School of Nursing located at Owerri and a School of Midwifery at Aboh-Mbaise. The schools breed nurses/midwives who serve in government and private medical institutions Voluntary agency schools of nursing/midwifery operate in the State, thus complementing the efforts of the government in the production of pare-medical staff. As regards tourism there are many tourist centres in Imo State. An outstanding tourist attraction is the Mbari located at Ikenegbu. The Mbari centre boasts of various artefacts which depict the cultural heritage of the people. The Amphi-Theatre is another gigantic work of art in the state. The theatre which has 3,000 sitting capacity is a promotion of the national objective on culture as well as modern effort to preserve our cultural heritage. Other places of tourist interest in the State include the Oguta Lake Holiday Resort with its sand beach measuring one kilometre by 50 metres. 18 - hole golf course, colonial building with its attractive scenery and various species of birds. There are also the rolling hills of Okigwe where hill locks of varying heights and-ruggedness add to the fascinating environment.

### **3.4 ENUGU STATE**

**Date Created:** August 27, 1991

**Capital:** Enugu

**Major Towns:** Enugu, Nsukka, Oji-River, Awgu and Udi.

Enugu State was created on August 27, 1991. The state is situated on the highlands of the Agwu. Udi and Nsukka Hills to the east as well as Oji-River basin to the west. It is bounded by Abia State to the south, Anambra to the west, Kogi and Benue states to the north and Ebonyi to the east. Enugu State has a total of (17) seventeen local government areas. These are Enugu South, Igbo-Eze South, Enugu North, Nkanu, Udi Agwu, Oji-River, Ezeagu, IgboEze North, Isi-Uzo, Nsukka, Igbo-Ekiti, Uzo-Uwani, Enugu East, Aninri, Nkanu East and Udeni. The state is in the region of the tropical rainforest and the

great oil belt of Nigeria. The annual rainfall ranges between 152cm to 203 cm. Temperature is between 32 and 87 when it is hottest between February, May and October each year. The state is predominantly agricultural with yarn, palm produce and rice being their main produce. There is in place an agricultural policy aimed at maximizing its agricultural potential.

Though the National Electric Power Authority (NEPA) has a network of electric installations in the State, their services do not cover most of the communities in the state. This prompted the establishment of a Rural Electrification Board in the State. A great deal of importance is attached to education in the State. As a result of the zeal and interest shown in education, the state government spends a lot of money yearly to ensure that necessary facilities for education are provided. Apart from primary and post-primary schools, there exist a number of institutions of higher learning. These are the University of Nigeria Nsukka which is a federal government institution, the Enugu State University of Science and Technology, the Institute of Management and Technology, Enugu; College of Education Eha-Amufu and College of Agriculture, Ikwo.

The provision of medical facilities, Enugu State ranks second to education in order of priority and takes a large chunk of the annual budget. The state government is making serious efforts to ensure that hospitals and health centres, as well as maternity homes are provided in all the local government areas of the state. The most outstanding hospital in the state is the University of Nigeria Teaching Hospital, Enugu. The teaching hospital is supplemented by a government general hospital, the Park Lane Hospital, Enugu and an Orthopaedic Hospital. Government also owns and runs a dental centre in the state capital. Besides coal, new mineral deposits have recently been discovered in Enugu State. These include limestone, iron ore crude oil, natural gas and bauxite, though the National Electric Power Authority (NEPA) has a network of electric installations in the State, and their services do not cover most of the communities in the state. This prompted the establishment of a Rural Electrification Board in the State.

A great deal of importance is attached to education in the State. As a result of the zeal and interest shown in education, the state government spends a lot of money yearly to ensure that necessary facilities for education are provided. Apart from primary and post-primary schools, there exist a number of institutions of higher learning. These are the University of Nigeria Nsukka which is a federal government institution, the Enugu State University of Science and Technology, the Institute of Management and Technology, Enugu; College of Education Eha-Amufu and College of Agriculture, Ikwo. The provision of medical facilities a minEnugu State ranks second to education in order of priority and takes a large chunk of the annual budget. The state government is making serious efforts to ensure that hospitals and health centres, as well as maternity homes are provided in all the local government areas of the state. The most outstanding hospital in the state is the University

of Nigeria Teaching Hospital, Enugu. The teaching hospital is supplemented by a government general hospital, the Park Lane Hospital, Enugu and an Orthopaedic Hospital. Government also owns and runs a dental centre in the state capital. A well-developed network of roads connects important centres of trade and industry in the state. A rail line of the Eastern District of the Nigerian Railways runs through the State Capital Enugu to Port-Harcourt in Rivers State and Enugu to Makurdi then Northwards.

There exists a national television station in Enugu which is complemented by a state-owned station. There are also two radio stations in Enugu State. The Enugu State Broadcasting Service and F.R.C.N, Enugu which is part of the National Network of the Federal Radio Corporation of Nigeria. Enugu State has many industries that satisfy both local and international needs: these include; Enugu Vegetable Oil Products Limited, Nachi, Nigergas Company Limited, Emene, Aluminium Product Limited, Ohebe-Dim, Enugu Building Materials Industries Ltd, Ezzambgo, Emenite Ltd, Emene, Anambra Motor Manufacturing Company Ltd, Premier Cashew Industries Ltd, Oghe, Nigersteels Industries Ltd, Emene, Sunrise Flour Mill Ltd, Emene. Others are Ebony Paints Ltd, Awknanaw, V. S. A. Livestock Feedmill, Ngwo, Projects Development Agency, the Enyimba Salt Project and the Vanguard Industries and the Nigerian Construction and Furniture Company (NCFC), Enugu. The Nike Lake Resort which is located about 10km away from Enugu, the state capital, provides a good spot for tourists in the state. The Five Star Hotel stands out as one of the key points in the state's drive for tourism. There are also the new yam and Mmanwu festivals.

### **3.5 EBONYI STATE**

**Date Created:** October 1, 1996

**Capital:** Abakaliki

**Main Towns:** Afikpo, Uburu, Nkalagu, Ishiagu, Okposi, Amasiri, Onicha, Abakaliki, and Eba Unwana.

Ebonyi state was carved out of Abia and Enugu States on October 1, 1996 as one of the six new states created by General Sani Abacha's administration. The state which is situated in the South-eastern part of the country shares boundaries with Benue to the north, Enugu to the northwest, Abia to the south-east and Cross River to the east. Ebonyi State consists of twelve local governments namely: Afikpo South, Afikpo North, Onicha, Ohaozara, Abakaliki, Ishielu, Ikwo, Ezza, Ezza South, Ohaukwu, Ebonyi, and Ivo. The people of Ebonyi State are predominantly farmers. Main crops obtained in this state are palm produce, cocoa, maize, groundnut, rice, yam, plantain, banana, cassava, melon, sugarcane, local beans, fruits and vegetables. Fishing is also carried out in Afikpo. The state is blessed with mineral resources such as lead, limestone, zinc, marble and salt. In the industrial sector are Nigerian Cement Company at Nkalagu, Quarry and Crush Industries at Ishiagu.

Educationally, though young, the State boasts of a medical school campus in Abakaliki, a Federal Polytechnic in Unwana, two Schools of Nursing at Afikpo, two Colleges of Agriculture at Ishiagu and Ikwo respectively and several Secondary and Primary Schools found all over the state. The health sector of the state is not left out. The state has two notable state hospitals, the General Hospitals at Onicha and Edda. There are centres of Tourist attraction in the state. They are the Ndibe Beach at Afikpo, Uburu Salt Lake, Uburu, Ishiagu Pottery works, Ishiagu. The people of this state are Igbo with several dialects and have rich cultural heritages. This is expressed in the colourful dances namely Nkwa Umuagbogho of Afikpo and Nkwa Nwite. The pottery works of Ishiagu also form part of the rich culture of the State.

#### **4.0 Conclusion**

This unit considered the South-East geopolitical zone(Nigeria). The five states, major town local government areas, date of creation, and capital sits in each of the states. The resources endowment and cultural heritage across states in the geopolitical zone were explained in detail.

#### **5.0 Summary**

The south-east geopolitical zone (Nigeria) where broadly identified i.e Abia state, Anambra, Ebonyi state, Enugu state, and Imo state. Consequently, farming is the common traditional occupation across the state in the south west region. The aim of this unit is to provide adequate information for students to understand the numerous mineral resources, their extraction as well as complex industrial activities found in the geopolitical zone.

#### **6.0 Tutor- Marked Assignment**

Identify the date of state creation of each in the south-east region.

- 1) Summarise the resources endowment in Imo and Abia State state respectively.
- 2) Discuss the Industrial activities in Enugu State.

#### **7.0 REFERENCES/ FURTHER READINGS**

<http://www.kingdomsofnigeria.com/states.php>  
<http://www.hrw.org/news/2007/01/31/nigeria-corruption-and-misuse-rob-nigerians-rights>  
<http://www.lagospowerkids.gov.ng>.



## **UNIT 6: NORTH CENTRAL CULTURAL HERITAGE**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
- 3.1 Benue State
- 3.2 Kogi State
- 3.3 Kwara State
- 3.4 Nasarawa State
- 3.5 Niger State
- 3.6 Plateau State
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

The last unit focused on the **South East (Nigeria)**, the unit discussed the resources endowment and local government areas in the region.

The next unit shall consider the resource endowments, major towns, local government area and other facilities found within the six (6) geopolitical zone of **North Central (Nigeria)**.

### **2.0 Objectives**

By the end of this unit, you should be able to:

- a) Have detail knowledge of state in the geopolitical territory of the **North Central (Nigeria)**
- b) Be familiar with major towns in the **North Central (Nigeria)**
- c) Identify resources endowments in the **North Central (Nigeria)** states
- d) Know the cultural heritage of the state in the **North Central (Nigeria)**

### **3.0 Main Content**

#### **3.1 BENUE STATE**

**Date Created:** February 3, 1976

**Capital:** Makurdi

**Main Towns:** Gboko, Katsina-Ala, Adikpo, Otukpo, Korinya, Makurdi Tar" Vandeikya, Aliade, Otukpa, Lessel, Oju, Okpoga, Awajir, Agbede, Ikpayongo and Zaki-Biam. Benue State was created on February 3, 1976. The state derives its name from River Benue, the second largest in the country and the most prominent geographical feature in the state. The new Benue State has twenty three local governments; fourteen from Tiv speaking area and nine from the Idoma speaking area. They are Ado, Agatu, Apaa, Buruku, Gboko, Guma, Gwer East and Gwer West, Katsina-Ala, Konisshisha-Tse, Kwande, Logo,

Obi, Ogbadibo, Ohimini, Oju, Okpokwu, Tarka, Otikpo, Ukum, Makmuni and Varideikya. Benue State lies in the middle of the country and shares boundaries with five states namely; Nasarawa to the north, Taraba to the east, Cross River and Enugu to the south, and Kogi on the west: Benue State experiences a typical tropical climate with two distinct seasons, the wet or rainy season and the dry season. The rainy season lasts from April to October with annual rainfall in the range of 150 -180 mm. The dry season begins in November and ends in March. Temperatures fluctuate between 23°C and 31°C in the year. The south eastern part of the state adjoining the Obudu-Cameroon mountain range has a cool climate similar to that of the Jos Plateau.

Since its inception in 1976, Benue state has recorded tremendous growth in the area of education. From a background of a few secondary schools and no tertiary institution, the state now has over 300 secondary schools and six tertiary institutions. The tertiary institutions include the Colleges of Education at Katsina-Ala and Oju, Akperan, Orshi College of Agriculture and the Schools of Nursing and Midwifery in Makurdi.

The Benue State University took off with the first intake of its students in the 1992/93 session. The state government operates a liberal scholarship scheme which guarantees automatic scholarship to deserving state indigene in higher institutions of learning. The federal government has also established one university and three secondary schools in the state. These are Federal Government College, Vandeikya, University of Agriculture, Makurdi and the Federal Technical School, Otukpo. The present health care programme of the state places great emphasis on primary health care. Extensive health education and immunization campaigns are regularly undertaken to eradicate the high incidence of preventable diseases. Recently, the federal government took over the general hospital in Makurdi which has been turned into a Federal Medical Centre.

There is an ultra-modern market of 2,500 stalls in Makurdi. The market which is of international standard has facilities such as an administrative block (housing offices, courts, a police station, restaurant, community hall, and clinic and banking hall) for users of the market. Other facilities include a fire station, sewage plant, abattoir, power station, a bore hole and water storage tanks and children's playground. In the area of industrialization, the state government has taken several bold steps to redress the industrial backwardness of the state by setting up several industries including Taraku Mills Limited, Benue Brewery Limited, Benue Burnt Bricks, Benco Roof Tiles and Ago Millers Limited in which it still retains some holding. The state government has initiated a policy of greater private sector participation in their management through gradual privatization.

Benue is blessed with abundant mineral resources. These include Limestone, Gypsum, Anhydride, Kaolin, natural Gas, Salt, Petroleum Oil, Lead and Zinc, Barytes, Clay, Coal, Calcite, Gemstones and Magnetite. Of these mineral resources, only li

mestone at TseKucha near Gboko and Kaolin are being commercially exploited. Benue state is acclaimed the nation's "food basket" because of its rich and diverse agricultural produce which include yams, rice, beans, cassava, potatoes, maize, soya beans, sorghum, millet and coco-yam. The state also accounts for over 70 percent of Nigeria's soya beans production. It also boasts of one of the longest stretches of river systems in the country with great potential for a viable fishing industry, dry season farming through irrigation and for an inland water way through irrigation and for an inland water way. Benue state is largely a rural state. Given this fact, priority attention has always been given to rural development as a deliberate government strategy to improve the living standards of the people. The main thrust of efforts is centred on the opening up of rural roads, provision of potable water, rural electrification and the establishment of cottage industries in the noel area to arrest the perennial population drifts to urban centres. The state possesses a rich and diverse cultural heritage which finds expression in colorful clothes, exotic masquerades, sophisticated music and dances. Traditional dances from Benue have won acclaim at national and international cultural festivals. These dances include Ingyough, Ange, Anchanakupa and Swanage among the Tiv and Anuwowowo and Obodaru among the Idoma. The Tiv Kwagh-hir theatre provides memorable entertainment in its dramatization of Tiv folklore and social commentary.

### 3.2

### KOGI STATE

**Date Created:** August 27, 1991

**Capital:** Lokoja

**Major Towns:** Ajaokuta, Kabba, Okene, Idah, Koton-Karie, Dekina, Lokoja. Kogi State is the most centrally located of all the states of the federation. It comprises the Igala, Ebira, Kabba and Kogi divisions of the former Kabba province, Kogi State shares common boundaries with Niger, Nassarawa and the Federal Capital Territory to the north. To the east, the state is bounded by Benue State, and to the south by Anambra and Enugu states and to the west by Edo, Ondo, Ekiti and Kwara States. There are twenty local government areas in the state. They include Adavi, Ajaokuta, Ijunu, Bassa, Dekina, Idah, Ankpa, East Yagba and Kogi. Others are Ofu, Okehi, Okene, Olamaboro, Oyi and West Yagba, Olale Igalometa, Ibaji Ogori/ Magongo, Kopamuro.

The State is blessed with suitable ecological and climatic conditions. It is therefore possible to produce various agricultural products including yam, cassava, soya bean, cocoyam, maize, millet, rice, guinea corn, palm produce, cowpea and others. The State's rich agricultural endowment is reflected in its capacity to produce cash crops like cocoa, coffee and cashew. Kogi State is blessed with strategic minerals. These include iron ore, mica, marble, limestone, coal, crude oil. Others include; gold, kaolin, cassiterite, columbite, tantalite, feldspar and dolomite. Significantly, the nation's premier iron and steel complex is located at ajaokuta.

Industrially, Kogi State is an investors' haven, the state has a number of Industrial ventures which include Ajaokuta Iron and Steel complex, Jakura Marble, Valley Food, Mopa Okura Sawmill, Idah Ceramic Company, oil palm Company, Nigeria Iron-Ore Manufacturing Company. The state is richly endowed in tourist attractions and has no less than twenty-three tourist centres concentrated in the state. Important festivals include the nationally acclaimed Ovia festival among the Ogori and Mangogo people. In health services, the state has 13 public hospitals located at Lokoja, Okene, Obangede, Kabba, Ogori, Mopa Koton-Karfe, Dekina, Idah, Iyale, Ankpa and Oguma. It has Schools of Nursing at Obangede, Egbe and Idah which have continued to receive financial and material support to ensure their stability.

Education is the state's main social industry. Each of the 20 local governments in the state has primary institutions. Institutions of higher learning in the state include College of Agriculture, Osara, College of Agriculture, Kebba, Federal Polytechnic, Idah; Federal Advanced Teachers College, Okene; School of Health Technology, Idah; College of Education, Ankpa; School of Nursing, Obangede and School of Midwifery Egbe.

### **3.3 KWARA STATE**

**Date Created:** May 27, 1967

**Capital:** Ilorin

**Main Towns:** Jebba, Offa, Oro, Esie, Omu-Aran, Lafiagi, Oke-Oyi, Pategi, Ilorin and Ajashe Ipo.

Kwara State was one of the twelve States created in May 1967. It consists of the former Ilorin and Kabba provinces before the creation of more States in 1976. The creation of more states in August 1991 led to the excision of Yagba, Oyi, Okene and Kogi local government areas from Kwara State. Kwara State is bounded in the north by Niger State, in the south by Osun and Ondo States, in the east by Kogi and in the west by Oyo State and has an international boundary with Benin Republic. Because of its unique geographical position, the State is referred to as the "gateway" between the north and the south of the country. The Local Government Councils in the state are: Asa, Baruten, Edo, Ekiti, Ifelodun, Ilorin-East, Ilorin West, Kaiama, Moro Offa and Oyun, Pategi, Osin, Oke-Ero, Irepodun and Ilorin. Kwara State is well linked by a good network of roads with five states. The Nigerian Railway Corporation extends services from Lagos through the state to the northern part of the country. The Ilorin Airport is a major centre both for domestic and international (Haji) flights. Good telecommunication service also link the state with other parts of the country.

The main ethnic groups are Yoruba, Fulani, Nupe and Barubas. Islam and Christianity are the major religions in the state. Agriculture is the mainstay of the economy and the principal cash crops are: cotton, cocoa, coffee, kola nut, tobacco, bean seed and palm produce. Agricultural institutes located in the state are the Agricultural and Rural

Management Training Institute, (ARMTI), the National Centre for Agricultural Mechanisation and Niger River Basin Authority all located in Ilorin and the Agricultural Research Project of the Obafemi Awolowo University at Balla provides farmers with vital information on modern agricultural techniques. Also, mineral resources abound in the state. Among these are limestone, marble, feldspar, clay, kaolin, quartz and granite rocks.

Education received priority in the state. There are many primary and secondary schools. Higher institutions in the state include the federally owned University of Ilorin, Ilorin Federal Polytechnic, Offa, Federal Training Centre, Ilorin, State College of Education, Ilorin and Oro, Kwara State Polytechnic, Ilorin and the schools of Nursing and Midwifery, Ilorin. Health services also receive adequate attention. Apart from the private health and medical establishments in the State, there are the University of Ilorin Teaching Hospital, Ilorin, three Specialist Hospitals, six General Hospitals, six Rural Health Centres, 15 Basic Health Clinics and seven District Health Units. Industries in the state include Kwara Breweries, Ijagbo Global Soap and Detergent Industry, United Match Company, Tate and Lyle Company, Resinoplast Plastic Industry, Phamatech Nigeria Limited, Kwara Textile and Kwara Furniture Company all in Ilorin. Others are Paper Manufacturing Industry, Jebba, Okin Foam and Okin Biscuits, Offa, Kay Plastic, Ganmo and Kwara Paper Converters Limited, Erin-De. Others are Sugar Producing Company, Bacita, Kwara Animal Feed Mill, Ilorin and the Agricultural Products Company, Bacita. Kwara State has a very rich and highly interesting cultural heritage. Among these are Durbar associated with Edu, Ilorin-West and Ilorin-East Local Government Areas. The Durbar is usually held in honour of a new Emir or Chief, to welcome an August visitor and on Muslim festivals of Idel-Kabir and Id-el-Adha. There is also Pategi regatta which is an annual festival featuring boat displays, fishing and swimming competitions. Also, the Awon festival is held annually at Shao; in remembrance of Awo goddess. During the festival all the marriageable girls are given out in marriage in one day. Egungun festival, held in remembrance of the dead ancestors, is held every year among the Igbomina people of Irepodun, Ifelodun and Ekiti Local Government areas. It usually features dancing by masquerades for five to nine days.

In tourism, Kwara state possesses several fascinating historical and cultural monuments, which include the Esie Stone images at Esie, in Irepodun L.G.A. of the state. The stones were said to have been discovered in the 17th century. Others are the spectacular Owu Falls at Owa Kajola, in Ifelodun Local Government Area; the remains of Mungo Park's wrecked boat - the 'D Spring' and Mungo Park's Monument both at Jebba, Okuta Ilorin, from where the capital was derived, the Jebba Dam which is one of the major sources of hydro-electric.

### **3.4 NASARAWA STATE**

**Date Created:** October 1, 1996.

**Capital:** Lafia

**Main Towns:** Lafia, Akwanga, Keffi, Kuru, Wamba, Eggon, Nasarawa and Doma. Nasarawa is made up of thirteen local government areas namely; Wamba, Kokona, Keana, Nasarawa/Eggon, Toto, Awe, Akwanga, Keff, Karu, Lafia, Obi, Doma and Nasarawa. It is bounded in the north by Kaduna state, in the west by the Federal Capital Territory, Abuja, in the south by Kogi and Benue States and in the east by Taraba and Plateau States. The state has agriculture as the mainstay of its economy with the production of varieties of cash crops throughout the year. It is also blessed with solid minerals notably salt and bauxite. The government has continued to give priority attention to the development of educational facilities and opportunities in the state. It has a Federal Polytechnic and College of Education and other vocational training schools. The State boasts of many institutions of research and learning such as the National Institute of Policy and Strategic Studies, Kuru and the National Veterinary Research Institute, Vom among others.

A good network of roads exists within the state linking all the rural areas and major towns. The Nigeria Railway Corporation (NRC) operates train services from Kuru, Gombe and Maiduguri. Health Care Delivery Services is encouraged in the state through the establishment of General Hospitals and other health institutions to make health facilities available to all in the state. Nasarawa State has the highest potentials in the nation for the development of a viable tourism industry. However, numerous of its potentials are yet to be fully tapped. The young state is richly endowed with scenic beau, and conspicuous features. Its temperate climate makes it a tourist centre. Lafia the state capital has an enviable weather with a fascinating rocky environment.

### **3.4 NIGER STATE**

**Date Created:** February 1976

**Capital:** Minna

**Major Towns:** Bida, Suleja, Kontagora, Lapai, Mokwa and Minna.

There are 25 local government areas that make up the state. The local government areas are: Chanchage, Lapai, Agaje, Paikoro, Suleja, Gurara, Bida, Shiroro, Rafi, Wushishi, Gbako, Bosso, Lawan, Mokwa, Borgu, Agwara, Kotangora, Magawa, Rijna, Katcha, Miraga, Edati, Mashegu, Muya and Tawa. Agriculture is the major occupation of the state with about 80% of the population engaged in farming. The state produces crops like yam, bean, cassava, rice, millet, groundnut, maize and sugarcane. The State Ministry of Agriculture in conjunction with the Niger State Agricultural Development Project provides subsidized agricultural inputs such as pesticides, fertilizers and seedlings to farmers so as to boost agricultural production. In the industrial scene, Niger State is blessed with abundant industrial resources. Surveys carried out have shown the deposit of gold and marble in parts of Minna. There is also the presence of other minerals like limestone, glass sands, chalk, copper etc.

The State is also educationally inclined having established over 1,165 primary schools, 250 secondary schools and a number of vocational training centers. There are also about 15 tertiary institutions which include Federal College of Education, Kontagora, and the Federal Polytechnic at Bida and the Federal University of Technology at Minna. Others include the state owned Technical Teachers Training Colleges, State College of Education and many others. Niger State is well known for its beautiful and colourful tourist attractions. These include the Gurara Falls in Bono. Mayanka Falls and Zuma rock both in Suleja and the Shiroro Dam to mention a Few. Also the five-star Shiroro Hotel in Minna offers the best comfort and luxury.

In the area of communication, the state has one radio station Broadcasting Corporation of Niger State (BCNS) and one Federal Government owned television station. There is also the state owned Printing and Publishing Company Niger Printing and Publishing Company. The Company publishes a weekly paper Newshine.

### **3.5 PLATEAU STATE**

**Date Created:** February 1976. **Capital City:** Jos

**Major Towns:** Jos, Akwanga, Bukuru, Barkin/Ladi, Pankshin, Shendam, Langtang, Vom. Plateau State came into being in February 1976 when it was carved out from the former Benue/plateau State. Before the exercise the area now known as Plateau State was part of the defunct Province of Bauchi. There are 17 local government areas in Plateau State. These are Jos North, Bassa, Jos South, Barakin/ladi, Bokkos, Mangu, Pankshin, Kanam, Langtang North, Wase, Langtang South, Qua'an Pan, Jos East, Riyom, Mikang and kanke. Some of the indigenous ethnic groupings that make up the state include the Berom, Nges, Taroh, Geomal, Youm, Montol, Rububa, Challa, Jarawa, Atem etc.

Plateau State derives its name from the geographical landscape that predominates in this part of the country often referred to as Jos Plateau. The Plateau highland stands on average heights of 400 metres above sea level with peaks like the famous Shere hills around where the famous Citizenship and Leadership Mountain School is located. The foregoing physical features confer on the state a scenic beauty that makes it a tourist haven, perhaps comparable to none in the country. Its picturesque landscape includes chains of captivating rock formations beautifully shaped and bare rocks, chains of hills, artificial hillocks and deep gorges. Other tourist attractions include beautiful waterfalls the best known of which are Asop falls, located 64 kilometres on the Jos Akwanga Road and the Kura falls surrounded by beautiful lakes. The Jos Wildlife Safari park, Museum, zoological Garden, the Ultra Modern Market, Shere Hills Mountains Schools and Standard shopping malls are some of the tourist attractions in and around the state capital. Major

festivals in the state include Mandieng, Pisdung, Puskat, Bit, Geomai, Kwa-Kwa etc.

Jos is the state capital, and the cradle of tin mining operations on the Plateau. Jos has enviable weather and a fascinating rock environment. It houses many institutions of research and learning, prominent among which are, University of Jos, Police Staff College, Bukuru, St. Augustine Major Seminary, Jos and the Theological College of Northern Nigeria. The Jos Airport located at Heipang, 29 kilometres south of Jos is serviced by the scheduled domestic flight of the Nigeria Airways and other airlines on a daily basis.

Healthcare delivery services also receive priority attention. There are the Jos University Teaching Hospital and Jos Specialist Hospital. General Hospitals and Health Centers spread across the State. Similarly, private clinics and hospitals abound in many parts of the state. This State of Scenic beauty is known for both agricultural and manufacturing activities. Agricultural products are produced in large scale and include potatoes, groundnut, vegetables of varied sorts, fruits, yams and many other items. The industrial development of Plateau State is phenomenal and predicated on its rich natural resources as cassiterite, barytes, clay, kaolin columbite, tin, gemstone, galena quartz and feldspar. Priority is given to agro-Argentina industries which utilise local raw materials. Some of the industrial and commercial concerns in the State are: Jos International Breweries Limited, Brewers of Rock Lager Beer; Brewery Agro-Research Company, Plateau Bottling Company; Plateau Glass Containers Industries; ROC Hotel Ltd; and Nasreddin Group of Companies International Ltd.

#### **4.0 Conclusion**

This unit considered the **North Central** geopolitical zone (Nigeria). The six (6) states, major town local government areas, date of creation, and capital sits in each of the states. The resources endowment and cultural heritage across states in the geopolitical zone were explained in detail.

#### **5.0 Summary**

The **North Central** geopolitical zone (Nigeria) where broadly identified i.e Kwara state, Kogi state, Nasarawa state, and Plateau state, Niger state and Benue state. Consequently, farming is the common traditional occupation across the state in the south west region. The aim of this unit is to provide adequate information for students to understand the numerous mineral resources, their extraction as well as complex industrial activities found in the geopolitical zone.

#### **6.0 Tutor- Marked Assignment**

- 1) Identify date of state creation of each in the **North Central** geopolitical zone (Nigeria).
- 2) Summarise the resources endowment in Niger and Kogi State state respectively.



3) Discuss the Industrial activities in Plateau State.

## **7.0 REFERENCES/ FURTHER READINGS**

<http://www.kingdomsofnigeria.com/states.php>

<http://www.hrw.org/news/2007/01/31/nigeria-corruption-and-misuse-rob-nigerians-rights>

<http://www.lagospowerkids.gov.ng>.

## **UNIT 7: NORTH-EAST CULTURAL HERITAGE**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
- 3.1 Adamawa State
- 3.2 Bauchi State
- 3.3 Borno State
- 3.4 Gombe State
- 3.5 Taraba State
- 3.6 Yobe State
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 Introduction**

The last unit focused on the **North Central (Nigeria)**, the unit discussed the resources endowment and local government areas in the region.

The next unit, shall considered the resource endowments, major towns, local government area and other facilities found within the six (6) geopolitical zone of **North East (Nigeria)**

### **2.0 Objectives**

By the end of this unit, you should be able to:

- a) Have detail knowledge of state in the geopolitical territory of the **North East (Nigeria)**
- b) Be familiar with major towns in the **North East (Nigeria)**
- c) Identify resources endowments in the **North East (Nigeria)**states
- d) Know the cultural heritage of the state in the **North East (Nigeria)**

### **3.0 Main Content**

#### **3.1ADAMAWA STATE**

**Date Created:** August 27, 1991 **Capital:** Yola

**Major Towns:** Yola, Mubi, Ganye, Numan, Guyuk, Michika, Mayo-Belwa, Gombi and Jimeta.

Adamawa State was created in August 1991 out of the former Gongola State with four administrative divisions namely: Adamawa, Ganye, Mubi and Numan. These divisions have been split into twenty one (21) local government areas. They are: Fufere, Ganye, Gombi, Guyuk, Hong, Jada, Shelleng, Demsa, Madagali, Maiha, Mayo-Belwa, Michika, Mubi, Numan, Song, Yola, Mubi-South, Jimeta, Girei, Toundou and Lamurde.

Topographically, the state is essentially a picturesque mountainous land traversed by big river valleys of Benue, Gongola and Yedsarem. The valleys of Cameroon, Mandara and Adamawa mountains form part of this undulating landscape. Adamawa State is noted for its rich cultural heritage which reflects in its history, i.e. dances, dress patterns, craftsmanship, music, and her cordial relationships. The three main religions are Islam, Christianity and Traditionalism. The major occupation of the people is farming as reflected in their two notable vegetational zones, the Sub-Sudan and Northern Guinea Savannah Zone. Their cash crops are cotton and groundnuts while food crops include maize, yam, cassava, guinea corn, millet and rice. In an effort to boost agriculture, the government launched (GADP), the then Gongola Agricultural Development Project which has now become a tractor hiring unit under the Ministry of Agriculture.

The village communities living on the banks of the rivers engage in fishing while the Fulanis are cattle rearers. The state has a network of roads linking all parts of the country. There are also air and water routes which make the state accessible at all seasons. Recognizing the importance of education, the government of Adamawa State places emphasis on the expansion of technical education, primary, secondary and tertiary schools. The state also has a University of Technology, a Polytechnic and a College of Education. There are several secondary and primary schools, technical Colleges and private institutions. The state also has a Nursing and Midwifery School, two Vocational Training schools and a College of Legal Studies in the capital.

Health and Medical Services have reached a relatively advanced stage of development. The state has many cultural festivals like harvest festivals, installation, wrestling contests and hunting. It also has historical places of interest like the Lamido's palace (the seat of Emir of Adamawa in Yola, Old Palace of Harriman Yaji at Madagali German rule, German Rest House at Kowogol) and a host of other places of interest.

### **3.2 BAUCHI STATE**

**Date Created:** February-1976 **Capital:** Bauchi

**Major Towns:** Zaki, Misau, Ningi, Dass, Jama'are Tafawa-Balewa, Alkaleri and Bauchi. Bauchi State was created in February 1976. It is made up of 20 local government areas, namely: Alkaleri, Bauchi Boboro, Dambam, Giade, Ganjuwa, Darazo, Dass, Ningi, Shira, Gamawa, Itas Gadau, Kirfi, Warji, Jama' are, katagum, Missau, Toro, Zaki and Tafawa-Balewa. It covers a total of about 66,510.045 square kilometres of landscape. The state is bordered by Kano and Jigawa to the north, Yobe and Gombe to the east and Kaduna State to the west and Plateau and Taraba State to the south. The State has a balance of geographical features as well as climatic conditions. The entire western and northern parts of the state are generally mountainous and rocky. This is as a result of the closeness of the state to the Jos Plateau and Cameroon mountains. Two main rivers transverse the state, the

Gongola and Hadejia rivers. The climatic condition of Bauchi State is very hot in the months of April and May, while December and January are the coldest months.

Bauchi state is a heterogeneous state, with predominant tribes like, Hausa, Fulani, Jarawa, Tangale, Waja, Balewa, Sayawa and Tarewa. The state has a very rich history. The name Bauchi was derived from the name of the founder of the state, Baushe, who was a brave hunter during his time. Bauchi, according to early Hausa translators, means, "no animal ever escaped the trap and arrow of a hunter". Bauchi state is an agricultural state. Its vast fertile soil is an added advantage for agricultural products, which include maize, rice, millet, groundnut and guinea corn. Irrigation farming is practiced and supported by the use of dams like Balanga dam, etc. Cattle and other livestock are also reared in the state. Investors are encouraged by the government of the state to seek sufficient expanse of land for agricultural development. Agro-industries are also encouraged. Bauchi state has abundant human and material resources and the potentials for economic development are so vast.

The state has industries like the Bazamri PVC - Wire Limited, Kuda Nails Factory, Yankari Natural Water Company, Zaki Flour Mills and Arewa Ceramic Industry. There is a high level of social development in the state. Health services are adequately provided for, almost at the doorstep of the people. There is a specialist hospital, a number of general hospitals, private clinics and primary health centres throughout the state. Education is accorded preeminent status in the state. Both formal and non-formal institutions of education are well established, equipped and adequately funded by the government. There are good training centres and colleges of education within the state. Bauchi state is blessed with many tourist attractions. These include the Yankari Game reserve, Premier Game Reserve, Rock Paintings at Goji and Shira, the State Museum among others.

The Federal and the State Governments have made sure that the state enjoys a good road network. The State is well covered in its communication network. The government has a state owned newspaper, Radio Station, and a State Television Service. Sports is also encouraged in the state. There is a sports complex. Abubakar Tafawa Balewa Stadium in Bauchi. The stadium also has its own information centre with other modern facilities.

### **3.3 BORNO STATE**

**Date Created:** February 1976. **Capital:** Maiduguri

**Major Towns:** Dikwa, Gwoza, Konduga, Bama, Monguno, Maiduguri, Shani, Damboa. Borno state is located in the North-east of Nigeria within latitude 11°N and longitude 13°E. It is bounded in the north by the Republic of Niger, Chad to the north-east and Cameroon to the east. Within the country its neighbours are Adamawa to the south, Yobe to the west

and Gombe to the southwest. Apart from English, other languages spoken in the state are Kanuri, Shuwa, Guduf, Marghi, Babur, Fulani, Waha and Hausa. There are 27 Local Government Areas in the State. These are Shani, Kwanga-Kusar, Hawul, Biu, Askira/Uba, Dumboa, Gwoza, Konduga, Bama, Kaga, Magumeri, Gubio, Mobbar, Kukawa, Nganzai, Monguno, Marte, Ngala, Dikwa, Mafa, Maiduguri, Jere, Abadan, Chibok, Guzamala, Kale/Balge and Bayo.

The State has a good transport system that links it by air, road and rail-to other states of the federation. The state capital has an International Airport. There are two major vegetation zones in the state. The Sahel type in the North which is where most of the wheat in the state is produced and the Sudan Savannah type in the south which consists of shrub vegetation interspersed with tall trees. Agriculture and livestock farming which are the mainstay of the state's economy have vast developmental potentials. The State is rich in millet, rice, cassava, date palms, fruits vegetables, sorghum, wheat, sweet potatoes, cowpeas, sugar cane, groundnut, cotton, gum Arabic and many others. There are also leather tanning, ornamental leather works, shoe making, glue and gelatine, horns, hooves and bones for export. The state is also blessed with abundant fishery resources. In the fishery sector there are dried fish, fish meal for feed mills and fresh tend frozen meat. It is in recognition of these potentials that the Federal Government in 1973 set up the Chad Basin and Rural development Authority. Also, in 1981 the State Government set up the Borno Investment Company PLC.

To ensure growth in the industrial sphere, the State Government made tremendous effort to reactivate the NEITAL Shoe Factory Tannery Sections, the Borno Clay Products PLC, the Borno Express and the State Tourism Board. Other industries include the Maiduguri Oil Mill, which produces groundnut by-products and the Vegetable and Fruit Processing Plc. (VEGFRU). To further promote and enhance industrialization of the state, Premier Commercial Bank was set up by the government as a source of investment finance, and financing of commerce in general. Educationally, Borno State Government gives priority to the intellectual growth of its indigene's right from the grassroots. Institutions in the State are the University of Maiduguri, Ramat Polytechnic, Borno College of Education, Borno College of Science and Technology, Borno College of Legal and Islamic Studies (BOCOLIS) and College of Agriculture. Borno State also boasts of Advanced Teachers' Colleges, Secondary Schools, Teachers' Colleges, Vocational Training Centres, Primary Schools and the Federal Staff Training Centre, Maiduguri.

In the health sector, the system is pyramidal with the University of Maiduguri Teaching Hospital and the Maiduguri Specialist Hospital Complex at the top. This comprises the Eye Clinic, Dental clinic, Psychiatric Clinic, Infectious Diseases Hospital, the Nursing Home and the Maiduguri Medical Centre. At Argentina are Health Centres, dispensaries, private clinics, pharmaceutical chemists and a number of patent medicine stores scattered all over

the state. Borno State is also endowed with mineral resources. These are Diatomite, Potassium/Sodium, Clay, Limestone and Uranium. Also crude oil is explored in the Chad Basin Area. Tourism in Borno is dependent primarily on its natural resources, rich traditions and cultural heritage. Tourist attractions include the Kyarimi Park in Maiduguri for animal and bird lovers and where the only captured hippopotamus in West Africa is harboured, the Shehu's Palace, Rabeh's Fort at Dikwa, Yamtar Wala tomb at Biu. Others are Lake Chad, Sambissa Game Reserve and Jaffi falls among others. Borno State has many hotels. The major ones include the Lake Chad Hotel, Maiduguri Airport Hotel and Borneo Holiday Inn.

### **3.4 GOMBE STATE**

**Date Created:** October 1, 1996 **Capital:** Gombe

**Main Towns:** Gombe Kaltungo

Gombe State was created by the Abacha Administration on October 1, 1996. The state was carved out of Bauchi state. Gombe state shares boundaries with Yobe state to the north, Borno and Adamawa states to the east and Bauchi state to the west and Taraba State to the south. Gombe state has 11 local government areas. They are Akko, Balanga, Billiri, Dukku, Kaltungo, Kwami, Shomgom, Funakaye, Gombe, Nafada/Bajoga and Yamaltu/Delta. Gombe is blessed with a lot of human and material resources and a lot of potential for economic development. One of the industries in the state is the Gombe Oil Seeds Company. The people of Gombe grow crops like millet, corn, rice and guinea corn. Their method of farming is irrigation with the help of dams. The government of Gombe provides health services for the people. There are hospitals, private clinics and health centres in the state. Education is also encouraged in the state. There are a number of primary and secondary schools. There is also a tertiary college in the state - Federal College of Education Gombe.

### **3.5 TARABA STATE**

**Date Created:** August 27, 1991

**Capital City:** Jalingo

**Major Towns:** Takun, Wukari, Zing, Sardauna, Bali, Yono, Kurmi, Ibi, Gashaka etc.

Taraba state is bounded in the north-east by Adamawa State, in the west and south west by Plateau and Benue States and on the eastern border by the Republic of Cameroon. It was created on the 27th of August, 1991. There are 15 local government areas in Taraba State. These include Jalingo, Sardauna, Takum, Wakari, Gashaka, Bali, Zing, Yomo, Karim Lamido, Ibi, Lau, Ussa, Ardo kola, Gassol and Kurmi. Taraba State lies largely within the middle of Nigeria and consists of undulating landscapes dotted with a few mountainous features. These include the scenic and prominent Mambilla Plateau. The state lies largely within the tropical zone and has a vegetation of low forest in the southern part and grassland in the northern part. The Mambilla with an altitude of 1,800 metres above sea level has a temperate

climate all year round.

The River Benue is the main river and rises from the Cameroon mountains, straining almost the entire length of the State in a north/south direction to link up with the River Niger. The major occupation of the people of Taraba State is agriculture. Cash crops produced in the state include coffee, tea, groundnuts and cotton. Crops such as maize, rice, sorghum, millet, cassava, and yam are also produced in commercial quantities. In addition, cattle, sheep and goats are reared in large numbers, especially on the Mambilla Plateau, and along the Benue and Taraba valleys. Similarly, the people undertake other livestock production activities like poultry production, rabbit breeding and pig fanning, in fairly Wgo-scale. Communities living on the banks of River Benue, Taraba and Donga engage in fishing all year round. Other occupational activities such as pottery, cloth weaving, dyeing, mat-making, carving, embroidery and blacksmithing are also carried out in various parts of the state.

Taraba State is richly endowed with potentials for the development of Tourism. in recognition of this, the government made concerted efforts to identify and improve areas of tourist attraction. They are: the Mambilla Tourist Centre which is part of the mountain chains of Adamawa, Obudu, Shebshi, Alantika and Mandara; the Barup waterfall, located on the Plateau; the Gashka/Gumpti Game Reserves situated at the Argentina of the Mambilla Plateau.

Prominent among the major cultural festivals is the Nwunyo Fishing festivals in Ibi which usually holds in April each year. During the festivals, activities such as canoe racing, swimming competition and Cultural dances are held. Other festivals are Purina of the Chamba, Puje of the Jukuns, kuchicheb of the Kutebs (Takum), Kati of the Mambilla and a host of others.

### **3.5 YOBE STATE**

**Date Created:** 27<sup>th</sup> August, 1996 **Capital City:** Damaturu

**Main Towns:** Damaturu, Gashua, Giedam, Nguru, and Potiskum.

Yobe state was carved out of the present Borno State and is bounded by Borno, Gombe, Jigawa States including the Niger Republic to the north. Yobe State consists of 17 local government areas. These are Guiba, Fika, Nangere, fune, Giedam, Yuriubari, Yusufari, Jakusko, Gogharam, Borbari, Nguru, Machina, Damaturu, Potiskum, Tarmuwa, Karaguwa and Gularu. The State lies mainly within the dry savannah belt and is therefore mostly hot and dry for the most part of the year except in the southern fringes where the climate is a bit mild. Agriculture is the main occupation of the people and is also the backbone of the state's economy. Yobe State also possesses rich fishing grounds with pockets of little lakes located mostly in the northern part of the state. It is a cardinal policy of the state government to provide the inputs which would encourage the exportation of the rich

agricultural resources of the State. This is done through the steady provision of such inputs as tractors, ploughs, fertilizers, pesticide etc. The State's Agricultural Mechanization Authority (YOSAMA) was set up to facilitate the provision and distribution of these inputs.

Agricultural products for which Yobe State is known include cattle which are found in abundance. In fact the state is reputed to have the largest cattle markets in West Africa located in Potiskum. Others are high grade gum arabic, groundnuts, beans, cotton etc. Mineral resources include potest gypsum in Fika and Gujba. Deposits of kaolin and quartz have been known to exist in income parts of the state. Yobe state has made giant strides in the field of education with numerous primary schools (631) and enrollment of 221183 pupils with 7215 teachers. There are 31 post-primary schools, a College of Education, Federal College of Education and an Institute of Management both in Potiskum.

In the health sector, there are eight General Hospitals, 40 Health Centres, and 335 Public Health Offices and one Primary Health Centre. Plans are underway to upgrade the Specialist Hospital and the Damaturu General Hospital. Yobe state is culturally and historically endowed. It is well known for its captivating Durbar festivals, impressive Sallah ceremonies, and the Fishing and Cultural Festivals held annually in jakusko Local Government area of the state.

#### **4.0 Conclusion**

This unit considered the North East geopolitical zone (Nigeria). The six (6) states, major town local government areas, date of creation, and capital sits in each of the states. The resources endowment and cultural heritage across states in the geopolitical zone were explained in detail.

#### **5.0 Summary**

The North East geopolitical zone (Nigeria) where broadly identified i.e Bauchi state, Yobe state, Nasarawa state, and Gombe state, Borno state and Taraba state. Consequently, farming is the common traditional occupation across the state in the south west region. The aim of this unit is to provide adequate information for students to understand the numerous mineral resources, their extraction as well as complex industrial activities found in the geopolitical zone.

#### **6.0 Tutor- Marked Assignment**

- 1) Identify date of state creation of each in the **North East** geopolitical zone (Nigeria).
- 2) Summarise the resources endowment in Nasarawa and Yobe State respectively.
- 3) Discuss the Industrial activities in Bauchi State.

#### **REFERENCES/ FURTHER READINGS**



<http://www.kingdomsofnigeria.com/states.php>  
<http://www.hrw.org/news/2007/01/31/nigeria-corruption-and-misuse-rob-nigerians-rights>  
<http://www.lagospowerkids.gov.ng>.

## **UNIT 8: NORTH-WEST CULTURAL HERITAGE**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
- 3.1 Jigawa State
- 3.2 Kaduna State
- 3.3 Kano State
- 3.4 Katsina State
- 3.5 Kebbi State
- 3.6 Sokoto State
- 3.7 Zamfara State
- 4.0 Conclusion
- 5.0 Summary
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#### **1.0 Introduction**

The last unit focused on the **North East (Nigeria)**, the unit discussed the resources endowment and local government areas in the region.

The next unit, shall consider the resource endowments, major towns, local government area and other facilities found within the six (6) geopolitical zone of **North West (Nigeria)**.

#### **2.0 Objectives**

By the end of this unit, you should be able to:

- a) Have detail knowledge of state in the geopolitical territory of the **North West (Nigeria)**
- b) Be familiar with major towns in the **North West (Nigeria)**
- c) Identify resources endowments in the **North West (Nigeria)**states
- d) Know the cultural heritage of the state in the **North West (Nigeria)**

#### **3.0 Main Content**

##### **3.1 JIGAWA STATE**

**Date Created:** August 27, 1991

**Capital:** Dutse

**Main Towns:** Hadejia, Kazaure, Gumel, Ringim and Dutse.

Jigawa State was created in 1991 by the Babangida Administration. Jigawa State shares borders with Kano and Katsina States to the west, Bauchi to the south, Yobe State to the east and Republic of Niger to the north. The state has 27 local government areas namely: Dutse, Birnin -Kudu Gwaran, Kiyawa, Kirikasamma, MalamMadori, Jahun, Kafin Hausa, Kazaure, Roni, Ringim, Garkin, Babura, Kaugama, Sule Tankarkar, Taura, Gwiwa, Bosuwa, Anyo, Yankwasin, Buji, Miga and Guri. It is in the region of Sahel Savannah with most of the state lying with the desert except for some parts of the southern borders where traces of green vegetation are noticeable. The climate in Jigawa State is arduous with rapid changes in temperature and humidity. The weather could change suddenly with humidity rising rapidly up to 100% in an area considered characteristically dry. There are two seasons in Jigawa State namely: rainy season and dry seasons with the dry season lasting from October to May and the rainy season lasting between June to September.

Jigawa State is mainly agricultural. About 90% of the population is engaged in farming. The state's agricultural policy includes assistance to small and medium scale farmers in the area of tractor-hiring services and seed multiplication schemes. The Hadejia River valley continues to contribute to the realization of these objectives particularly in the area of wheat production programme. The state is known for leather works, textile goods, craft, rice production, and bakeries. The state being on the trans Saharan Trade Route also enjoys interchange of trades and commerce from neighboring countries close to Nigerian borders. Jigawa State is blessed with mineral resources: they are kaolin, tourmaline, amethyst, marl stones, potash, solice, iron ore, copper, gold, white quartz, refractory clay and antimony. Education is a priority of the state and consequently the school enrolment is annually on the increase. Total school enrolment for 1996 stood at 359,687 for primary schools, while that for secondary schools was 24,033. The Jigawa State Polytechnic with campuses at Kazaure, Ringim and Hadejia has already taken off; the state has one College of Education at Gumel.

Since the creation of Jigawa State, efforts have been geared towards providing drinking water to the capital which is experiencing an upsurge in population and commercial activities. To this end, a dam has been constructed on Iggi River and to date a total of 380 water supply projects have been undertaken in the state. Jigawa State lays emphasis on the development and promotion of its tourist potentials. Plans are now underway to provide the historic Birnin Kudu Roca painting site with recreation and leisure facilities. The Wawan Rafi Lake and the Magatari Tourist camp will also be provided with similar facilities. The age-old Dyina pits at Ringim, Hadejia are being resuscitated, and the standard of the Catering Rest Houses at Hadejia, Gumel, Kazaure, Birnin-Kudu as well as the newly built Ringim White Motel would be improved.

### 3.2 KADUNA STATE

**Date Created:** February 1976 **Capital:** Kaduna

**Main Towns:** Kafanchan, Zonkwa, Kagoro, Kachia and Zaria

Kaduna state is located at the centre of Northern Nigeria. It has a political significance as the former administrative headquarters of the North during the colonial era. The state shares boundaries with Niger State to the west, Zamfara, Katsina and Kano states to the north, Bauchi and Plateau States to the east and FCT Abuja and Nasarawa state to the south. The state consists of 23 local government areas namely: Tundun Wada/Makera, Doka, Kawo, Kachia, Jaba, Zangon-Kataf, Kaura, Jema'a, Lere, Ikara, Makarfi, Sabongari, Zaria, Giwa, Birnin Gwari, Igbabi, Soba, Chukun, Kudan, Gwagwada, Kuban, Sanga and Kagarko. Agriculture is the mainstay of the economy of Kaduna state with about 80% of the people actively engaged in farming. Cash and food crops are cultivated and the produce includes: yam, cotton, groundnut, tobacco, maize, beans, guinea corn, millet, ginger, rice and cassava. Over 180,000 tonnes of groundnut are produced in the state annually. The major cash crop is cotton which the state has a comparative advantage in as it is the leading producer in the country. Another major occupation of the people is animal rearing and poultry farming. The animals reared include cattle, sheep, goats and pigs.

Kaduna state is blessed with minerals which include clay, serpentine, asbestos, amethyst, kyanite, gold, graphite and sillimanite graphite, which is found in Sabon Bimin Gwari, in the Birnin Gwari local government. This is an important raw material used in the manufacture of local pencils, crucibles, electrodes, generator brushes and other sundry parts. A number of notable educational institutions in the country are located in Kaduna State. They are Ahmadu Bello University, Zaria, Kaduna Polytechnic, Kaduna, School of Health Technology, the Federal Fishery Training Institute, Kaduna, College of Advanced Studies, Zaria and College of Education, Kafanchan. In addition, the state plays host to very strategic military institutions in the country. These are the Nigerian School of Infantry, Zaria, Command and Staff College, Jaji, the College of Aviation Technology, Zaria, and the Nigeria Defence Academy which now has the status of a University. Another institution of higher learning in Kaduna State is the National Leather Research Institute, Zaria. The Defence Industries Corporation of Nigeria and the nation's third petroleum refinery are also located in Kaduna State.

Kaduna state is a metropolitan as well as industrialized state with over 80 commercial and manufacturing industries there. Goods ranging from carpets, textiles, reinforced concrete materials, bicycles assembly, toiletries and cigarettes in the state. Consumer goods produced range from dairy products to soft drinks, flour and groundnut oil. Major industries in the state are the Federal Superphosphate Fertilizer Company PLC, Ideal Flour Mills PLC, New Nigerian Packaging Company PLC, Peugeot Automobile Nigeria PLC, United Wire Products Limited, Bus and Refrigerated Van Manufacturing Co, Kaduna

Furniture and Carpets Company Limited, Electricity Metres Company Nigeria Limited and Rigidpak Containers Limited, Zaria. Kaduna state has numerous tourist attractions and comfortable five star hotels such as Durbar and Hamdala Hotels, among others, Tourist attractions include the Nok Cultural Site at Kuwi in Jema's Local Government Area, the Maitsirga Waterfalls in Kafanchan, the Legendary Lord Lugard bridge in Kaduna town, the Kerfena Hills in Zaria and the Palace of the Emir of Zaria. There are also modern parks and gardens.

### **3.2 KANO STATE**

**Date Created:** May 27, 1967 **Capital:** Kano

**Main Towns:** Dambatta, Gumei, Gwarzo, Hadeija, Karaye, Kazaye, Ririvani and Kano. Kano State came into existence on May 27, 1967. It is located within the extreme north-central part of the country and has its neighbours Katsina State to the north-west, Jigawa to the north-east, and Bauchi and Kaduna states to the south. There are 44 local government areas in the state, namely, Dala, Kano, Kunbotso; Nassarawa, Rimin Gado, Doguwa, Tudun Wada, Sumaila, Wudil, Takai, Albasu, Bebeji, Rano, Bunkure, Karaye, Kuru, Kuru, Kura, Madiob, Gwarzo, Shanono, Dawakin, Kudu Isanyawa, Bichi Dawakin Tofa, Dambarta, Minjibir, Ungogo, Gezawa, Gebasawa, Bagwai, Gaye, Tofa, Waraua, Fagge, Gwale, Taarauni, Ajingi, Garko, Garun Mallam, Rogo, Makoda, Kibliya and Kunchi. Kano State is historically a commercial and agricultural state, the centre of commerce. The state produces groundnuts and it is also blessed with solid mineral resources.

In social development, Kano State provides educational, health, agricultural and commercial facilities for its teeming vibrant population. Kano state is now a pacesetter in educational projects. Its senior secondary schools are emulated by others while the primary schools management board has now become a national phenomenon. Its vigorous adult literacy programmes that it embarked on have won national and international recognition. Kano has recorded impressive results in the health sector especially in preventive Medicare. There are over 6,000 beds in more than 18 General Hospitals, five Specialist Hospitals, 19 Comprehensive Health Centres and 14 Primary Health Centres. Kano has bagged the best Tourism Award with her numerous tourism and cultural centres which include the colorful annual Durbar, leather works and craft. There are museums and monuments which are repertoires of our rich cultural heritage.

Kano state is a showcase in agriculture self reliance and admirable resources management. Before the creation of Jigawa State, there were over 120 earth dams in the state, majority of which are located in Kano territory. Today, the dams which include Challawa Gorge and Tiga Dam, two of the ambitious irrigation projects in West Africa, ensure all year round farming. Kano is known today as the most irrigated state in the country with more than 3 million hectares of cultivable land.

### **3.3 KATSINA STATE**

**Date Created:** 23<sup>rd</sup> September, 1987

**Capital:** Katsina

**Major Towns:** Daura, Funtua, Malumfashi, Bakori, Kanjia.

The State was carved out of the old Kaduna State. It is bounded in the north by Niger Republic, in the east by Kano State, in the south by Kaduna State and by Sokoto State in the west. There are 34 local government areas in the state namely: Katsina, Zango, Daura, Mai Aduwa, Mashi, Kaita, Ingawa, Kankiya, Dutsin-Ma, Matazu, Safana, Musawa, Kankara, Malumfashi, Kafur Danja, Funtua, Bakori, Faskari, Sandamu, Danume, Kasuda, Raure, Dan-Musa Dutsi, Chranchi, Sabuwa, Jibiwa, Batsari, Kurafi, Batagarawa, Rimi, Mani and Bindawa. The indigenes are Hausa and Fulani with pockets of other ethnic groups such as Ibos and Yorubas. The state government in its bid to provide effective and comprehensive health care services for all and sundry expanded and upgraded all existing health centres. Rural health centres in Bakori and Faskari have been converted into general hospitals. The Government also constructed the Katsina Specialist Hospital in its-effort to provide special health care services. There is a children's hospital located at Malumfashi. The Katsina State Government attaches a lot of importance to education. Scholarships are awarded to deserving indigene to study relevant courses in institutions of higher learning at home and abroad.

In the field of special education, adequate plans are made to provide each Local Government with special schools for the blind. The state has also established an Education Resource Centre with Headquarters at Dutsin-Ma. The Centre has the responsibility of inspecting schools, designing and developing curriculum and ensuring effective supervision of teaching in schools. The state's industrial policy objectives include improving living standard, provision of regular employment, balanced industrial growth through establishment of industries in rural areas. Katsina state has a large deposit of kaolin and asbestos and other minerals needed for good industrial take off. Katsina is one of the few states in the country where crops are grown all the year round. Apart from farming during the rainy season, dry season farming is done along river banks and along the numerous dams built by the State and Federal Governments.

Due to the vast arable land which nature has bestowed on the State, it is currently playing a leading role in commodity/food production namely: cotton, groundnut, millet, guinea corn, maize, rice, wheat and vegetables. Government's encouragement and general incentives to both large and small scale as well as peasant farming over the year, has been commendable. Katsina city is a tourist attraction because of the wall that surrounds it with its seven different gates. The wall was built about 900 years ago during the reign of King Murabus. The Emirs palaces in Katsina and Daura are also tourist attractions because of their unique architectural structure. The Katsina Teachers College built in 1922

is the oldest institution of learning in the northern states. Its main attraction is the red-baked city mud with which it was built. Another important tourist attraction is the Gobarau Minaret built about 300 years ago. It was built of baked clay and mud and has been a thing of wonder to the inhabitants of the city. Legend has it that in those days, because of its height, it was used for surveillance purposes where warriors could see enemies advancing on the ancient city.

### **3.5 KEBBI STATE**

**Date Created:** August 27, 1991 **Capital:** Birnin Kebbi

**Main Towns:** Gwandu, Argungu, Yauri, Zuru and Birnin Kebbi.

The present Kebbi State comprising four emirates of Gwandu, Argungu, Yauri and Zuru was carved out of the former Sokoto State. Kebbi state derived its name from the 14th century "KEBBI KINGDOM" which was a province of the former Songhai Empire. Kebbi state is divided into 22 local government areas. They are Birnin Kebbi, Agaski, Yauri, Sukaba, Wasugu, Danko, Zuru, Koko-Besse, Bagudo, Dandi, Suru, Maiyama, Jega, Bunza, Arewa, Gwandu, Argungu, Aliero, Augie, Fakai, Shanga and Kalgo. Kebbi state enjoys a tropical type climate which is generally characterized by two extremes of temperature - the hot and cold temperatures. Rainfall begins about April and ends in October with the heaviest fall appearing in July and August. The extremely cold harmattan period usually accompanied by dust - laden winds and fog of alarming intensity, prevails in November, December and January. Mean annual temperatures vary considerably but usually stand at 100°F or 70°C, while mean annual rainfall is about 500 mm.

Kebbi state has one of the most agriculturally viable environments since it is endowed with high soil fertility, vast farm lands and economically viable rivers sheltered by a fine tropical climate. Owing to these factors, agriculture has remained the major source revenue and indeed the backbone of the economy of the state. Major food crops in the area are millet, guinea - corn, maize, cassava, potatoes, rice, beans, onions and vegetables, while cash crops including wheat, soya beans, ginger, sugar cane, groundnuts and tobacco are also produced in the state. Similarly, fruits such as mango, cashew, guava and pawpaw are produced under horticulture. Kebbi state has the Kebbi Agricultural Development Authority which is responsible for the implementation of its agricultural policies.

Kebbi state is endowed with economically viable rivers such as the Niger and the Rima for the development of fisheries activities. Fishing has always been one of the key occupations of the inhabitants of the state. Environmental factors as well as the largest concentration of cattle and other animals has made the state a basic raw materials source for dairy-products industries. Islam is the predominant religion. The state government recognizes that education is the basic ingredient for socio-economic and technological development. It is committed to ensuring that the people attain high standards in Education.

Nomadic Education is also encouraged to improve the level of understanding of the wandering nomads of the state. Kebbi State has undergone tremendous industrial and commercial growth. The Government has over the years emphasized the development of industries with bias towards imports substitution and export oriented labour intensive industries. Attention is also being paid to comprehensive health care services for all and sundry. One of the occupational festivals is the Argungu Fishing and cultural festival. The Argungu festival was first celebrated as a big event in 1934, when it was staged to mark the visit of the Sultan of Sokoto, Mallam Hassan Dan Mwazu to Argungu. Hitherto, it was an irregular get-together of local fishermen residing in the vicinity of the fishing site of Argungu. Today, it is celebrated with a lot of pomp attracting people from both inside and outside the country. The **mineral resources** in the states include limestone, salt, clay and gypsum.

### **3.6 SOKOTO STATE**

**Date Created:** 1976 **Capital City:** Sokoto

**Major Towns:** Yabo, Guddu, Illela, Binji, Gwadabawa, Bogings, Sokoto, Tambuwal, Wurno etc. Created out of the former North Western State, Sokoto State falls on the boundary between the semi-arid region and the Sahel Savannah. The topography of the state is dominated by a rolling pen plain which rises from an elevation of 300 metres to an average height of 450 metres in the South-West. Sokoto State has since its creation given birth to the present Kebbi and Zamfara States and today comprises 22 local government areas. These are Tangaza, Binji, Illela, Gada, Sabon Birni, Gwadabawa, Kware, Goronyo, Wurno, Rabah, Wamakko, silame, Yabo, Bodinga, Tambulwal, Dange/Shunte, Gudu, Kebbe, Sokoto, Sokoto South, Shagari and Tureta.

Culturally, Sokoto State is a veritable centre of Islamic learning and jurisprudence. However, realizing that both islamic and western education are crucial ingredients for socioeconomic development, successive governments in the state strive for the attainment of high standards in both systems of education. Education therefore ranks high on the priority scale of the state. The state is serviced by a university, the Usman Dan Fodio University which assists in the training of high level manpower both for the state and the country as a whole. Sokoto State is essentially an agricultural state with traditional mode of production predominating and more than 90 percent of the population engaged in subsistence farming. The main crops produced in the State are millet, guinea corn, maize, rice, beans, wheat, cassava, potatoes, groundnut, cotton, sugar cane, and tobacco. Fruits and vegetables grown in the State include oranges, mangoes, cashew, bananas, lettuce, spinach, okra, cabbage, pawpaw and guava.

Livestock production is a major activity in Sokoto State: There is an estimated 15 million head of livestock - cattle, camels, sheep, goats etc - making the State second to Bomb State

in livestock production. The state government encourages the development of the livestock industry by providing good pastures for grazing, modern facilities for processing livestock products and efficient animal health care services.

Agro-Argentinad industries are prominent in Sokoto State. These include those for wheat flour processing, wheat handling, tomato processing, sugar/refining, textile etc. Other companies include Sokoto Cement company and Sokoto Soft Drinks factory. The state is also one of the major suppliers of leather for the world market. In pursuance of its industrialization policy, tremendous efforts have been made to see that both foreign and indigenous entrepreneurs are encouraged to invest in the industrial development of the state. The provision of health care facilities is also a major task of successive governments of the state. Thus, the Sokoto State Health Project, a world bank assisted parastatal will provide access to modern health services to some 700,000 inhabitants by rehabilitating and upgrading 120 deteriorated dispensaries located in various parts of the state. Other facilities in the state include Women and Children Clinics and one Leprosarium as well Usman Dan Fodio Teaching hospital. On its part, the School of Nursing and Midwifery has continued to produce the much needed qualified manpower for Hospitals in the state.

### **3.7 ZAMFARA STATE**

**Date Created:** October 1, 1996

**Capital City:** Gusau

**Major Towns:** Kaura-Namoda, Anka, Talata-Marafa, Zugu

Zamfara State is one of the newest states of the federation created out of Sokoto State in October 1,1996. Zamfara State is bounded by Sokoto, Kebbi, Katsina, Niger and Kaduna states. It is made up of 14 local government areas: Isa, Zurmi, Maradun, Talata-Marafa, Kaura-Namoda, Bungudu, Gussau, Chafe, maru, Anka, Kiyawa, Bukuyum, Gummu and Shinkafi. The state is basically an agricultural state with over 80 percent of the people engaged in various forms of agriculture. Major agricultural products include millet, guinea corn, maize, rice, groundnut, cotton, tobacco and beans. To harness these products and industrialize the state, the government has made it a cardinal policy to encourage entrepreneurs both foreign and indigenous to invest in the State especially in the manufacturing sector.

Industrial concerns exist in the state and these include a modern bakery in Gusau, Gusau Oil Mill, which is the first vegetable oil mill in Nigeria to extract oil from cotton seeds, Zamfara Textile Industries Limited, Gusau and the Gusau Sweets Factory and the Cotton Gingery at Gusau. The people of Zamfara State also engage in the weaving and telling of locally dyed and designed materials and other kinds of woven products, often made from d ate-palm raffia. Zamfara State holds some tourist attractions which are of historical or religious importance. These include Jata, an ancient settlement of Zamfara located around the hill with a large cave around where traditional practices were performed.



#### **4.0 Conclusion**

This unit considered the North East geopolitical zone (Nigeria). The six (6) states, major town local government areas, date of creation, and capital sits in each of the states. The resources endowment and cultural heritage across states in the geopolitical zone were explained in detail.

#### **5.0 Summary**

The North West geopolitical zone (Nigeria) where broadly identified i.e Kaduna state, Kano state, Katsina state, and Sokoto state, Kebbi state and Zamfara state. Consequently, farming is the common traditional occupation across the state in the south west region. The aim of this unit is to provide adequate information for students to understand the numerous mineral resources, their extraction as well as complex industrial activities found in the geopolitical zone.

#### **6.0 Tutor- Marked Assignment**

- 1) Identify date of state creation of each in the **North West** geopolitical zone (Nigeria).
- 2) Summarise the resources endowment in Zamfara and Kano State state respectively.
- 3) Discuss the Industrial activities in Kaduna State.

#### **7.0 REFERENCES/ FURTHER READINGS**

<http://www.kingdomsofnigeria.com/states.php>  
<http://www.hrw.org/news/2007/01/31/nigeria-corruption-and-misuse-rob-nigerians-rights>  
<http://www.lagospowerkids.gov.ng>.

### **MODULE THREE: MINERAL RESOURCES AND AGRICULTURAL SECTORS**

#### **UNIT 1: SOLID WASTE MANAGEMENT IN NIGERIA** **CONTENTS**

## **1.0 Introduction**

### **2.0 Objectives**

### **3.0 Main Content**

#### **3.1 Solid Waste Management: Lagos Experience**

#### **3.2 Economics Crisis and Economics of Recycling**

#### **3.3 Strategies for Managing Solid Waste**

#### **3.4 Shell Experience**

#### **3.5 Why our Environment campaign failed**

#### **3.6 Recommendation for sustainable solid waste management**

### **4.0 Conclusion**

### **5.0 Summary**

### **6.0 Tutor Marked Assignment**

### **7.0 Reference and Others Resources.**

## **1.0 Introduction**

This unit is a continuation of the last one, unit 15, The previous unit discussed more background issues of waste disposal and collection including the problems of waste generation. However, this unit will discuss the management aspect of solid waste and techniques that may be employed in managing waste in Nigeria. Case studies of waste management in various places will also be discussed. Sustainable solid waste management techniques will be mentioned and recommendations will also be made.

## **2.0 Objectives**

By the end of this unit you should be able to:

- Relate the influence of economic crisis in Nigeria to waste recycling
- Outline strategies for managing solid waste
- Recommend ways for improving solid waste management in Nigeria.

## **3.0 Main Content**

### **3.1 Solid Waste Management: Lagos State Experience**

The present Administration in the State has reshaped the private sector involvement in waste disposal. The new technique adopted has proved effective in some local governments. In the second quarter of 1998, the state government came up with the idea of privatization of refuse known as private sector participation (PSP), first at the level of the Ministry of Environment and Physical Planning and later in 1999 at local government level. The state government launched last year the private sector participation (PSP) programme in which it brought companies to assist in clearing mountains of refuse and manage waste disposal. The introduction of bags with which residents are expected to dispose of their refuse to the PSP operators for a fee introduced. This made residents

dispose of their waste properly.

The Local Government Administration is now faced with the challenge of recommending PSP to the people of Lagos State. And it is the job of the health officers and administrators of the local government to ensure that the government succeeds in this manner of privatization of waste management. Thus, in the last months various PSP operators have emerged from various parts of the state. Although the awareness of this programme has not been fully reached, the people should be informed of government policies and programmes as it affects PSP. This is because policies cannot be fully effective for the improvement of the majority when the people are not supportive of the policies. Since the local government is not without allocation of values, the success of PSP will be determined. by the promptness of the local government in dealing with PSP issues (Above & Kola Olusanya, 1999).

In the management of municipal solid wastes, collection and transportation from refuse dumps take up to 75% of the refuse expenses of waste disposal. Little wonder therefore that Lagos State Waste Management Authority (LAWMA) has not been able to cope amidst the teeming population of the state in the face of financial constraints cum equipment incapacitation. This waste collection and disposal are being contracted out of the private sector whose primary goal is to maximize profit.

### **3.2 Economic Crisis and Economics of Waste Management**

The present harsh economic crisis in the nation has led to the emergence of interest in waste recycling. It is now common to see human scavengers at work on most waste dump sites salvaging all items they believe to be salvageable, usable as they are or in demand as industrial raw materials: bottles, rusty pots and pans, broken metals, chairs, leaking plastics containers, old car tyres and plastic shoes, clothes buttons, and zip fasteners, as well as milk tins, etc. Milk tins, for example, are in very high demand. As you might have known they can easily be transformed into cups, for measuring food stuff in the market or for cooking bean cake (moimoi) in the house. Despite the obvious health hazards which scavenging poses to both the scavengers and their customers, it must be admitted that it is helping us to cope with our solid waste disposal problem. And in 1989, the country's policy makers put a stamp of approval on the scavengers' industry by launching a nation-wide Waste-to Wealth scheme (NEST, 1991).

Making one's daily bread from scavenging is a thriving business. My interaction with some of these scavengers proved that some have personal cars while others have built their houses. This is good business, good money with a risk on health.

A study conducted by Muoghallu (2000) on the economic value of waste paper, plastics and metal scraps in Lagos State is worthy of note. The study covers a total of 270 people from three groups involved in the collection, processing and recycling of wastes. They are

(40) scavengers, (182) individuals from processing companies and (48) individuals from recycling companies.

**3.2.1 Scavengers:** The study reported that the scavengers were involved in this work because of the reasonable economic gain they make from selling waste plastics, papers and metal scraps. They find it very easy to collect enough of these materials and sell to processing companies. The problem they encounter in the work is sorting of the wastes. According to the study, paper waste is the most abundant, followed by plastic and then metal scraps. The waste papers are mostly wet and thus, not good enough when sorting for these plastics are more accessible. They concluded that recycling is economically viable.

**3.2.2 Processing Company:** Wastes are processed for recycling companies, ready enough to be recycled. It was reported that the waste is in constant supply from contractors that relate with the study showed that of the residents 100% agreed that processing of waste has economic value. 63% agreed that waste paper is more available for processing, 20% says plastics are more available while 17% of them supported the fact that metal scraps are more abundant.

**3.2.3 Recycling Company:** Seventy-five percent of the companies involved in the study says recycling has a low cost of production compared to virgin raw materials. Seventy-three percent of these companies mentioned that there is constant supply of the needed processed materials and all 100% agreed that the raw materials are reliable. Seventy-seven percent of the respondents say the end products have strong market competition relative to products from virgin raw materials and that these products are even cheaper. They also mentioned that the removal of these solid wastes from streets and dumpsites for recycling has a positive effect on our environment. It was further agreed (77%) that solid wastes have economic value and that the future of recycling is bright in Lagos State.

### **3.3 Strategies for Management Solid Waste**

Above (2001) mentioned that there are several strategies used for managing solid wastes, which include;

**3.3.1 Open dumping** Open dumping is deposition of solid waste in a land disposal site, left uncovered, with little or no regard for control of scavengers, diseases, air pollution, aesthetics and water/and pollution problems.

#### **3.3.1.1 Advantages:**

- (1) Very easy to operate within a short period
- (2) It is not expensive

#### **3.3.1.2 Disadvantages:**

- (1) It is a disease-breeding strategy
- (2) It results in air-pollution when burnt
- (3) Leaching results in contamination of groundwater, and surface water
- (4) The bad odour and contaminated water can affect man, animals, and plants. (Quite unsightly)
- (5) Putting the land into use becomes a big problem.

**3.3.2 Sanitary Land filling:** It is an upgraded version of open dumping strategy. Here, the site is located where water pollution from run-off and leaching is minimised. The wastes are spread in thin layers, compacted, and covered with a fresh layer of soil each day.

**3.3.2.1 Advantages:**

- (1) It minimizes pests and aesthetic loss,, diseases, air-pollution and water pollution problems
- (2) It is good for land reclamation or it enhances the land value.

**3.3.2.2 Disadvantages:**

- (1) If not well managed, it can degenerate into an open-dump.
- (2) There might not be space for a landfill site because of human activities (house construction, farming, etc.)

However, it requires a high level of commitment, changed attitude and sincerity of purpose.

**3.3.3 Secured Landfilling:** The use of a land to store hazardous solid and liquid wastes, usually stored in containers and buried. Such sites are restricted and monitored

**3.3.3.1 Disadvantages:**

Not safe for neighbouring inhabitants.

**3.3.4 Incineration:** a strategy in which solid, liquid or gaseous combustible material is burnt on a piece of land (in a pit) or in a container.

**3.3.4.1 Advantages:**

- (1) It reduces the volume of waste by 80%
- (2) It removes odours and disease carrying organic matter
- (3) It needs little land space.

**3.3.4.2 Disadvantages:**

- (1) It is expensive and needs skilled labour
- (2) If not well managed, it results in air-pollution and respiratory diseases because of discharge of carbon monoxide, sulphur dioxide, poisonous gas and harmful particles.

**3.3.5 Composting:** Dumping of biodegradable solid waste into prepared pits, later covered with top soil, allowed to breakdown (through bacteria) to produce a humus-like end product referred to as compost such biological decomposition of organic wastes under-controlled conditions requires that wastes be sorted to garbage pack.

**3.3.5.1 Advantages:**

- (1) It converts organic wastes to solid conditioner, or for fertilization
- (2) It improves crop yields

**3.3.5.2 Disadvantage:**

Where the wastes are not properly sorted out before dumping, some undecomposed metallic objects and nylon can obstruct plant growth.

**3.3.6 Resource Recovery Plant Usage**

This strategy turns waste to useful resource health in 2 ways:

- (a) Low Technology Approach: This requires homes and business houses to deposit recyclable waste paper, glass, metals and food scraps into separate containers for onward transportation to scrap dealers, compost plants, manufacturing plants for recycling.
- (b) High Technology Approach: This requires collection trucks to transport mixed urban wastes to plant sites where they are spread and sorted out to recover glass, iron, aluminium and other valuable items which are later recycled to produce new products for market. Other combustible wastes are later burnt to produce steam, hot water, electricity, etc.

**3.3.6.1 Advantage:**

It turns household, agricultural and industrial wastes to useful materials.

**3.3.6.2 Disadvantages:**

It can cause air-pollution if not properly managed.

**3.3.7 Nuclear and Toxic Waste Disposal:**

Nuclear wastes are radioactive materials which are dangerous to most forms of life. Nuclear industries and uranium mills generate them. Toxic wastes are generated from toxic chemicals and metals, which are poisonous to human beings and wildlife. Examples of metal wastes, which could be toxic, are lead, mercury, cadmium and arsenic. Toxic pesticides include DDT, aldrin, lindane, endosulfan, potassium and phosphine.

**3.3.8 Disposal Methods:**

Since majority of highly radioactive waste takes a number of years to decay, disposal takes different forms:

1. **Dumping (wastes in Poor countries)** e.g the koko waste dump of 1988. A German ship, THE LINE, dumped toxic wastes at Kokofort in Delta State of Nigeria, before it was removed back to EURIPE in the same ship.
2. **Storage in stainless steel tanks:** The ultimate goal is soliciting the waste in glass through nitrification. Such tanks are constantly cooled and monitored for a length of time.
3. **Exporting** nuclear wastes to deserts in exchange for nuclear technological know-how e.g Germany exports (waste China for burial in Gobi Desert.
  - (i) Effects of Nuclear and Toxic Waste Disposal: the effects are numerous on man, the flora and fauna of our environment, health problems such as convulsion, dermatitis, irritation of nose/throat, anemia, skin burns, chest pains, blood disorders.
  - (ii) Compulsion of manufacturers to label their products with adequate disposal instructions (e.g cans, yogurts, pure water, etc).

**3.3.9 Anaerobic Bacterial Digestion:** This is another method of converting solid waste into beneficial products. The waste is subject to anaerobic bacterial digestion to produce combustible biogas and organic fertilizer. Under strict anaerobic conditions microorganisms generate combustible gas, with manure or organic fertilizer being produced as a by-product can digest solid wastes. Bio-gas provides energy for cooking, lighting, and drying farm produce and electricity generation. Bio-gas is a mixture of gases comprising 70% o methane, 30-49% dioxide and traces of the gases such as hydrogen sulphide, nitrogen, hydrogen and carbon dioxide.

#### **3.4 Sustainable Solid Waste Management:** The shell Experience

The example of the Shell Petroleum and Development Company (SPDC) is worthy of mention. They have a waste recycling depot for several waste streams such as batteries, papers, plastic, bottles and metals. These segregated wastes are on a weekly/quarterly basis sold to vendors who recycle them to useful products. The batteries are sold back to Exide, Ibadan where they extract out the lead and plastic content of old batteries, which serve as a feedstock for the new ones. Waste papers are sold out to vendors who transfer them to tissue paper making industries; the plastic and bottle wastes also serve as feedstock for new plastic and glass products. Composting is another method of waste recycling used as a sanitary process for treating municipal, agricultural and industrial waste. What Shell does -is to collect all the food wastes and send to the composting center where they are biologically decomposed under controlled condition to a state in which they can be handled, stored or applied to land without adversely affecting the environment. Generated compost for, the composting facility was achieved at a lower-cost than inorganic manure comparable in quality. The composting process leads to generation of large quantities of maggots, which were channeled as fish feed to the SPDC

fish farms (Above, 2001).

### **3.5 Why Our Environmental Campaigns Fail!**

Quite a number of new State governors, immediately on assuming office, embarked in what has almost become a familiar routine in the initiation of new governors - the campaign to keep our cities clean. This time around, these rituals have coincided with and, therefore, received, added impetus from the nation-wide Operation WAI which appears to blame all the ills in our society on indiscipline.

Perhaps this is so I do not intend to bore readers by joining issues with this view. I believe there have already been adequate counter-balancing arguments by many well-meaning writers articulating the view that the much talked about indiscipline among the masses may well be due as much to their neglect by successive administrators and the harsh and desperate environmental, social, and economic conditions which they have to contend with daily, as to any congenital proclivity to do wrong.

One does not need to search too hard to see why the condition of our environment should attract the attention of the new governors. First, one can hardly exaggerate in describing the level of degradation represented by the appalling and dehumanizing conditions of our physical environment. The incessant assault on our senses and the bizarre and depressing imageries they engender in our minds, conditions once restricted only to a few urban centres have now become so pervasive that they must constitute constant reminders of failures of successive governments.

The bleak and dreary slums with their distressing living conditions that represent the bulk of our residential districts, the hazardous death traps that we call roads, the noise that jars and pounds our eardrums each hour of the day etc. all together constitute some of the most outrageous examples of urban barbarism encountered anywhere in the world. Perhaps the only surprise left is the fact that we are still surprised and the greatest danger is that we may someday become so inured that we may even cease to be surprised anymore by what we see around us.

There is also the fact that the physical environment is a visible and tangible entity and whoever succeeds in making a visible impression on it immediately leaves an indelible imprint on the minds of the people about his stewardship. It has thus become a veritable war front and, like all war fronts, it has its share of dangers and casualties as well as glory.

There is a general consensus that the misuse and abuse of our physical environment in their various forms have reached terrific proportions and must be arrested and eradicated. It is indeed pathetic to notice the speed with which illegal houses spring up even in the most exclusive and expensive districts in our urban centres. My point of departure and line



of dissent, however, is about the modus operandi of these clean up exercises. For, no matter how widespread or endemic these abuses are, we must see them for what they really are symptoms of more deep-rooted maladies, which require to be treated at source rather than superficially.

These campaigns invariably adopt some set operational patterns aimed at predictable targets, namely, destitute, rubbish dumps, open drains, illegal structures like sheds and workshops etc. And then after two weeks or so, the tempo abates and the operations stop almost as abruptly as they started and we are once more back to where we started. The destitute drifts back to the streets by day and return by night to their accustomed spots to rest their jaded heads on their damp or dusty pallets. The refuse trucks break down, the dustbins disappear and refuse starts accumulating once-more, first in trickles then in a deluge until it covers the streets and overflows into the open drains. Just as before.

The roadside mechanics and traders, food sellers and all return to their well-appointed locations to mend their half-wrecked shelter and before long, it is business as usual. And on the other side of the battle field, the erstwhile frontline soldiers of the failed campaign return to base to exchange notes about their exploits and buy 'ewa' at break time from the roadside mamas in the shades of the almond trees across the road. The officers of the campaign return to their air-conditioned offices to attend to their more familiar tasks on the desk; and the authorities who started the ill-spread campaign in the first instance, now stigmatized as usual with ineffectiveness and inefficiency, are left to nurse the wounds of their battered image.

The question that then arises is why is this always so? Why do these campaigns always fail? The reason must lie in the fact that the approach and operations strategies for the campaigns are usually misconceived. The measures that are adopted are usually, at one and the same time, too drastic, too hasty, and too superficial, and these factors only ensure their ineffectiveness and ultimate failure. One does not set about to cure a headache by severing the head or treat leprosy by burning off the leprous tissues. It is a fact that the bulk of the offending land uses arise from the various activities of the informal sector of our economy, sometimes referred to as the inevitable sector. This represents the vast majority of our working population who fall outside government employment or the organized private sector; those who in their own little ways must eke out a living. Most of these are certainly in no position to acquire or rent properly zoned premises for their operations but must make do with some improvised locations. Bearing this as well as their socioeconomic role in our present economic circumstances in mind, one is constrained to say that it is a rather drastic measure to uproot them without due consideration for their well-being and means of livelihood through the provision of appropriate alternative facilities.

The fault, of course, has primarily been with our approach to urban planning which is heavily influenced by unrealistic and abstract foreign standards. For even in those districts, which had the benefit of formal planning from the onset, little or no consideration appears to have been accorded these inevitable and essential land use requirements.

The trouble is that we cannot wish them away and can only continue to ignore them to our detriment, for they are realities and facts of life, which we must contend with. The paucity of properly organized open-air marketplaces in our towns is a notable case in point. Considering their enduring role in our economic and business culture, their inadequacy is a serious indictment on our urban planning practice.

The only hope for a truly lasting solution to the chaos caused by these informal uses in our urban areas is for authorities to determine the real extent of their land requirements and .that to embark on a deliberate effort to carve out and provide properly organized spaces and facilities for them in appropriate locations. Furthermore, the authorities must bear in mind that for any environmental campaign to succeed, there must be a programme for sustained effort and continuous surveillance rather than a once-and-for-all affair. It has taken decades of neglect and abuse for the environment to degenerate to its present detestable state and it is therefore unrealistic to expect that the situation can be eradicated in one sudden and explosive swoop. The decision of some State governors to reintroduce the services of Public Health Inspectors at this time is, therefore, the most appropriate and commendable step in the right direction.

The physical environment is, as-it were, a living organism and needs to be tendered and catered for. The factors which compel its development and dictate its emerging physiognomy are the nature and extent of the very human activities. National Concord, May 3, 1984

### **3.6 Recommendations**

In view of the thrust of this unit, the following recommendations as outlined by Arove (2001) are made to enhance sustainable solid waste management in Nigeria:

- (i) Set a goal of achieving not less than 70% effective sustainable waste management techniques in the volume of municipal solid waste generated in the country in the next 10 years.
- (ii) A focus at the level of literacy in the state is a pointer that Environmental Education (EE) is an essential tool for sustainable waste management. Environmental Education should be employed in leading citizens to see that the ecosystem should not be damaged by waste. It should include awareness on waste prevention. Environmental Education should be employed in bringing about favourable conceptual and effective change and enrich content knowledge especially in school's curriculum.
- (iii) The media should be actively employed in communicating to citizenry on sustainable waste management techniques such as re-use, recycling and waste prevention.

(iv) Community participation on a street-by-street basis educating and re- educating on waste separation. This method involves educating an individual (representative) in a street on the need and how to separate household waste into paper, plastics, metal scraps, batteries, waste food and waste oil should be employed at the grass-root. This individual can then educate others on the same street. Waste collection will then be on the basis of these separations which will facilitate re-use and recycling processes. Households that comply should be motivated, for instance individuals that effectively comply in 6 months may be given a "trade-off" the seventh month or given tax relief. This household waste separation should be given adequate legislation and enforcement at the local levels. Government offices, institutions and private companies should be encouraged to follow the same principle.

(v) Government should encourage markets for recovered products i.e. encouraging jobless youths in. the business, cutting down taxes of companies involved and government institutions should patronize the sale of recycled products.

(vi) Develop and implement through the collaborative approach guidelines and blueprint of integrated management of municipal solid waste.

(vii) Review and strengthen existing laws and regulations and ensure strict compliance with such laws.

(viii) Ensure provision, upgrading and maintenance of necessary infrastructure for collection, transportation and disposal of municipal solid waste at state and local government levels.

(ix) Encourage and provide an enabling environment for active private sector participation, non-governmental organizations, community based organizations and the commercialization of municipal solid waste management.

(x) Strengthen local capabilities through effective collaboration, co- operation and provision of necessary technical support

(xi) Promote:

- (a) The development and adoption of appropriate technologies - simple, inexpensive, easy to use;
- (b) Community/locally based technological initiatives for recovery, recycling; and
- (c) Conversion of organic municipal solid wastes to compost and develop markets for its use as solid conditioners.

(xii) Encourage industries to produce biodegradable packaging materials.

Devote a reasonable proportion of the budget to municipal solid waste management and ensure a safe and healthy environment.

#### **4.0 Conclusion**

Waste Management is highly problematic in Nigeria due to large human population, the need for improved standard of living, modernization, increased tastes and dumping of more wastes, especially the non-biodegradable pollution by- products of plastic and metals

The problems of waste management are still with us till date. The government should be seriously determined to educate the citizenry. on sustainable waste management techniques. In addition, the government should create opportunities for private participation in waste disposal, encourage recycling of waste and purchase of products from recycled materials.

## **5.0 Summary**

So far we have discussed solid -waste problems and management in Nigeria. Specifically this unit has focused more on strategies for solid waste management. Strategies employed in Lagos State include the involvement of government parastatal and private participation in the collection and disposal of waste to landfill sites. The influence of economic problems on the nation forced some individuals into the business of scavenging and recycling of renewable materials to earn their living. Several strategies for managing solid waste were articulated including their advantages and disadvantages. Several recommendations were also made that will improve waste disposal and management techniques.

## **6.0 Tutor Marked Assignment**

1. Briefly discuss strategies for managing solid waste
2. Mention two advantages and disadvantages of each strategy mentioned above

## **7.0 REFERENCES/ FURTHER READINGS**

- Above, M.A.N. (2001). Environmental Management and Education; An Introduction. Lagos. Goldenpen Books Publishers.
- Above, M.A.N. & Kola-Olusanya (1999). Milestones in Environmental Management. In Piercing the Armour of Development. Marwa's Touch in Lagos State. Peter Okebukola (ed.) 242-259. Lagos. Academy Press.
- NEST (1991). Nigerian's Threatened Environment. A National Profile. Ibadan. Nigerian Environmental Study/Action Team.

## **Other Resources**

- Above, M.A.N. (1998) Effectiveness of Teaching strategies in enhancing students' performance on water pollution. In strategies for Environmental Education: Focys on water pollutioN. STAND. E.E. Series II
- Above, M.A.N. (1998) Teaching Strategies Outcomes on Science Teachers' and Students Attitude Towards some Environmental Concepts. Journal of the Science Teachers Association of Nigeria. 33, 1 & 2, 20 - 24.

Barrow, C. J. (1993) developing the Environment: problems and management. U.K. Longman Scientific and Technology.

Douglas, T. (1992)- Patterns of land, Water and air pollution by Waste. In managing the Human Impact on the National Environment: Patterns and Processes.

Ekwo, P. I. (1997) Application of Environmental engineering:Incineration Paper Presentation at National Seminar/Exhibition on Municipal Waste Management, Enugu, 10 - 17 September

Gandy, M. (1994) Recycling and Politics of Urban Waste, London. Earthscan Publications Limited.

Lawal, M. B. & Noibi, A. S. (1990): Strategies for Effective Teaching of Environmental Education in Nigerian Schools. A commissioned paper submitted to NCE, Lagos.

Miller, G. T. (1991) Environmental Science. Sustaining the Earth. Califonca.Wadsworth Publishing Company.

UNESCO (1998) Strategies for the Training of Teachers in Environmental Education - a discussion guide for UNESCO Training Workshops in Environmental Education, The UNESCO Press, Paris, 1980.

## **UNIT 2: CHARACTERISTICS AND IMPORTANCE OF THE AGRICULTURAL SECTOR IN NIGERIA**

### **CONTENTS**

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Background to Agricultural Sector
3.2	Meaning and Scope of Agriculture
3.3	Role of Agriculture in Economic Development
3.4	Features of Nigerian Agricultural System
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Readings

## **1.0 INTRODUCTION**

I assumed you have familiarised yourself with the basic concepts of economic structure in module 1, you have equally been exposed to an overview of the Nigerian economic profile as a whole. I also believe you have read and comprehended the introductory comments of this module, with these you are set for a detailed discussion on specific sectors of the Nigerian economy. You will recall that we are taking off this broad discussion with the agricultural sector. In this first unit, a background of the Nigerian agricultural sector is provided through a discussion on the nature and scope of the agricultural industry as well as its contribution to the economy. This will no doubt form an integral part of a comprehensive discussion of the Nigerian agricultural sector as continued in subsequent units. Therefore, a basic knowledge of this concept will facilitate your understanding of the remaining units in this module.

## **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- ☐ Define the meaning and scope of Agriculture
- ☐ Enumerate the Importance of Agriculture to Nation's Development
- ☐ Highlight the Features of Nigerian Agricultural System

## **3.0 MAIN CONTENT**

### **3.1 Background to Agricultural Sector**

Given the location of the Nigerian economy on the global spectrum and its associated climatology, it is not surprising to find the country endowed with an expansive fertile agricultural land, numerous rivers, streams and lakes, forests of varying types and

grasslands. These resources create an impression which indicates that if these enormous resources are well managed and maintained there could emerge in the country, a vibrant agricultural sector supportive of food and raw materials self-sufficiency for the large population and industrial sector in addition to other roles. In Spite of the existence of this impressive magnitude of the deposit of these primary resources for effective agricultural activities in Nigeria, the sector has continuously in empirical terms stagnated due to its diminishing productivity. Despite this drawback the agricultural sector constitutes a dominant sector in the Nigerian economy accounting for an average of 45 percent contribution to the Gross Domestic Product within the last decade. In the light of this, we shall begin our discussion on the agricultural sector in this unit with the basic features and importance of the sector in the Nigerian economy.

### **3.2 Meaning and Scope of Agriculture**

Agriculture involves the cultivation of land, raising or rearing of animals for the purpose of production of food for man, feed for animals and raw materials for industries. The agricultural sector in the Nigerian context embraces all the sub-sector of the 'primary industry'. Essentially, it involves cropping, livestock, forestry, fisheries and aquaculture, including sub activities under these sectors such as pasturing, food and cash crop cultivation under cropping; poultry, piggery, cattle rearing under livestock; Lumbering under forestry; as well as processing and marketing of these agricultural products.

### **SELF-ASSESSMENT EXERCISE 1**

What are the components of the agricultural sector in Nigeria?

### **3.3 The Role of Agriculture in Economic Development**

The customary approach to the role of agriculture in economic development is formulated in terms of the "contributions" the agricultural sector can make or the "functions" it can perform during the process of economic development. To Reynolds (1975), therefore agricultural development can promote the economic development of the underdeveloped countries in four distinct ways;

- i. By increasing the supply of food available for domestic consumption and releasing the labour needed for industrial employment;
- ii. By enlarging the size of the domestic market for the manufacturing sector;
- iii. By increasing the supply of domestic savings; and
- iv. By providing the foreign exchange earned by agricultural exports.

Ayodele (2005) captures the goal of agricultural sector in Nigeria as follows:

- i. The promotion of self-sufficiency in food for the teaming and fast expanding

population and also for the supply of inputs (raw materials) into the industries, especially the manufacturing firms.

- ii. The generation of employment opportunities for the country's labour force
- iii. The diversification of the sources of foreign exchange-earnings through increased agricultural exports arising from the adoption of appropriate technologies in production and distribution.
- iv. Improvement of the socio-economic welfare of people engaged in agriculture, particularly, the rural people enroute the generation of regular income.

Generally, the role of agriculture in transforming both the social and economic framework of an economy cannot be over emphasized. It is a source of food for the teeming population. It is also essential for expansion of employment opportunity, for reduction of poverty and improvement of income distribution, for speeding up industrialisation and easing the pressure on balance of payments. In effect, it has been the main source of gainful employment, from which the nation can feed its teeming population, a regenerative, providing the nation's industries with local raw materials and as a reliable source of government revenue.

In their own contribution, Omowale and Rodrigues (1979) opined that for most developing countries agriculture has been assigned an important role in national development. Agriculture has been seen as a means of reducing dependence on certain importations, containing food price increases, earning foreign exchange, absorbing many new entrants to the labour market and increasing farm incomes at times of severe unemployment and rural poverty. Agreeing with the above views, Johnston (1970) opines that the appraisal of agriculture's contribution or role in the national economy can be made using for primary criteria, namely;

- (i) The proportion of the population engaged in agriculture
- (ii) The share of agriculture in the Gross Domestic Product
- (iii) The proportion of the nation's resources (other than labour) devoted to or employed in agricultural production, and finally,
- (iv) The contribution of the agricultural sector to foreign trade.

Thus, in attempting to assess the importance of the agricultural sector in the Nigerian economy we shall look at its contribution to food supply, employment, Gross Domestic Product, export earnings and balance payments.

### **3.3.1 Agriculture and Food Supply**

Agriculture remains the major source of food for the Nigerian populace. The crop sub-sector parades a large array of staple crops, made possible by the diversity of agro-



ecological production systems. The major food crops are: cereals such as sorghum, maize, millet, rice, wheat; tubers such as yam, cassava; legumes like groundnut, cowpeas and others such as vegetables (Akande, 2007). These are the commodities that are of considerable importance for food security and incomes of households. The livestock, fisheries and forestry subsector equally provide food of various forms for the citizenry. Nigerian agriculture has in recent years not been able to meet the food needs of the country. Rather, food production per capita has been declining. In order to supplement the low domestically produced food supply; there has been a substantial rise in food imports. These have taken substantial portions of the much needed foreign exchange thus, hindering development.

### **3.3.2 Agriculture and Employment**

More than 70% of the rural population of Nigeria is engaged in one type of agriculture activity or the other. This roughly indicates the extent to which the agricultural sector absorbs the labour force in the country. However, a World Bank Report (1979) puts it that the agricultural sector employed 71% of the total labour force in Nigeria in 1960 and by 1977 this was 68% in 1980, falling to 55% in 1985, 53% in 1986, 55% in 1987, 55% in 1988 and 57% annually from 1989 to 1992. Recent reports equally show that agriculture still employs over 60 percent of the Nigerian population. One of the most firmly accepted dogmas of economic development is that there is a secular decline of agricultural population and labour force of agriculture's share in the GDP in the course of development. The fall in the proportion of labour force engaged in agriculture is thus theoretically plausible and has been due to the structural changes in the economy where other sectors assume different dimensions and engage more labour than they previously did. However, while in the course of economic development, a decreasing proportion of the national labour force which is employed in agriculture over time is inevitable, it is important that agricultural labour productivity increases in order to compensate for the outflow of labour, at a rate not less than that of labour migration less natural increase; and also to have expanding non-agricultural employment opportunities to absorb the out-migration of labour from the agricultural sector. It is necessary to point out that given the importance of labour in agriculture of most African nations including Nigeria, and the poor labour absorptive capacity of their industrial sectors, rapid outflow of labour from the agricultural sector has generated not only social but economic problems as well. A partial consequence of a high labour outflow from agriculture has been a decline of agricultural production in Nigeria in recent years. Enhancement of agricultural labour productivity should therefore be a goal for the country.

### **3.3.3 Agriculture and Gross Domestic Product**

Agriculture, specifically in Nigeria is a major contributor to the country's Gross Domestic Product. In the early 60's, agriculture was contributing over 60 percent to the GDP, this dropped to about 20 percent in the 70's. While this trend is theoretically plausible in the cause of economic progress, there are other reasons which explain the rapid decline in the

share of agriculture in GDP in Nigeria such as overdependence on oil. The share of agriculture in the GDP from the year 2000 till now has been revolving around 40 percent. However, despite the relative decline in the share of the agricultural sector, it still remains an important sector. And with the exhaustion of oil in the future, the economy will continue to depend critically on the agricultural sector.

### **3.3.4 Agriculture and export earnings**

The contribution of agriculture to economic development can also be measured in terms of its contribution to export earnings. Nigeria has a highly diversified agro-ecological condition, which makes possible the production of a wide range of agricultural commodities. Nigeria's wide range of climatic variations allows it to produce a wide variety of food and cash crops. These cash crops were Nigeria's major exports in the decades right up to the 1960s until the surge of world oil prices in the early 1970s (Philip et. al, 2009). The contribution of agriculture increased in absolute terms over the years from ₦282.4 million in 1960 to ₦13852.7 million in 1995. Its relative share however declined from 83.2% in 1960 to only 1.8% in 1995. This declining share is being witnessed till 2010.

The reasons usually adduced for these features are its poor performance in terms of productivity and the relative importance of the petroleum sector. Apart from these factors, the relative decline of agriculture can be blamed on decline in world demand for primary products, which constitute the bulk of Nigerian agricultural exports as well as domestic industrial growth in Nigeria which has led to increases in the use of major proportions of some of these products as raw materials. A strategy for increased output is needed to ensure increased export earnings and the adequate supply of raw materials for the growth of local industries.

### **3.3.5 Agriculture and Balance of payments**

One must add that increased agricultural output of industrial raw materials reduces dependence on imported inputs and goes to improve our balance of payments position. The invigoration of agriculture is essential not only for expansion of employment opportunity, reduction of poverty, improvement of income distribution and speeding up industrialisation but also for easing the balance of payments. Agriculture in Nigeria performed this enviable role in the 1960s and before the advent of oil. The combined effects of the shortfall led to a balance of payments deficits from 1981 to 1994. While net surpluses of ₦1.8 million and ₦2.4 billion were recorded in 1976 and 1980, 1981 —witnessed a deficit—of ₦2.9 billion. In 1982 and 1983 deficits—stood at ₦1, 398.3 million and ₦244.8 billion respectively while in 1994 it stood at ₦7, 194.9 million, having falling from ₦13, 615.9 million in 1993, by 2008-2009, the deficit has risen to an average of ₦5,437,042.9 billion. This therefore confirms a greater need for renewed attention to our agricultural sector to improve the country's balance of payment position.

In summary, the role of agriculture in transforming both the social and economic framework of an economy cannot be overemphasized. It is a source of food and raw materials for the industrial sector. It is also essential for expansion of employment opportunities, for reduction of poverty and improvement of income distribution, for speeding up industrialisation and easing the pressure on balance of payments. In effect, it has been the main source of gainful employment, from which the nation can feed its teeming population, a regenerative, providing the nation's industries with local raw materials and as a reliable source of government revenue or foreign exchange earnings.

Nigeria is blessed with a high level of oil and agricultural resources. However, despite the large revenue derived from the oil sector, agriculture remains the mainstay of the Nigerian economy. Historically, there is virtually no country that has made economic progress without prior gains in her agricultural sector. The Nigerian agricultural sector is one of the most important sectors in terms of Gross Domestic Product (GDP) and employment generation potential. It contributes significantly to national food self-sufficiency by accounting for over 90 percent of total food supply in the country. It is a major and sustainable portal for foreign exchange earning being the main contributor in the non-oil sector.

With a very large proportion of the estimated 75% of the national population residing in the rural areas and working in agriculture, growth in the sector is expected to have a significant impact on poverty reduction and job creation. Not only will such growth lead to extra employment opportunities, but also the additional supply will help stabilize and reduce food prices, which will benefit the poor who because of their large propensity to consume, spend more than half of their income on food. Most importantly, an improvement in agriculture has been known in other countries, to help in the facilitation of growth in other sectors of the economy through its multiplier effect. Furthermore, agriculture is expected to provide substitutes to the highly expensive imports of food and live animals which totalled N174.23 billion in 2006 (CBN, 2007).

## **SELF –ASSESSMENT EXERCISE 2**

Which of the roles of agriculture in economic development do you consider most important and why?

### **3.4 Features of Nigerian Agriculture**

Production in the agricultural sector is usually organised in two varying systems

- i. The Large Scale Capitalist Plantation- This form of production employs modern technology to agriculture and thus, production is large scale and

massive. This group relies on the use of hybrid seeds/seedlings, exotic breeds of livestock and mechanisation processes. However, because of its relatively few large scale plantations and mechanisation approach, it has little room for employment of the labour force.

- ii. The Peasant System- This form consists of a subsistence output on small scale holdings. The class relies on traditional methodology using crude implements such as local hoes and cutlasses. Incidentally, the larger proportion of those engaged in agriculture are in this system of agriculture. Most of the export agricultural products are produced by this group of producers.

Agricultural productivity is still very low due to the inadequate application of modern implements such as tractors and chemicals. Shifting cultivation which has perhaps almost disappeared in most parts of the world is still widely practiced by peasant farmers. This is due to fragmentation of farm holdings. Livestock farming which is predominantly practiced in the north is undertaken by large numbers of cattle *fulanis*. These cattle *fulanis* wander from place to place in search of good pasture for their cattle, especially in the dry season. Fishing is carried on along the coast by fishermen who use canoes and throw nets. This structure of agriculture makes it laborious, tedious and poorly remunerative. These fragmentations make it difficult for the farmers to have any strong case to support their applications for bank loans.

The Nigerian agricultural system consists of production, processing, storage, marketing, extension, research and training. While production is a result of the combined factors of land, labour, capital and entrepreneurship, its magnitude and efficiency from farm gate to the consumer depends on cultivation effectiveness, handling and preservation as well as the processes of making the products readily available and affordably consumable. Productivity, a form of efficiency with which the produce or commodity is obtained, is a function of the combination of research and the application of skill and is measured per unit of land, per unit of labour input or per unit of investment. Research addresses the issues of material, temporal and spatial constraints which are itself a function of skill acquisition and development through formal and informal training generally called education.

### **SELF-ASSESSMENT EXERCISE 3**

Of what significance are research, training and extension significant to agricultural development?

### **4.0 CONCLUSION**

We learnt in this unit that agriculture involves cropping, livestock, forestry, fishing, processing and marketing of these products. Agriculture was identified as a source of food and raw materials for industries in addition to employment generation, and foreign exchange earnings among other significance. Agricultural production system

was categorised into 'Large scale capitalist plantation' and 'peasant farming'. The Nigerian agricultural system consists of production, processing, storage, marketing, extension, research and training. Furthermore, we noted that Nigeria possesses suitable and sufficient land mass for agricultural development but still record low productivity due to the crude nature of agricultural operations and low technological and financial support.

## **5.0 SUMMARY**

In this unit, you have been introduced to the scope, importance and features of the Nigerian agricultural sector. A brief mention was also made on the potential of agriculture to drive economic development as well as the major constraints impeding such development. Some of these issues will be discussed in a broader perspective in the remaining units of this module. In this case, a comprehensive understanding of all. The units in this module will bring about a holistic view of the activities in the agricultural sector of Nigeria.

## **6.0 TUTOR-MARKED ASSIGNMENT**

Discuss in detail the Significance of the Nigerian agricultural sector in foreign exchange earnings.

## **7.0 REFERENCES/FURTHER READING**

**Akande, S.O (2007).** An Overview of the Nigerian Rice Economy. NISER, Ibadan

Available at <http://www.unep.ch/etu/etp/events/Agriculture/nigeria.pdf>,  
accessed, January 8, 2009

**Anyanwu, J.C., A. Oyefusi, H. Oaikhenan and F.A. Dimowo (1997).** *The Structure of the Nigerian Economy (1960-1997)*. Joanee Educational Publishers Ltd. Anambra, Nigeria. 661pp.

**Ayodele, A.S. and G.O. Falokun (2005).** *The Nigerian Economy; Structure and Pattern of Development*. Printoteque, Lagos, Nigeria. 301pp.

**Central Bank of Nigeria (2007).** *Annual Report and Statement of Accounts for the Year ended 31<sup>st</sup> December, 2006*. CBN, Abuja, Nigeria.

**Johnston, B.F (1970).** Agriculture and Structural Transformation in Developing Countries: A survey of Research, *Journal of Economic Literature*, 8(2)

**Omowale and Rogrigues, A. M (1979).** Agricultural Credit Related to Nutrition and National Development in the Carribean: A Case Study of the Guyana Agricultural Co-operative Bank. *Tropical Agriculture*. 56(1): 369

**Phillip D., E. Nkonya, J. Pender and O.A. Oni (2009).** Constraints to Increasing Agricultural Productivity in Nigeria: A Review. IFPRI-Abuja. International Food Policy Research Institute c/o International Centre for Soil Fertility and Agriculture Development.

**Reynolds, L.G. (ed.) (1975).** *Agriculture in Development Theory*. Yale University Press, London. p.327

**World Bank (1979).** *World Development Report*. New York p.162

## **UNIT 3: THE AGRICULTURAL SECTOR DURING PRE AND POST INDEPENDENCE PERIOD**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 The Agricultural Sector during Pre-Independence Period
  - 3.2 The Agricultural Sector during Post-Independence Period
    - 3.2.1 General Performance of the Nigerian Agricultural Sector After Independence
    - 3.2.2 GDP Share and Growth of the Nigerian Agricultural Sector and subsectors
    - 3.2.3 Assessment of the Nigerian Agricultural Sector in Phases after Independence
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 INTRODUCTION**

In the first unit, you have been introduced to the nature, scope and importance of the Nigerian agricultural sector. As was earlier mentioned in the first module, the economy could be analysed from the point of view of the happenings before independence and after independence. In this unit, a review of the structure and performance of the agricultural sector during the pre-independence and post-independence era is made. The intention here is to provide a background to our understanding of the structure and performance of the agricultural sector in the economic development of Nigeria. A careful study of this unit will enable you to have the opportunity of comparing the contribution of the agricultural sector to economic development in the past and the present. This unit requires your deep understanding and attention because you will have cause later to study what went right or wrong at various stages under review when the challenges and prospects of the agricultural sector are being discussed in the next unit.

### **2.0 OBJECTIVES**

At the end of this unit, you should be able to:

- Describe the status of the Nigerian agricultural sector before independence.
- Discuss the performance of the Nigerian agricultural sector after independence
- Compare and contrast the performance of the Nigerian Agricultural sector before and after independence

### **3.0 MAIN CONTENT**

#### **3.1 The Agricultural Sector during Pre-Independence Period**

Before the colonial era, rural Nigeria had fairly complex organization. The social organisations were predominantly peasant communities, producing a variety of commodities mostly to satisfy their needs with little surpluses for exchange with other communities. Trading among the various communities was broadly based on barter terms and agriculture involved the production of crops for subsistence. The coming of the colonialists introduced a money economy among the peasant communities. This provided an incentive for the peasant farmers to produce more cash crops for sale and eventual export to Western Europe. The various Nigerian communities produced a diversity of crops and this was a reflection of their diverse physical environment. Food crops include yam, cocoyam, cassava, (grown mostly in the south) while cash crops include oil palm (from the east), cocoa (from the west), cotton and groundnuts (from the north). According to Helleiner (1966) export production accounted for about 57% of Nigeria's Gross Domestic Product (GDP) in 1929. Oil palm products alone accounted for between 85% and 90% of exports during the same period.

The growth of the Nigerian agricultural sector was, however, not smooth. The period between 1929 and 1945 was a difficult one for the export sector. The great depression of the 1930s was marked by fluctuations in world commodity prices, especially primary commodity prices. These disturbances lasted till the end of the war. Although the volume of Nigeria's export commodities increased during this time, the value did not increase proportionately to the volume. Another period of export boom for Nigeria was between 1945 and 1954. The world economy was just recovering from the effects of the Second World War and demand for primary products to revitalize the industries of the advanced countries destroyed during the war also increased. Prices of primary products rose to higher levels. Another important factor which led to rapid increase in commodity prices especially after 1945 was the threat of another world war with the outbreak of the Korean War in 1950. The Nigerian export sector gained tremendously from these disturbances. However, after 1954, the export boom gave way to another period of price instability.

The reliance of the economy on agricultural products and the instability of cash crop prices and agricultural incomes led to the establishment of Marketing Boards with monopolistic powers to buy these crops from farmers and sell them overseas. The role of the Marketing Boards was very important especially in stabilizing farm incomes and generating funds for the execution of development projects in the country.

In spite of the importance of these crops and agriculture as a whole, the methods of production remain primitive with the hoe and the cutlass as the major implements. The existence of these methods can be attributed to the activities of the colonial masters who



made no attempt to alter the production technology in the sector as long as agricultural products were being made available.

## **SELF –ASSESSMENT EXERCISE**

### **1**

What major effect did colonialism have on the Nigerian Agricultural sector?

## **3.2 The Agricultural Sector during Post-Independence Period**

### **3.2.1 General Performance of the Nigerian Agricultural Sector after Independence**

Agricultural production till date remains the mainstay of the Nigerian economy. It is the main source of food for most of the population. It provides the means of livelihood for over 70 percent of the population, a major source of raw materials for the agro-allied industries and a potent source of the much needed foreign exchange (Okumadewa, 1997; World Bank, 1998). At independence, agriculture sustained the Nigeria economy and held the promise of a vibrant agrarian economy (Akande 1998). The agricultural sector in periods immediately after independence performed creditably the roles highlighted above, to such an extent that the regional development witnessed during these periods were linked directly to the sector. However, over the years, the sector has witnessed a tremendous decline in its contribution to national development. Development economists have in fact, attributed the present economic marasmic situation in Nigeria to the poor performance of the agricultural sector. The near eclipse of the sector in the era of oil boom (1972-1975), inconsistent and unfocussed government policies have been described as the fatal perturbations that rocked the boat of food security, food self-sufficiency and industrial growth in Nigeria with its attendant poverty level on the rise (Okuneye, 2003). It must be stated that even though the country has witnessed substantial increase in food output volumes in the last three decades through remarkable improvement in poultry, arable staple foods and fisheries production; however, these growths have not matched the rising food demand situation, sequel to the high population growth rate in the country. As a result of this, there exist high incidences of protein/energy malnutrition, nutrients' deficiencies, related diseases, rising food import bill and a general reduction in labour productivity (FAO, 2007).

Nigeria's growth experience shows a gradual and steady performance in the immediate post-independence period, with a healthy balance of payments position through exports of cash crops. Marketing boards were used to extract surpluses from the agricultural sector, which were used to provide basic infrastructure. The development of the economy since 1960 has witnessed a declining share of agriculture in the gross domestic product (GDP). Part of this decline is traceable to the relatively higher growth rate of manufacturing and mining, which is consistent with the development pattern characteristics of developing countries. Agricultural export was the engine of

growth prior to 1973, providing much of the revenue that the government used in developing a basic infrastructural system. Agricultural export also financed the import substitution industrialisation programme.

According to Vasanth (2011), Nigeria ranks twenty fifth worldwide and first in Africa in farm output. Agriculture has suffered from years of mismanagement, inconsistent and poorly conceived government policies, and the lack of basic infrastructure. Still, the sector accounts for about 40% of GDP and two-thirds of employment. Nigeria is no longer a major exporter of cocoa, groundnuts (peanuts), rubber, and palm oil. Cocoa production, mostly from obsolete varieties and over aged trees, is stagnant at around 180,000 tons annually; 25 years ago it was 300,000 tons. An even more dramatic decline in groundnut and palm oil production has also taken place. Once the biggest poultry producer in Africa, corporate poultry output has been slashed from 40 million birds annually to about 18 million. Import constraints limit the availability of many agricultural and food processing inputs for poultry and other sectors. In the same regard, fisheries are poorly managed. Most critical for the country's future, Nigeria's land tenure system does not encourage long-term investment in technology or modern production methods and does not inspire the availability of rural credit. Agricultural products include cassava (tapioca), corn, cocoa, millet, palm oil, peanuts, rice, rubber, sorghum, and yams. In 2003, livestock production, in order of metric tonnage, featured eggs, milk, beef and veal, poultry, and pork, respectively. In the same year, the total fishing catch was 505.8 metric tons. A good illustration of inadequate agricultural performance is the fisheries subsector, which saw output drop from averages of about 650,000 tonnes annually in the 1970s to 120,000 of fish per year by 1990. To conceptualise properly- The CBN's 2008 annual report celebrated a

7% rise in output between 2007 and 2008, but this 'impressive' growth was to re-attain a level of 670,000 tonnes p.a. In other words, a tenuous return to 1970s levels which belies the fact that Nigeria's population more than doubled in that period from over 60million to over 140 million. Ironically, the fall in fisheries can be partly attributed to environmental degradation and pollution in the Niger Delta region by the oil companies (BGL Agriculture Report, 2009).

Round wood removals totaled slightly less than 70 million cubic meters, and sawn wood production was estimated at 2 million cubic meters. The agricultural sector suffers from extremely low productivity, reflecting reliance on antiquated methods. Although overall agricultural production rose by 28 percent during the 1990s, per capita output rose by only 8.5 percent during the same decade. Agriculture has failed to keep pace with Nigeria's rapid population growth, so that the country, which once exported food, now relies on imports to sustain itself. Nigeria has a land area of 98.3 million ha; 74 million ha is good for farming; but less than half is being explored. The population involved in farming is 60 – 70%, yet, there is a threat of hunger and poverty; 70% of the population

live on less than N100 (US \$ 0.7) per day (Wikipedia,2011).

## SELF-ASSESSMENT EXERCISE 2

Account for the decline in agricultural sector production after independence

### 3.2.2 GDP Share and Growth of the Nigerian Agricultural Sector and subsectors

As shown in Table 2.2.1, the contribution of agriculture to real GDP shows that in absolute terms, agriculture contributed about ₦1.6 billion to the country's GDP. This represents about 64.3 percent of the total GDP. Although the absolute value of the contribution of the agricultural sector to the GDP continues to increase, the relative share of the sector has continued to decline from 55.4 percent in 1955 to about 48 percent in 1975. The adverse effect of the dominance of the oil sector in the 70s culminated into a low share value of 20.6 percent by 1980. The percentage share of the agricultural sector ranges between 30 and 37 percent within the period of 1985 and 1995. Due to some further corrective measures the agricultural sector share in the total GDP has since improved to a little above 40 percent from the year 2000 till 2010.

The contribution of different subsectors of agriculture to GDP shows substantive fluctuations in trends (Table 2.2.1 and Table 2.2.2). The crop sub-sector contributes the most to GDP, with contributions ranging between 30 and 40 percent of agric GDP. This is followed by the livestock sub-sector. According to Olomola *et al* (2008), the subsistence nature of Nigerian agriculture also makes the crop sub-sector quite relevant, most important and most focused sub-sector of agriculture. From the table, agricultural performance has improved in recent years (2000-2010). However, there is a need to improve other sub-sectors, especially forestry and fisheries in order to increase its contribution to the GDP.

**Table 2.2.1: Agricultural Sector Contribution to GDP (1960-2010) (₦million)**

	1960	1965	1970	1975	1980	1985
<b>Agriculture</b>	<b>1, 599.8</b>	<b>1,742.2</b>	<b>1, 887.7</b>	<b>7,639.4</b>	<b>6,501.8</b>	<b>65,748.4</b>
Crop						
Livestock	1, 284.4	1, 366.2	1,437.0	4,942.8	3,944.7	52,750.9
Forestry						
Fisheries	139.6	158.0	143.8	973.1	1,557.1	8,856.2
	131.8	143.4	129.2	320.5	270.7	2,310.9
	44.0	74.6	177.7	1, 403.1	729.4	1,830.4
<b>Total GDP</b>	<b>2,489.0</b>	<b>3,146.8</b>	<b>4,219.0</b>	<b>27172.0</b>	<b>31546.8</b>	<b>201036.8</b>

<b>% Share Agric</b>	<b>64.3</b>	<b>55.4</b>	<b>44.7</b>	<b>48.0</b>	<b>20.6</b>	<b>32.7</b>
	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2008</b>	<b>2010</b>
<b>Agriculture</b>	<b>83,344.6</b>	<b>96,220.7</b>	<b>117,945.1</b>	<b>233,463.6</b>	<b>283,175.4</b>	<b>316,728.7</b>
Crop						
Livestock	68,416.7	80,702.8	98,392.6	206,178.4	252,469.7	282,049.7
Forestry	9,562.0	10,051.3	11,449.9	14,643.9	17,877.6	20,264.1
Fisheries	2,149.1	2,421.9	2,855.5	3,005.4	3,587.5	4,019.3
	4,216.8	3,044.6	5,547.1	7,636.0	9,240.5	10,395.6
<b>Total GDP</b>	<b>267,550.0</b>	<b>281,407.4</b>	<b>329,178.7</b>	<b>561,931.4</b>	<b>672,202.6</b>	<b>775,525.7</b>
<b>% Share Agric</b>	<b>31.2</b>	<b>34.2</b>	<b>35.8</b>	<b>41.6</b>	<b>42.1</b>	<b>40.8</b>

**Source:** Computed from CBN (2008), Statistical Bulletin, Golden Jubilee Edition; National Bureau of Statistics (2010), Statistical Bulletin, Compiled Edition

\*Note that the GDP was compiled from 1960-1973 using 1962/1963 constant basic price, from 1974-1980 using 1977/1978 constant basic price and from 1981-2010 using 1990 constant basic price

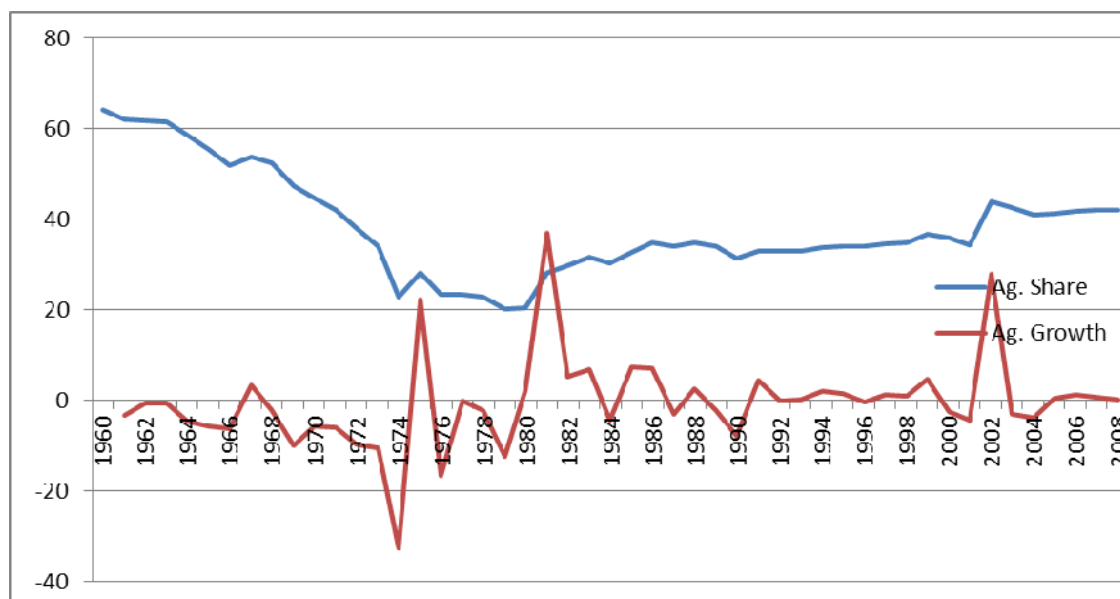
**Table 2.2.2: Summary Contribution of Agriculture to GDP 1970 - 2010**

<b>Period</b>	<b>Crop</b>	<b>Livestock</b>	<b>Fishery</b>	<b>Forestry</b>	<b>Total Agric.</b>
1970 – 1979	34.78	2.91	0.71	1.21	48.20
1980 – 1989	32.86	3.28	0.90	1.19	39.28
1990 – 1999	34.81	2.74	0.64	1.08	39.27
2000 – 2010	37.15	2.67	0.56	1.39	41.76

**Source:** Central Bank of Nigeria, *Statistical Bulletin* (several issues)

Figure 2.2.1 also shows the agricultural share in the total GDP and rate of growth of agriculture between 1960 and 2008. It was shown that the growth rate was not significantly different from zero within the period of 1960- 1972. Although there was significant rise in agricultural growth between 1972-1974 and 1980 and 1984, the trend was stagnant and not significantly different from zero between 1984 and 2008, with the exception of 2001-2003. This shows a poor performance of agriculture in Nigeria. Even though other sectors performed this role in developed countries, the agricultural population in those countries is not as high (about 2-5%) as in the developing countries like Nigeria and the industrial sector is well developed.

**Figure 2.2.1: Agriculture Share of GDP (Real terms, in percentage: 1960-2008)**



Source: Okuneye and Ayinde (2011)

### SELF - ASSESSMENT EXERCISE 3

Assess the performance and growth trend of subsectors of the Nigerian Agricultural sector from 1960 to 2010

#### 3.2.3 Assessment of the Nigerian Agricultural Sector in Phases after Independence

The history of Nigeria's agricultural development in the post-independent era could be classified into four phases, namely pre-1970, 1971-1985, 1986-1994 and 1995 to date (CBN 2007). The era of relatively good performance of the sector occurred during the pre-1970 phase, when production activities in the sector were dominated by private operators but fell during the 1971-1985 period when surprisingly there were substantial public sector interventions, with the Federal Government directly involved in production, processing and storage activities. The latter two phases saw a reduced direct intervention by the Federal Government thereby allowing markets to function and the subsequent return to growth in the sector.

The Pre-1970 phase was characterised by a declining share of agriculture value added to GDP, from greater than 60 percent in 1960 to about 45 percent in 1970. Being a post-colonial era, those elements of colonial agriculture policy persisted, with the marketing boards playing a pivotal role in extracting agricultural surplus, but these were not used necessarily to support price stabilisation as envisaged but instead supported the development of infrastructure, industries and social amenities. Along with declining share of agriculture in exports, the overall growth performance of the sector also

declined on average.

The 1971-85 periods saw a much pronounced decline of the share of agriculture value added in GDP, partly because of the rising dominance of the oil sector but also because of the extreme uncertainty in policy direction brought about by the increased government intervention in the sector. To support a vision of “agri-business”, policy directions included the Land Use Decree which vested the ownership of land in the state governments, and state acquisition of large tracts of peasant-held land for the River Basin Development Authority (RBDA) and for the Agricultural Development Projects (ADPs), dams, etc. These efforts were supported by the importation of massive quantities of fertilizers, chemicals, machinery, seeds, etc. and infrastructure developments (dams, feeder roads, farm service centres, fertilizer distribution centres and tractor hiring units). But the growth performance during this period was highly erratic and associated with wide swings.

Since 2001 the agriculture sector has generated over half of new jobs with an average annual 2003-2010 sector growth rate of about 7.0 percent. The current growth of agriculture has, nonetheless, come from increasing cropped areas rather than gains in productivity.

#### **SELF - ASSESSMENT EXERCISE 4**

What are is/are the underlying factor for the poor performance of agriculture between 1971 and 1985

#### **4.0 CONCLUSION**

From our discussion so far, we can infer that the pre-independent economy in Nigeria was marked by the dominance of the agricultural sector. Trading in agricultural commodities was the order of the day. The colonial rule up to 1930 involves the export of varieties of cash crops. The year 1929 to 1945 was a difficult one for the agricultural sector due to fluctuating world prices resulting from world war. In contrast, this soon paved way for a period of export boom between 1945-1954 which was followed by another period of price instability which necessitated the establishment of agencies like the marketing board. Nevertheless, the agricultural sector remained a dominant sector before independence. On the other hand, in the post-independence period, the contribution of the agricultural sector ranges from 65 percent in 1960/61 to 40-42 percent in 1999/2010 with the crop sub sector maintaining the lead. Nigeria's growth experience shows a gradual and steady performance in the immediate post-independence period, with a healthy balance of payments position through exports of cash crops. Marketing boards were used to extract surpluses from the agricultural sector, which were used to provide basic infrastructure. Subsequently, the declining GDP share of agriculture is being witnessed, hence a need for refocusing the agricultural sector to reclaim its position at independence.

## 5.0 SUMMARY

This unit described the agricultural sector before independence. The evolution of the agricultural sector through the ages of barter trade and money economy was exposed. Also, the transition from food crop production to exportation along with the challenges involved has been discussed. Here, you also learnt about the performance of the Nigerian agricultural sector after independence. An assessment of the Nigerian agricultural sector in phases after independence including the growth rate indicators was equally made. This gives an ample opportunity to compare and contrast the scenario before and after independence. The declining trend so exposed calls for reexamination of the challenges of the sector, the appraisal of the policies and programmes implemented over the years with the sole aim of suggesting a way forward. All these will be taken care of in the next unit.

## 6.0 TUTOR-MARKED ASSIGNMENT

Compare and contrast the Nigerian agricultural sector before and after independence.

## 7.0 REFERENCES/FURTHER READINGS

**Akande, S. O (1998).** *Public Policy in Nigerian Agriculture*. In: Institutional Reforms for Agricultural Development. Oludimu, O. L. and Imodu, P. B. eds. Triumph Books Publishers, pp. 20 – 54

**Anyanwu, J.C., A. Oyefusi, H. Oaikhenan and F.A. Dimowo (1997).** *The Structure of the Nigerian Economy (1960-1997)*. Joanne Educational Publishers Ltd., Anambra, Nigeria. 661pp.

**BGL Agriculture Report (2009).** Bringing “Cool” back to Agriculture. An Agricultural Research Paper.

**Central Bank of Nigeria (2007).** *Annual Report and Statement of Accounts for the Year ended 31<sup>st</sup> December, 2006*. CBN, Abuja, Nigeria

**Central Bank of Nigeria (CBN) (2008).** *Statistical Bulletin* (several issues).

**F.A.O. (2007).** *The State of Food Insecurity in the World*. Food and Agriculture Organisation FAO Rome

**Helleiner G.K. (1966).** *Peasant Agriculture, Government and Economic Development in Nigeria*. Lewin Illinois p.4

**Okumadewa, F. (1997).** Poverty and Income in Nigeria - Measurements and

Strategies for Reform. Paper presented at the Vision 2010 Workshop, April, 1997, Abuja.

**Okuneye, P.A. (2003).** Rising Cost of Food Prices and Food Insecurity in Nigeria and

its Implication for Poverty Reduction. *CBN Economic & Financial Review*,39(4)

**Okuneye, P. A; E. Fabusoro, K. Adebayo and I.A. Ayinde (2005).** Raging Poverty and Nigerian Agriculture. Some Policy Issues. *The Nigerian Journal of Economic and Social Studies*. 47 (3)

**Okuneye, P A and I.A. Ayinde (2011).** The Nigerian Agricultural Policy Inadequacy: The Way Forward, *Nigerian Journal of Agricultural Economics (NJAE)*. 2(1): 1- 16

**Olalokun et al (1979).** *Structure of The Nigerian Economy*. Macmillian press Ltd and University of Lagos Press, Lagos.

**Olomola, A.S., S.O. Titilola, V.A. Adeyeye, B.O. Akanji, T.O. Oni, O.O. Ogundele, A.A. Carim-Sanni, and C. Akujobi (2008).** Assessment of presidential Initiatives on Agricultural Commodities in Nigeria. NISER. Ibadan.

**The World Bank (1998).** *Human Development Report*. The World Bank. Washington D. C.

**Vasanth (2011).** Problems of Agricultural development in Nigeria, e-WASH, March 16, 2011 by Babalobi Nigeria's Agriculture and Food Security Challenges <http://countrystudies.us/nigeria/57.htm>

**Wikipedia (2011):** Economy of Nigeria, available at: <http://en.Wikipedia.org/wiki/economy>



## **AGRICULTURAL SECTOR**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Challenges of Nigerian Agricultural Sector
  - 3.2 Overcoming the Challenges to Agricultural Production Nigeria
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

### **1.0 INTRODUCTION**

You have been taking through a discussion on the performance of the Nigerian Agricultural sector before and after independence in the preceding unit. This has given you the opportunity to compare and contrast the sector before and after independence. It was obvious that the sector has witnessed a decline in its contribution to the GDP after independence. This point to the fact that the sector no doubt is faced with some challenges, although tackled through series of policy and programmes overtime with little success, yet not insurmountable. This unit being the last unit in this module and a round off discussion on the Nigerian agricultural sector sets to address the various challenges militating against the performance of the Nigerian agricultural sector while reviewing the past and present efforts at revamping the sector. Finally, scholarly suggestions were rendered to move the sectors forward in Nigeria.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

1. Itemise and explain the challenges facing the Nigerian agricultural sector
2. Enumerate some policies and programmes of government in Nigeria
3. Highlight and discuss a way out of the challenges of the Nigerian Agricultural sector

### **3.0 MAIN CONTENT**

#### **3.1 Challenges of Nigerian Agricultural Sector**

It should be noted that agriculture has been beset by long standing problems impeding its productivity and contribution to national aggregate output as expected. As reported by Ihimodu (1983); Sanni (2000); Okuneye (2003); NPA (2007), BGL Agriculture Report

(2009), Philip et al (2009), Eze et al. (2010), Vasanth (2011) and Wikipedia (2011) among several authors these challenges can be grouped and summarized thus:

### **1. Inadequate Funding, Credit and Associated Economic Challenges**

Inadequate and untimely funding of agriculture by the public sector coupled with inefficient and/or ineffective application of such funds (budgetary or otherwise) constitute bottlenecks to agricultural development. Budget allocation to agriculture has been historically low. About 4% of total federal expenditure of N2.87 trillion in 2009 was allocated to agriculture and water resources. Of the N796.7 billion allocated for capital expenditure, 11.52% was for agriculture and water resources. This spending falls well below the 10% goal set by African leaders in the Maputo agreement and falls short of agriculture expenditure requirements according to international standards. The Prices of inputs- fertilizer, herbicides, and pesticides have risen astronomically. These have limited their adoption and subsequent impact on yield and production levels. Also, lack of credit to farmers has limited farm size commensurate with what they can afford. When credit is available, the interest is high, thus increasing farmers' cost of production. Lack of good linkages between the farm sector and the industrial sector generate a demand pull situation, which will propel high prices for industrial raw materials.

### **2. Inadequate Infrastructure**

Infrastructural facilities in the rural areas (where production actually takes place) are grossly lacking. These areas are characterised, amongst others by poor feeder roads and inadequate road network between the rural areas where agricultural production mainly takes place and the urban areas and lack of appropriate on farm and off-farm storage facilities. Irrigation facilities are still very poor despite the existence of River Basin and Rural Development Authorities (RBRDA). More so, there are few or no health care facilities in the rural areas and hence a lot of man-days are lost to ill-health which could have been easily treated. Schools (primary and secondary) are few in the rural areas and hence the migration of youth to the urban areas, among other reasons.

### **3. Land ownership and tenure**

Incentives to invest in agriculture are undermined by policies regarding land ownership and land tenure. The Land Use Act of 1978, invested proprietary rights to land in the 'state'. User rights are granted to individuals through administrative systems rather than a market allocation system. Individual and public ownership of land are often implemented side-by-side, and rather than seek allocations from the local government, people acquire access by a variety of informal means. The Land Use Act does not recognise the informal contracts, so most of these are legally secure.

The insecurity of tenure is therefore a constraint to expanding production in

agriculture and also serves as a disincentive to making long term improvements of the land. Hence, fragmentation of holding antithetical to tractorisation is a common feature of farm holdings in Nigeria.

#### **4. Poor agricultural production system**

Majority of farmers in Nigeria's agricultural sector have small holdings varying between zero and less than 5 hectares. They employ rudimentary farm equipment (example hoes, cutlass, etc.) and poor cropping techniques (such as bush fallowing, bush burning, crop rotation, non-use of fertilizer and improved seeds). Very few of these farmers employ mechanized farming techniques such as tractorisation and irrigated systems, thus, they are limited only to seasonal cultivation.

#### **5. Low quality of private sector investment**

Private investment in agriculture, both in primary production as well as processing (value added) is currently low. Factors contributing to the low level of investment include high risk of investment caused by policy inconsistency, low investor confidence in the sector, high production cost, insecurity of land tenure, insufficient institutional and infrastructural support (roads, national railway, network, electricity, and storage facilities), low use of business credit and unfavourable business climate.

#### **6. Low productivity**

There is an inverse relationship between growth in the area of land cultivated and yields for virtually all crops. Nigeria's yield is lower than those of her competitors, both in the areas of cash crops and food crops and animal husbandry. The low productivity in the sector can be attributed to weak research and extension services, low use of improved genetics and purchased inputs, low levels of mechanization and irrigation, poor access to production credit especially in accessing micro credit facilities, decline in soil fertility, ageing farm population, rural-urban migration by the youths, high drudgery (physical effort per output), unattractiveness and natural factors.

#### **7. Non-competitiveness**

The sector cannot compete in the international markets. This non-competitiveness can be attributed to several factors, including poor grading and standardization, high cost of marketing, high production cost structure, processing and transportation to trade points, unfavourable exchange rates, difficulty of accessing regional and global markets, domestic policy-related obstacles that discriminate against export and the price of competing products.

#### **8. Weak domestic policies, institutions and unspecified roles of the 3 tiers of**

## **Government**

Successive governments have formulated and implemented conflicting policies to support agricultural production, and as a result agricultural policies have tended to change frequently with changes in political leadership. Consequently, there are ineffective linkages between policy-research-extension and farmer-input-market- factory/industry, etc. This fragmented approach to policy making has constrained agricultural growth because it has prevented a sustained commitment to a coherent, integrated strategy for agricultural development. The loose policy framework does not encourage stability in import-export of certain crucial items (either as raw materials or finished products such as textiles, vegetables oils, etc. Also, policies formulated lack clearly defined roles for the 3-tier of Government leading to inefficiency in programmes execution. There is also inadequate and untimely fund release by all tiers of government, the lack of funds to procure processing machinery and equipment, and the absence of state and local government implementation committees in most cases.

### **9. Manpower/Skill Challenge in Research, Extension and Farm Labour**

The extension service delivery system still suffers from an inadequate number of extension men/women. The few ones that are in place, lack mobility to improve on extension-farmer contact while women extensionists are few to handle gender issues. The frequency of extension message discovery is limited by poor research conditions in Universities and Research Institutes while there is a shortage of experienced professional and technical manpower especially needed for mechanization. Able-bodied people are leaving farming/rural areas; this has negative effects on labour availability, production and productivity. Hence, the agricultural wage rates have increased, thereby increasing the cost of food production and in turn food prices.

### **10. Environmental/ecological/edaphic challenge**

Farmers suffer from high incidence of pests and diseases, insufficient rainfall/drought in some areas, harsh weather which limits the number of hours people work on farms. Other environmental problems include: soil and wind erosion; marginal lands which affect tractorisation and the land availability; desert encroachment; pollution by industrial activities especially oil companies and some manufacturers as well as soil infertility problems in some areas.

### **11. Food Processing challenge**

It is estimated that about 20-40% of the yearly harvest is lost during processing. The primary cause is the lack of efficient harvesting techniques. Most farmers harvest crops by hand, instead of using machines. Also, storage methods are not generally up to standards. Most of the crops are lost to physical damage caused by insects, bacteria, or fungus.

## SELF - ASSESSMENT EXERCISE 1

List any three of the challenges listed above that you consider most critical, why?

### 3.2 Overcoming the Challenges to Agricultural Production Nigeria

The Nigerian government has over the years formulated good agricultural policies meant to encourage production but the intended results, however have not been achieved. The situation can be remedied only if political decision makers show enough will to do what is right. Several industry experts and analysts have made recommendations on the course of activities to return the nation back to agriculture because even though oil accounts for 90% of the nation's revenue, it only contributes less than 20% to the country's GDP with agriculture contributing over 40% while it employs more than 60% of Nigerians. In order to ensure sustained and increased agricultural production and/or productivity, policies must outlive the government that formulated them. The practice of changing macroeconomic policies with successive federal governments is inimical to long-term investments in agriculture.

The following are recommended by various scholars to ensure that agricultural policies succeed in Nigeria:

- i. **Increased government expenditure on agriculture:** adequate budgetary provision and releases should be made to fund policy initiatives. There is thus an urgent need to increase budgetary allocation to agriculture and ensure it is fully and properly executed with strong emphasis, for a start, on rural development as most of Nigeria's farmers reside in the rural areas and gain their livelihood from the farm and other rural-based economic activities.
- ii. **Clarified roles for the three tiers of government in agriculture service delivery:** With a federal system of government, Nigeria faces the challenges of defining roles and responsibilities of each tier of government with respect to public services and investment. However, these roles should be clarified to reduce overlaps and gaps in agricultural interventions to improve efficiency and effectiveness. More importantly, it should be ensured that sub-national governments are given access to and control over resources in accordance with expenditure assignments, with the level of accountability being very unambiguous. While the sub-national governments have discretionary power over their budgets, they must be held accountable for their performance, thus ensuring the provision of better quality service. This way, the efforts of governments would not be undermined by corruption.
- iii. **Increased efforts on encouraging processed agricultural exports:** Government should continue to encourage the export of agricultural produce but with emphasis shifting from raw agricultural produce to processed agricultural products that will add more value to the workers and the economy. The government can help ensure

increased flow of resources for the rehabilitation of what used to be our traditional agricultural exports, if not to export, at least to reduce the importation of products like vegetable oil and rice. This the government can do through increased collaboration with the private sector. Therefore, the various tiers of government should act in concert with the economic reform agenda to promote a greater role for the private sector in agricultural production, processing and marketing of farm commodities.

- iv. **Review of subsisting schemes.** Review of subsisting schemes and reform of existing institutions to make them more supportive of farm output. For instance, Bank of Agriculture needs to be made a wholesale and retail financing institution to make its operations more efficient and self-sustaining.
- v. **Training and capacity building for staff of the institutions involved with implementation of agricultural policies** – CBN, banks, ministry of agriculture, etc. to strengthen institutional capacity as well as training and capacity building for the loan beneficiaries on their operations and fund management.
- vi. **Simplification of operational procedures in credit administration-** this will help to reduce cost and bureaucracy as well as modification of the terms of financing under most policy initiatives, such as interest rates, eligibility criteria, legal rights, etc to enhance access.
- vii. **Granting loans to groups of farmers** (inform of self- help groups or cooperatives), integrating credit with input supply and output marketing would reduce default problems.
- viii. **Monitoring and supervision:** Financial institutions should monitor and supervise all facilities disbursed and the Central Bank of Nigeria should effectively and diligently carry out their regulatory function on all banks to check non-compliance, insider abuse and defaults.
- ix. **Land tenure system.** A review of the Land Use Act of 1978 by the National Assembly: Communal ownership of farmland will be difficult to dismantle in the foreseeable future; however, the elements which appear to differ among communities need to be reviewed within the context of each community, towards improving individual titles to farmland, bearing in mind the need for gender equity.
- x. **Adequate pricing of agricultural commodities.** Adequate pricing of agricultural commodities in Nigeria so that farm incomes will be high enough to enable farmers to purchase farm inputs. Adequate pricing must be accompanied by improved knowledge among farmers on the use of fertilizers, and adequate linkages among traders, suppliers, and farmers. This also will encourage the increased quality of private sector investment and youth participation.
- xi. **Support for National Agricultural Research Institutes.** Support of the

National Agricultural Research Institutes (NARIs) by the government through promoting awareness of the technology prototypes they have researched upon. Private agro- processing SMEs, NARIs, and financial institutions (especially commercial banks) should cooperate to develop these prototypes into commercial products.

xii. **Encouragement of private investment in agricultural research and development.** To achieve the desired impact of research funding on agricultural productivity in Nigeria, the government must encourage private investment in agricultural research and development and act with greater transparency and timeliness in the budgeting, approval and fund release processes of agricultural research.

xiii. **Direct promotion and practice of extension delivery.** Whatever agricultural extension model is adopted, the government's direct promotion and practice of extension delivery in Nigeria must be divested. Larger participation by the private sector will reduce the budgetary burden, improve delivery efficiency and consequently, enhance agricultural productivity.

xiv. **Market-driven subsidy programs.** Subsidy programs in Nigeria need to be market responsive. Specifically, input subsidy programs should be used to develop, not weaken, competitive private sector-led input markets. Such programs should be targeted to poor farmers who, without subsidies, would not adopt key inputs. They should complement, not undermine, commercial sale outlets and should be limited in duration, that is, accompanied from the start with a phase-out schedule.

xv. **Improved access for women to farmland.** There is a need to sustain the current drive toward improved access for women to farmland, extension services and related farm inputs, with the active support of local Community-based organizations and international development agencies.

xvi. **Infrastructural Development:** development of infrastructural facilities in the rural areas is *sine qua non* to developing agriculture. Even though this is a medium term approach, it can be commenced now using a number of Local Government Areas in each state as a pilot programme. Such facilities like good feeder roads will enhance the evacuation of output and transportation of inputs to the rural areas. In particular, on-farm storage facilities appropriate for specific agricultural enterprises should be designed and commercialized for use in villages/rural areas.

xvii. **Cultural and Productivity Improvement:** Farm productivity can be increased through adequate cultural and other practices which include erosion control; tackling inadequacy of rain-fed agriculture with more support for fadama development and

management; local input production to compensate for shortage; improved processing, storage and marketing of agricultural products; mechanization to ease farm operations; crop, livestock, fisheries and forestry improvements through research support and adequate extension.

## **SELF – ASSESSMENT EXERCISE 2**

Suggest ways in moving the Nigerian agricultural sector forward

## **4.0 CONCLUSION**

This unit being the last unit in this module has highlighted and discusses the numerous challenges facing the Nigerian agricultural sector ranging from funding to infrastructure, cultural/productivity, policy and environmental challenges. Various policies, programmes and institutions set up by successive governments of the day to revamp the Nigerian agricultural sector were enumerated and appraised. These include marketing boards and agricultural corporation from pre-independence era; The Nigerian enterprise promotion act and land use decree of the pre-SAP era, the establishment of NDE, NALDA, and NAIC among others in the SAP era to support fiscal and monetary policy of the government and economic reforms of special programme on food security, root and tubers expansion programme, presidential initiatives on selected crops and Fadama series of post-SAP period in addition to international supported programmes. In the final analysis, practical suggestions by various scholars on the appropriate ways of moving the Nigerian agricultural sector forward based on the identified challenges and shortfalls in past governmental efforts were rendered.

## **5.0 SUMMARY**

In summary, you have been exposed to the challenges confronting the agricultural sector in Nigeria dominated by peasant farming and crude practices. Past efforts of successive governments in tackling this menace were equally examined and solutions to move Nigerian agricultural sector forward were discussed. It is obvious from this multi – factorial essence of agricultural production that it must be practiced with the deepest sense of national responsibility by way of a sustainable policy environment, reliable policy instruments and professionally sound and stable institutional framework. By this, the performance of agriculture in Nigeria will be able to meet up with the expectation of food security, guaranteed industrial linkages, poverty alleviation, foreign exchange earnings and economic development among other immeasurable goals and accompanying benefits. This concludes our discussion on the agricultural sector; you can now proceed to the next unit for another important sector in Nigerian economy.

## **6.0 TUTOR-MARKED ASSIGNMENT**



Can the Nigeria Agricultural sector reclaim its dominant position in the Nigerian economy as at independence?

## **7.0 REFERENCES/ FURTHER READINGS**

- Akinyosoye, V.O (2005).** *Government and Agriculture in Nigeria: Analysis of Policies, Programmes and administration.* Macmillan Nigeria Publisher Limited, Lagos 598pp.
- BGL Agriculture Report (2009).** *Bringing “Cool” back to Agriculture.* An Agricultural Research Paper.
- Eze C.C., J.I. Lemchi, A.I. Ugochukwu, V .C. Eze, C.A.O Awulonu, A.X. Okon (2010).** *Agricultural Financing Policies and Rural Development in Nigeria.* The 84th Annual Conference of the Agricultural Economics Society.
- Ihimodu, I. I (1983).** Problems of Agricultural Financing in Nigeria; An Analysis of Some Institution in Kwara State, *Agricultural Administration* 12(4): 237-251
- NPA, (2007).** The Nigeria Project Agenda.
- Okuneye, P.A. (2003).** Rising Cost of Food Prices and Food Insecurity in Nigeria and its Implication for Poverty Reduction, *CBN Economic & Financial Review.* 39(4)
- Okuneye, P. A. (2010).** *Achieving Self-sufficiency in Nigeria: Linking Promises to Realistic Policies.* Distinguished Lecture Series, No 2, Afe Babalola University, Ado Ekiti, 2010
- Okuneye, P A and I.A. Ayinde (2011).** The Nigerian Agricultural Policy Inadequacy: The Way Forward, *Nigerian Journal of Agricultural Economics (NJAE)*, 2(1): 1- 16
- Phillip D., E. Nkonya, J. Pender and O.A. Oni (2009).** *Constraints to Increasing Agricultural Productivity in Nigeria: A Review.* IFPRI-Abuja. International Food Policy Research Institute c/o International Centre for Soil Fertility and Agriculture Development
- Sanni L. O. (2000):** Agricultural Development without Post Harvest System: Any Hope for Success? University of Agriculture, Abeokuta Alumni Association Lecture Series No. 2. 23p.
- Vasanth (2011):** Problems of Agricultural development in Nigeria, e-WASH, March 16, 2011 by Babalobi Nigeria’s Agriculture and Food Security Challenges <http://countrystudies.us/nigeria/57.htm>
- Wikipedia (2011):** Economy of Nigeria, available at [http://en.Wikipedia.org/wiki/economy\\_of\\_Nigeria](http://en.Wikipedia.org/wiki/economy_of_Nigeria), retrieved 17<sup>th</sup> August, 2011

## **UNIT 5: POLICY INTERVENTION IN THE NIGERIAN AGRICULTURAL**

## **SECTOR**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 An Overview of Policy Interventions in the Nigerian Agricultural Sector
  - 3.2 Budget Allocation and Appraisal of Some Agricultural Development Schemes
  - 3.3 Appraisal of Performance of Agricultural Institutions under Nigeria's Development Plans
  - 3.4 Targets of Agricultural Development Programme
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

As discussed in the last unit, the agricultural sector is faced with numerous challenges and these suggestions to ameliorate these challenges have been provided overtime as rendered in the unit. Yet, there has been a conscious effort to tackle the challenges of the agricultural industry through a series of policy and programmes in Nigeria. This unit reviews the past and present efforts at revamping the sector. It also mentions the success or otherwise the failure of these policies and programmes.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

1. Enumerate some policies and programmes of government in Nigeria
2. Evaluate the success or otherwise failure of the agricultural schemes, institutions and programmes.

### **3.0 MAIN CONTENT**

#### **3.1 An Overview of Policy Interventions in the Nigerian Agricultural Sector**

The need to restructure the agricultural sector in an effort to enhance its role in the transformation of the Nigerian economy had long been recognized in Nigeria as evident from various plans, policies and programmes implemented over time. Historically, four distinct agricultural and rural policy phases may be identified in Nigeria. The first

phase spanned the entire colonial period and the first post-independence decade from 1960 to about 1969 (the pre-1970 era); the second covered the period from about 1970 to 1985; the third phase started from 1986 in the Structural Adjustment Programme (SAP) period to 1994; the fourth is the post-SAP era to date, spanning 1995-2010.

## **1. The Pre-1970 Period**

The prevailing philosophy for agricultural development during this period was characterised by minimum direct government intervention. As such, the private sector and the small-scale resource-poor farmers determined the direction of agricultural development efforts in the country. The three Regional Governments (Eastern, Northern and Western, and later the Mid-Western), were merely supportive of the activities of these farmers and government efforts largely took the form of agricultural research, extension and export crop marketing, and price stabilisation activities. Some of the governments in the 1950s and 1960s, created public-owned Agricultural Development Corporations, Commodity Boards and launched a number of Farm Settlement Schemes, but these actions found their justification more in social considerations and in promoting community participation in agricultural activities than direct intervention on their part. However, it must be stated that some of them got rooted in styles or approaches of some countries in the developed countries and some under transition which had a compulsion to do so such as Israel. In the particular case of the western regional government, the Farm Settlement Scheme sensitized the young ones to go into agriculture and created an opportunity for the products of the free education programme to be employed immediately after their graduation.

## **2. Pre-Structural Adjustment Period (1970-1985)**

This period was characterized by an oil revenue boom and high levels of public expenditures by the Federal Government. The poor performance of the agriculture sector engendered the drive for increasing government intervention that resulted in a wide range of agricultural policies, programs and projects, some of which had the direct involvement of government in agricultural production. Sector-specific agricultural policies were largely designed to facilitate agricultural marketing, reduce agricultural production cost and enhance agricultural product prices as incentives for increased agricultural production. Major policy instruments during this period included the following:

- a) Agricultural Commodity Marketing and Pricing Policy
- b) Input Supply and Distribution Policy
- c) Agricultural Input Subsidy Policy
- d) Agricultural Mechanization Policy
- e) Water Resources and Irrigation Policy

f) Agricultural Extension and Technology Transfer Policy

To support the policy directions of the Government; two important legal enactments were undertaken, viz: the Nigerian Enterprises Promotion Decree of 1972 and 1977 and the Land Use Decree of 1978.

### **3. The Structural Adjustment Programme (SAP) Period (1986- 1994)**

The main policies put in place during this phase included:

(a) Fiscal Policies: A five year tax-free period for profits earned by companies engaged in agricultural production and agro-processing was provided.

(b) Monetary Policies

(c) Trade Policies

(d) Agricultural Support Service Policies

□□ Water Resources and Irrigation: Reorganization of the River Basin Development Authorities in 1986 to concentrate only on water resources management and land development, including provision of irrigation facilities. In 1993 also, *FADAMA I*, a programme on dry-season farming initiative was launched.

□□ Employment: Establishment of National Directorate of Employment (NDE) in 1986 to promote employment programmes with a special school leaver and agricultural graduates programme both for keeping rural youth's interest in agriculture and for assisting agricultural graduates in establishing farms of their choice.

□□ Agricultural Insurance: Establishment of National Agricultural Insurance Company (NAIC) in 1987 to operate and administer the Nigerian Agricultural Insurance Scheme.

□□ Agricultural Land Development: Establishment of a National Agricultural Land Development Authority (NALDA) in 1991 to execute a national agricultural development programme for small scale farmers organized on group basis.

□□ Agricultural Training and Manpower Development: Training is one of the strategies of the Nigerian government for agricultural development. This has resulted in the establishment of Faculties of Agriculture in all the conventional Universities, Colleges and Institutes of Agriculture, followed in 1988 to 1992 by the establishment of three Universities of Agriculture.

(e) Rural Development Policy: This was the first time a policy attention was given to rural development. In 1986, the Directorate for Food, Road and Rural Infrastructure (DFRRI) was established. This directorate was involved in the construction of rural feeder roads, rural water supply schemes, and rural electrification projects.

(f) The 1988 Agricultural Policy Document: In 1988, a more holistic and articulated agricultural policy document of Nigeria was launched.

(g) 1991: National Land Development Authority established NALDA Farms in nearly all the States with 4 ha demarcated for each farmer involved in the community based programme.

#### **4. Post SAP Period (1995-2012)**

There were no significant policy pronouncements during this phase prior to 1999. Instead the period was characterized by substantial importation of agricultural products while programmes to support agriculture witnessed policy uncertainties. Expenditures on agricultural programs declined with concomitant effect on capital projects.

The post 1999 period, however, witnessed the initiation of several economic reforms with the agricultural sector being central to most of such efforts.

1999 - Special Programme on Food Security

1999 - Root and Tuber Expansion Programme (RTEP): this programme was designed to improve on the level of production of roots and tubers in the country.

2000 - Integrated Rural Development Strategy

2001- Presidential Initiatives on special crops (rice, vegetable oil and cassava): The Presidential Initiative on Rice (PIOR) aimed for national self-sufficiency in rice production by 2005, food security, and the ability to export by 2007.

2003 - *FADAMA* II programme: This is in two phases. The first is funded by the World Bank and the second by the African Development Bank. Twelve States are covered by the World Bank funded phase while six States are funded by the African Development Bank. Subsequently, *the FADAMA* III programme has recently (2009) taken off in some selected States. The aim of the *FADAMA* programmes is to use the banks of rivers and water logged areas for agricultural purposes, particularly so given the low proportion of irrigated areas in Nigeria put at only 7% of total cultivated arable land.

2003 - Cocoa Rebirth Programme: This programme covers the fourteen (14) States that are cocoa producing. A Deputy Governor in one of the States is the Chairman of the Committee and the Committee is anchored in the Federal Ministry of Agriculture, Abuja.

2004 - National Economic Empowerment Development Strategies (NEEDS) Programme

2004 - New Agricultural Policy. This is more detailed as it includes important areas of agriculture which were not emphasized in the 1988 document.

2006 – National Fertilizer Policy for Nigeria.

2007 –2011 - The 7-Point Agenda: This encompassed power and energy, food security, wealth creation, transport sector, land reform, security, and education. With respect to food security, the reform is primarily agrarian based. The emphasis on the development of modern technology, research, financial injection into research, production and development of agricultural inputs to revolutionise the agricultural sector leading to an expected 5 – 10 fold increase in yield and production. This is expected to result in a massive domestic and commercial output and technological knowledge transfer to farmers. The agriculture sub-component of the 7-Point Agenda is spelled out in the 5-Point Agenda of the Federal Ministry of Agriculture and Water Resources (FMAWR). The key programmes of the 5-Point Agenda are: Developing Agricultural Policy and Regulatory Systems (DAPRS), Food Systems Network (FOODSNet), Rural Sector Enhancement Programme (RUSEP), Developing Agriculture Inputs Markets in Nigeria (DAIMINA), and Maximising Agricultural Revenue in Key Enterprises (MARKETS).

### **SELF - ASSESSMENT EXERCISE 1**

Enumerate three programmes or policy in the four phases mentioned above

### **3.2 Budget Allocation and Appraisal of Some Agricultural Development Schemes**

The schemes for financing agriculture have the first objective of encouraging banks to lend to the sector despite the relatively higher inherent risk and uncertainty. This was done by providing the banks with low-cost funds for lending. Another way was to cover their risk exposure to some extent using one instrument or the other. The second objective is promoting farmers' access to credit by the provision of concessionary terms.

#### ***1. Agricultural Credit Guarantee Scheme Fund (ACGSF), 1978 till date.***

Established by Act No. 20 of 1978, this offers a 75 per cent guarantee backed by the Central Bank of Nigeria (CBN) on agricultural credit in default, net the amount realized from the disposal of security for such credit. Financing is at market-determined interest rates. The CBN offers a rebate equivalent to 40 per cent of the loan interest when loans are duly repaid. This scheme deals with small scale farmers who need small loans to operate. For instance, in 2005, more than 70% of all loans were smaller than fifty thousand naira to each farmer who applied and accounted for 36% of total loan value. Only 11% of all loans were larger than N100, 000 and accounted for 32% of total loan value. The scheme has, however, suffered bureaucratic and administrative bottlenecks. For instance the processing of applications and claims has been slow so much so that at the end of 2005, there was an accumulated backlog of

4064 unprocessed claims, the oldest of which dated back to 25 years (IFPRI, 2008).

**2. *Small and Medium Enterprises Equity Investment Scheme (SMEEIS), 2001.***

This is a voluntary initiative of the Bankers' Committee to support micro, small and medium enterprises (MSMEs), including agro and agro-allied businesses. Financing is in the form of either debt or equity. In the case of debt, the borrowing rate is not to exceed a single digit.

**3. *Refinancing and Rediscounting Facility (RRF), 2002 to date.*** Banks that lend long-term to agriculture and are in need of liquidity are availed an amount which is a certain percentage of the outstanding asset portfolio to long-term agriculture by the CBN at reduced rates at the discount window.

**4. *Agricultural Credit Support Scheme (ACSS), 2006 till date.*** The initial ACSS fund of N50 billion was established with contributions mostly from the CBN and deposit money from banks for the financing of large agricultural projects such as establishment or management of plantations, cultivation or production of crops, livestock, and fisheries and farm machinery and hire services. The borrowing rate is 14 per cent, with the CBN absorbing 6 per cent while the borrower pays 8 per cent at full repayment. The purpose of ACSS is to facilitate the development of the agricultural sector by advancing credit to farmers at low interest rates. By pursuing this strategy, the government hopes to exert downward pressure on prices of agricultural produce, especially food, leading to reduced inflation, increased exports, diversification of government revenue base, and increased foreign exchange earnings.

**5. *Large Scale Agricultural Credit Scheme (LASACS), 2009.*** A N200 billion fund established by the Federal Government in the wake of the current global economic crisis to finance large integrated commercial farm projects with an asset base of at least N350 million (excluding land) with prospects of increasing this to N500 million in three years' time, and medium-sized agricultural enterprises with an asset base of N200 million (CBN, 2009). The terms of borrowing are favourable, including a long tenor and single digit lending rate.

**6. *Supervised Agricultural Loans Board.*** Most state governments set up these boards to dispense finance in form of credit to farmers. It should be added that aside from these boards, the state Agricultural Development Programmes (ADP) have recently been working in conjunction with the National Programme for Food Security (NPFS) in the provision of credit to farmers.

**SELF - ASSESSMENT EXERCISE 2**

What led to the failure of the agricultural programmes enumerated above?

### **3.3 Appraisal of Performance of Agricultural Institutions under Nigeria's Development Plans**

**1. Nigerian Agricultural, Cooperative and Rural Development Bank (NACRDB), 1972 to date.** Formerly Nigerian Agricultural and Cooperative Bank, NACB, it was jointly established by the Federal Government of Nigeria (FGN) and the Central Bank of Nigeria (at a ratio of 3:2) to dispense credit to cooperatives, agribusiness, and individual small holder farmers at a subsidized interest rate. As we have direct investment through equity participation in projects, guarantees for agricultural ventures and rural savings services. Its present name came after a merger of People's bank of Nigeria, Family Economic Advancement Programme and Nigerian Agricultural and Cooperative bank in 2002. Even though it now collects deposits, it has not lived up to expectation due to poor funding.

**2. River Basin Development Authority (RBDA), 1977 to date.** Nine RBDAs were established in 1977 as part of the Third National Development Plan (1975 – 80) to add to the existing Sokoto and Rima RBDAs. Their focus is the provision of especially rural water infrastructure but also roads; N32.8 billion was budgeted for this plan. It was the first plan to make rural development and, especially rural electrification, a priority area of government (FGN, 1975). The scheme also involved a massive development of the nation's water resources through creation of irrigation schemes to encourage all season farming.

**3. National Grains Production Company (1979)** for the expansion of grain production through giving improved seeds as credit to the farmers.

**4. Directorates of Foods, Roads and Rural Infrastructure (DFRRI), 1986 to 1993.** This agency adopted an integrated approach to rural development. The philosophy recognized that increased food production was tied to development of rural economic infrastructure. Budget allocation to DFRRI was N433 million in 1986, N500 million in 1987 and N1 billion in 1988 respectively.

**5. Nigerian Agricultural Insurance Corporation (NAIC), 1987 to date.** This provides insurance cover for all types of farming and farming related activities, including insurance for stock in transit. The premium paid on NAIC policy is heavily subsidized by the CBN to make it affordable for small holder farmers. The indemnity paid in the event of occurrence of a risk insured against helps in ploughing the farmer back to business.

**6. People's Bank of Nigeria, 1990.** This was an initiative that targeted self-help groups with credit for micro and small business. It was merged with the FEAP and NACB to form NACRDB in 2002.



**7. National Agricultural Land Development Authority (NALDA) – 1992.** It was established to succeed where others failed. Its promoters touted realization that despite moderate achievements in some areas of the agricultural sector, land management and planning was largely ignored. It was argued that this oversight along with other deficiencies underpinned the perennial problems experienced in the agricultural sector. Simply put, NALDA was to open up more areas for agricultural production with supporting credit, research and subsidies.

During the 8 years of NALDA intervention, significant successes were recorded. The area planned for operation was comparable with the work done and areas of improvement were also determinable. However, the programme had its shortcomings such as the untimely release of budgeted funds to the management of NALDA.

### **SELF - ASSESSMENT EXERCISE 3**

Do you consider the termination of some of the above institutions appropriate?

### **3.4 Targets of Agricultural Development Programmes**

**1. National Accelerated Food Production Programme (NAFPP), 1972.** This was part of the Second National Development Plan (1970 – 74). The plan itself had no clear statement on rural development, although N1, 353 million was voted for it (FGN, 1972). It targeted self-sufficiency in the production of rice, maize, sorghum, millet and wheat. It was a joint programme of the Federal Government and USAID. Its objectives include accelerating and increasing food production through the adoption of improved packages of production technology, speeding up the transfer of research results to farmers, pursuing intensive and extensive cultivation of crops and linking research to production agencies through extension services.

**2. Agricultural Development Programme (ADP) – 1975.** It is jointly funded by the World Bank, Federal and States in Nigeria aimed at provision of rural roads, farm service centers, agricultural Extension services, credit, etc towards achieving food production. Extension activities implemented by ADPs included establishing demonstration farms, identifying lead farmers, providing information to lead farmers on improved farming practices, facilitating access to improved technology and inputs and helping lead farmers teach others.

**3. Operation Feed the Nation (OFN), 1976.** The OFN was part of the Third National Development Plan (1975 – 80) which was voted N2, 050.738 million. Like the earlier plan, there was no categorical strategy for rural development, except some N500 million for rural regrouping (Olayiwola and Adeleye, 2005). However, it had objectives to mobilize the people to embrace agriculture, eliminate the traditional disdain for agriculture by the educated, enhance food production on a large scale,

create jobs and income and utilize all available land resources in the country.

**4. *Green Revolution programme - 1980.*** The civilian regime initiated this programme aimed at wiping away hunger through credit supply to farmers, encouraging and intensifying cooperative education, mobilizing the local people to actively participate in agriculture, application of research on food and fibre to enhance abundance in staple food production, processing and distribution in Nigeria.

**5. *Rural Banking Programme, 1977 to 1991.*** Banks were encouraged to not only establish rural branches but also to extend at least 50 per cent of the deposit mobilized from the rural areas as loans and advances to rural dwellers. Defaulting banks were to be penalized.

**6. *Preferred sector allocation of credit, 1970 to 1996.*** Banks were mandated to extend 40 percent of their loans and advances to agriculture which was designated a preferred sector. Banks that failed to meet this target were penalized. The funds not lent were transferred to the then Nigerian Agricultural and Cooperative Bank, NACB. During the period, concessionary interest rates for agricultural loans policy was put in place between 1980 to 1987. Banks were mandated to extend credit to agriculture at a regulated rate of 9 per cent per annum.

**7. *Community banking programme, 1991 to 2007.*** The programme provided for the establishment of community banks with a focus on rural banking operations. The National Board for Community Banks (NBCB) was the regulator of these banks until 2002 when this function was transferred to the CBN. It was intended to serve communities that were able to establish one based on personal recognition, character and credit worthiness of the borrower.

**8. *Root and Tuber Expansion programme -2000.*** It was established to commercialize root and tuber crop production and improve living conditions, income, food security and nutritional health of the poorest smallholder households.

**9. *National FADAMA Development Programme*** aimed at increasing income of beneficiaries by at least 20%. The programme was designed in 1993 to promote simple and low cost improved irrigation technology under World Bank financing. FADAMA is a Hausa word for low lying flood plains usually with easily accessible shallow groundwater. It is a major instrument for achieving the government's poverty reduction objective in rural areas of Nigeria. The beneficiaries are meant to come as a group known as FADAMA Community Association to the National FADAMA Development Programme. The programme empowers the association with resources, training, and technical assistance support to properly manage and control the resources for their own development. FADAMA adopts a socially inclusive and participatory process in which all FADAMA users will collectively identify their development

goals and pursue it when assisted .The programme is in its third phase currently due to its success in the States that adopted it.

**11. Family Economic Advancement Programme (FEAP), 1997 to 2001.** This was established to serve the credit needs of the family in their daily economic activities through input supplies, loan in form of cash, and capacity building.

**12. National Poverty Eradication Programme (NAPEP), 1999 to date.** Like FEAP, NAPEP was established by the federal government. The mode of operation is tailored towards directed (subsidized) credit to farmers. The programme consists of four schemes namely, Youth empowerment scheme which involves capacity acquisition, mandatory attachment, and credit delivery; Rural infrastructures Development scheme which involves the provision of potable water, rural electrification, transportation and communication development. ; Social welfare Services Scheme which is involved with qualitative education, primary health care, farmers empowerment and provision of social services, provision of agricultural input and credit delivery to rural farmers. ; and Natural Resources Development and Conservation Scheme which contains programmes for environmental protection through conservation of land and space , development of agricultural resources , solid minerals and waters resources.

**13. Microfinance Banks, 2005 to date.** Microfinance brings financial services such as savings, deposit, payments, transfers, micro insurance and micro leasing to the active (or productive) poor and low income people, who would otherwise have no access to such services. The Microfinance Policy outlines the principles and guidelines for the practice of microfinance in Nigeria, including provision for the establishment of private sector driven microfinance banks with market-centred operations, veritable

the source of loanable funds for microfinance banks is the Micro Credit Fund, integration of microfinance institutions into the formal banking system.

**14. Presidential Initiatives, 2000s.** There have been several recent presidential initiatives aimed at financing the production and export of certain commodities such as cassava, rice, cocoa and oil palm to reverse the trend in food importation which represented a worrying percentage of total imports, an indication that the agricultural sector had diminished in its capacity to provide the nation's food and industrial raw materials and to generate foreign exchange.

#### **SELF - ASSESSMENT EXERCISE 4**

Which of these initiatives above do you consider most effective in Nigeria?

#### **4.0 CONCLUSION**

Against the background of numerous challenges confronting the agricultural sector defying many proffered solutions, this unit enumerates and discusses various policies, programmes and institutions set up by successive governments of the day to revamp the Nigerian agricultural sector. These include marketing boards and agricultural corporation from pre-independence era; The Nigerian enterprise promotion act and land use decree of the pre-SAP era, the establishment of NDE, NALDA, and NAIC among others in the SAP era to support fiscal and monetary policy of the government and economic reforms of special programme on food security, root and tubers expansion programme, presidential initiatives on selected crops and Fadama series of post-SAP period in addition to international supported programmes. The agricultural schemes, institutions and programmes were individually appraised.

#### **5.0 SUMMARY**

Here you have been exposed to past efforts of successive governments in tackling this decadence in the agricultural sector. An appraisal of the policies and programmes was equally made. It is obvious from this multi –factorial essence of agricultural production that it must be practiced with the deepest sense of national responsibility by way of a sustainable policy environment, reliable policy instruments and professionally sound and stable institutional framework. By this, the performance of agriculture in Nigeria will be able to meet up with the expectation of food security, guaranteed industrial linkages, poverty alleviation, foreign exchange earnings and economic development among other immeasurable goals and accompanying benefits. This concludes our discussion on the agricultural sector; you can now proceed to the next unit for another important sector in Nigerian economy, the Industrial sector.

#### **6.0 TUTOR-MARKED ASSIGNMENT**

Can the Nigeria Agricultural sector reclaim its dominant position in the Nigerian economy as at independence

## **7.0 REFERENCES/ FURTHER READINGS**

- Akinyosoye, V.O (2005).** *Government and Agriculture in Nigeria: Analysis of Policies, Programmes and administration.* Macmillan Nigeria Publisher Limited, Lagos 598pp.
- BGL Agriculture Report (2009).** *Bringing “Cool” back to Agriculture.* An Agricultural Research Paper.
- Eze C.C., J.I. Lemchi, A.I. Ugochukwu, V .C. Eze, C.A.O Awulonu, A.X. Okon (2010).** *Agricultural Financing Policies and Rural Development in Nigeria.* The 84th Annual Conference of the Agricultural Economics Society.
- Ihimodu, I. I (1983).** Problems of Agricultural Financing in Nigeria; An Analysis of Some Institution in Kwara State, *Agricultural Administration* 12(4): 237-251
- NPA, (2007).** The Nigeria Project Agenda.
- Okuneye, P.A. (2003).** Rising Cost of Food Prices and Food Insecurity in Nigeria and its Implication for Poverty Reduction, *CBN Economic & Financial Review*.39(4)
- Okuneye, P. A. (2010).** *Achieving Self-sufficiency in Nigeria: Linking Promises to Realistic Policies.* Distinguished Lecture Series, No 2, Afe Babalola University, Ado Ekiti, 2010
- Okuneye, P A and I.A. Ayinde (2011).** The Nigerian Agricultural Policy Inadequacy: The Way Forward, *Nigerian Journal of Agricultural Economics (NJAE)*, 2(1): 1- 16
- Phillip D., E. Nkonya, J. Pender and O.A. Oni (2009).** *Constraints to Increasing Agricultural Productivity in Nigeria: A Review.* IFPRI-Abuja. International Food Policy Research Institute c/o International Centre for Soil Fertility and Agriculture Development
- Vasanth (2011):** Problems of Agricultural development in Nigeria, e-WASH, March 16, 2011 by Babalobi Nigeria’s Agriculture and Food Security Challenges <http://countrystudies.us/nigeria/57.htm>

## **MODULE 4**

### **UNIT 1 CHARACTERISTICS AND IMPORTANCE OF THE MINING SECTOR**

#### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Background Information on Oil and mineral Deposits in Nigeria
  - 3.2 Mining Activities: Operations and Characteristics
  - 3.3 Contribution of Mining and Quarrying Sector to the National Economy
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

#### **1.0 INTRODUCTION**

As earlier noted, the location of a country in the global spectrum determines, to a large extent, the country's degree of endowments in natural resources. The deposits of such natural endowments could subsequently be developed, managed, maintained and utilised for national development. Against this background, the first unit in this module provides a background on the extent of oil and mineral deposit in Nigeria. This was followed by another introduction to the operation and characteristics of the Nigerian mining sector while the unit terminates with a discussion on the contribution of the sector to economic development.

#### **2.0 OBJECTIVES**

At the end of this unit students should be able to:

1. Itemise some natural resources in Nigeria that are important to the mining sector
2. Summarise the characteristics of the Nigerian mining sector
3. Highlight the contribution of the mining industry to national economy

#### **3.0 MAIN CONTENT**

##### **3.1 Background Information on Oil and mineral Deposits in Nigeria**

In view of the location of Nigeria in the tropics, it constitutes one of the few countries in the world whose domestic natural resources are- in excess of its domestic resources

requirements. For example, Nigeria is richly endowed with vast natural resources which include: crude oil (petroleum resources), bitumen, coal, lignite, natural gas, limestone, tin ore, kaolin, columbite, gold, silver, zinc, lead, clay, gypsum, marble, granite, sand, iron ore, stones, rocks, and shale. Incidentally, most of these resources remain largely untapped. Natural resources mainly tapped currently are crude oil, natural gas, coal and lignite, tin ore and iron ore and limestone. The deposit of bitumen in Igbokoda, Ondo State of Nigeria, is reported to be the second largest deposit of bitumen in the world, yet it remains untapped for development.

Given the focus on the restricted few resources, mining currently constitutes a central economic activity in the Nigeria economy. In this regard, modern and sophisticated economic activities in the mining sector largely involve exploration, extraction and the subsequent development of crude oil, solid minerals and associated gas in which some transnational oil companies (TNC) are connected in their collaboration with the Nigerian government. It is important to recognise that the mining sector did not command economic planners and policy makers' attention about independence. This is largely due to the fact that its contributions to the GDP, foreign exchange earnings and total national revenue were negligible at that time. Since about the mid-1970s to date, particularly when crude oil and gas have constituted the single most important raw material in the world trade both in volume and value, government's policy attention has usually been directed at the mining sector. Besides, given that petroleum products and gas constitute important energy sources from the mining sector, the sector has therefore been given a prime position in its strategic roles in the country's development process.

The strategic roles accorded the mining sector, therefore, probably explains why it is necessary for it to attract the large scale of capital resources involved in the development of the sector; the scope of trade, size, sophistication and the complexities of associated technologies; and the potential financial rewards contained therein. All of these attributes combine to make the mining sector, particularly, the crude oil sub- sector of the mining sector, unique among the other sectors of the Nigerian economy. In recognition of the attributes of this uniqueness, particularly, the potential financial rewards, the TNCs and other operators have usually engaged in a kind of persistent competition for a grip of the power to control the sector in order to dictate its pace of development and subsequently the operations (economic activities with the level of investments, products supplies, pricing and distribution). In fact, some of the operators interested in the socio-economic matters in the mining sector particularly the crude oil sub-sector of the mining sector are:

- i. The TNCs directly connected with crude oil exploration, exploitation and marketing (i.e the consortia such as the Seven Oil Sisters,

Standards oil, Socony, Mobil Oil, Standard Oil of California, Gulf Oil. Texas Oil, all from the S.S; British petroleum; Royal Dutch\ Shell linked with Anglo/Dutch);

- ii. Nigeria where the mineral deposits exists for development; and
- iii. International oil consumers (i.e. resources importers amongst which are the powerful industrial countries e.g. U.S

The urge for power acquisition and its subsequent acquisition is expected to be willed on the manipulation of the minerals influencing socio-economic and political factors which shaped the resources industry as well as the international resources market. Such factors include; individual operator's relative share of the global financial, technical, technological, administrative and manpower capabilities. These factors have significant dominance on resources (e.g. crude, oil, gas etc.) parameters such as output, products prices and their associated demand and supply parameters.

It is important to recognise that the resources events at the global level usually help in the processes of the development of each resource industry at the national level in Nigeria. That is, the extent of exploration, exploitation and marketing. For example, petroleum products in Organisation of Petroleum Exporting Countries (OPEC) and non-OPEC countries, significantly, depend on the level of the aforestated resources parameters, particularly prices as influenced by the above factors. This suggests that the rate, pace and degree of the development in the mining sector could usually be regarded as exogenously determined. Given the exogenous factors influencing the development of the mining sector, it would be expedient to examine the empirical implications of the global events as they affect the development of the mining sector in Nigeria.

This unit, therefore, attempts to examine the degree of the development of the mining sector in Nigeria along with its implications on its relative contributions to the GDP, foreign exchange earnings and national revenue.

### **SELF ASSESSMENT EXERCISE 1**

Why is all attention shifted to the mining sector in Nigeria?

### **3.2 Mining Activities: Operations and Characteristics**

By the nature and location of mineral resources (crude oil, gold, natural gas, coal etc.) in the earth crust, economic activities associated with any of the mining industries (e.g crude oil or coal industry) embrace those which relate to exploration, extraction, refining, transportation and distribution, marketing and sales. In recognition of these varying facets of the associated activities in the mining sector, operations in the sector are usually complex and highly capital intensive. This explains why in technologically under-developed countries such as Nigeria where appropriate technologies and associated



equipment, machines and spares are by importation, mining operations are highly expensive as they require huge capital investment activities and technologies.

The complexities of these varying operations with their huge investments explain why the required capital investment expenditure is beyond individual financial capacity and why several foreign companies are involved in the mining industry in Nigeria before 1975. Thus, given the nature and operations of such foreign mining companies in the mining industry particularly their persistent struggle to control the market, the industry can be described as; “notable a high revenue yielding, capital intensive and dynamic industry accustomed to long pay- out period”. (Lavers, 1987).

Another major characteristic of the mining industry (e.g the crude oil industry) is its peculiar manpower requirements. Compared with other sectors (e.g. agriculture), it employs relatively few but highly specialized, skilled and dedicated people in all the technical areas of operation. In some cases available high skilled personnel at the various operational stages require maximum flexibility to take on responsibilities hence, the need for intensive training programmes in both the technical and non- technical areas of the industry. Such intensive training would provide a concrete base for personnel to cope with the dynamics of the industry as dictated by prevailing socio-economic and political factors.

## **SELF ASSESSMENT EXERCISE 2**

Compare the manpower requirement of the mining sector with that of the agricultural sector

### **3.3 Contribution of Mining and Quarrying Sector to the National Economy**

The impressive performance of the mining and quarrying sub-sector in the share of the GDP and its total monopoly of foreign exchange earnings especially since the 1970s is however accounted for by a major mineral product, crude petroleum. Crude petroleum, the dominant mineral in the mining and quarrying sector of the Nigerian economy accounted for 91.8% of the output of the sector in 1981, 96.7% in 1985, 97.6% in 1987, 97.8% in 1990, 97.9%, 97.6% and 97.0% in 1992, 1994 and 1995 respectively. The share of crude oil in the sector has been consistently high even till 2010, contributing above 95 percent in most cases. The exploitation and sale of other mineral products in Nigeria remain very low. The contribution of the mining and quarrying sub-sector to the national economy only became significant after about five years after independence. By 1970, mining and quarrying had emerged to become the leading sector in terms of percentage share of GDP. The share of the sector in the GDP is depicted in table 4.1.1 below.

**Table 4.1.1: Contribution of the Mining and Quarrying Sector to Real Gross Domestic**

**Product 1960-2010 (Nmillion)**

	1960	1965	1970	1975	1980	1985
<b>Mining&amp;Quarrying</b>	<b>31.6</b>	<b>149.8</b>	<b>501.5</b>	<b>6276.5</b>	<b>7437.0</b>	<b>73065.0</b>
<b>a. Crude Petr.&amp; gas</b>						
<b>b. Solid Minerals</b>	11.0	116.8	465.6	5,770.6	6,754.3	72152.0
Coal Mining	20.6	33.0	35.9	505.9	682.7	913.0
Metal Ore	1.8	2.8	0.2	-	-	1.53
Quarry. & Other Min.	9.0	10.8	8.6	-	-	15.02
M&Q as % of Total GDP	9.8	19.4	27.1	505.9	682.7	896.5
	1.3	4.8	11.9	23.1	23.6	36.3

<b>Total GDP</b>	<b>2,489.0</b>	<b>3,146.8</b>	<b>4,219.0</b>	<b>27,172.0</b>	<b>31,546.8</b>	<b>201,036.3</b>
	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2008</b>	<b>2010</b>
<b>Mining&amp;Quarrying</b>	<b>100889.0</b>	<b>94326.7</b>	<b>107797.7</b>	<b>137856.3</b>	<b>118712.9</b>	<b>125623.7</b>
<b>a. Crud. Petr.&amp; gas</b>						
<b>b. Solid Minerals</b>	100,223.4	93,536.7	106,827.5	136,345.5	116594.6	122957.9
Coal Mining	665.6	789.8	970.2	1,510.8	2118.26	2665.8
Metal Ore	0.91	0.13	0.18	0.12	0.16	0.19
Quarry. & Other Min.	12.06	6.4	6.78	7.56	10.6	13.24
M&Q as % of Total GDP	652.6	783.3	963.2	1,503.2	2107.5	2652.4
	37.7	33.5	32.8	24.5	17.7	16.2
<b>Total GDP</b>	<b>267,550.0</b>	<b>281,407.4</b>	<b>329,178.7</b>	<b>561,931.4</b>	<b>672202.6</b>	<b>775.525.7</b>

**Source:** Computed from NBS, Statistical Bulletin, 2010 compiled edition

\*Note that the GDP was compiled from 1960-1973 using 1962/1963 constant basic price, from 1974-1980 using 1977/1978 constant basic price and from 1981-2010 using 1990 constant basic price.

The contribution of the mining and Quarrying sector in real terms became more pronounced after 1970 when oil was discovered in commercial quantities and full exploration began. Between 1960 and 1970, the contribution of the mining and quarrying sector rose from 1.3 percent share in 1960 to 4.8% in 1965 and 11.9% in 1970. In 1975 the contribution of the sector to real GDP rose to 23.1 percent. Mining and quarrying resumed its position as a main contribution to GDP, 23.6 percent in 1980 and substantially increased to 36.3 percent in 1985. It also improved slightly in 1990 to 37.7 percent of the GDP; the sector began to witness a decline in 1995 to 33.5 percent, 32.8 percent in 2000. By 2005 the decline in the contribution of the sector to the national output had declined to 24.5 percent, 17.7 percent in 2008 and 16.2 percent in 2010.

### **SELF ASSESSMENT EXERCISE 3**

Can the contribution of the mining sector to the national economy be consistent in Nigeria?

#### **4.0 CONCLUSION**

Nigeria constitutes one of the few countries in the world whose domestic natural resources are in excess of its domestic requirements. These vast natural resources include: crude oil (petroleum resources), bitumen, coal, lignite, natural gas, limestone, tin ore etc. With the exception of crude oil which constitutes an important source of energy, most of these resources remain largely untapped. Economic activities associated with any of the mining industries embrace those which relate to exploration, extraction, refining, transportation and distribution, marketing and sales. Operations in the sector are usually complex, highly capital intensive and required specialized skilled personnel. Crude oil constitutes a major foreign exchange earner for the country and the mining industry has accounted for a significant contribution to the gross domestic product overtime with the highest contribution recorded in the 1980s and 1990s.

#### **5.0 SUMMARY**

Here you have been introduced to the depth of the natural resource endowment of Nigeria. You have also learnt about the distinguishing characteristics and operation of the mining sector in Nigeria. The final section in this unit made mention of the significance of the mining industry to national economic development especially in terms of contribution to GDP. Having learnt all these you are set for a comprehensive discussion on the performance of the mining industry in the next two units.

#### **6.0 TUTOR-MARKED ASSIGNMENT**

Discuss the significance of the Nigerian mining industry in general and specific terms.

## **7.0 REFERENCES/FURTHER READING**

**Anyanwu, J.C., A. Oyefusi, H. Oaikhenan and F.A. Dimowo (1997).** *The Structure of the Nigerian Economy (1960-1997)*, Joanee Educational Publishers Ltd., Anambra, Nigeria. 661pp.

**Ayodele, A.S. and G.O. Falokun (2005).** *The Nigerian Economy; Structure and Pattern of Development*. Printoteque, Lagos, Nigeria, 301pp.

**NNPC.** The Nigeria Oil Industry, the Babangida Era (August 1985 to January 1993).

Tanns Comma Ltd, Lagos

**Ojo, M.O. and Adebuseyi, B.S. (1996).** The State of the Nigerian Petroleum Industry: Performance, Problems and Outstanding Issues. *CBN Economic and Financial Review* 34(3), September.

**Olalokun et al (1979).** *Structure of The Nigerian Economy*. Macmillian Press Ltd. and University of Lagos press, Lagos.

**Olayide S.O. (1979).** *Economic Survey of Nigeria (1960-1975)* Aromolaran

Publishing Company Ltd. Ibadan

## **UNIT2        THE CRUDE OIL SUB SECTOR CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
- 3.1 Historical Background of the Nigerian Crude Oil Industry
- 3.2 Performance of the Crude Oil and Gas sub Sector
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0    INTRODUCTION**

As earlier noted, the mining industry comprises a few subsectors of which crude oil and solid minerals sub sectors are dominant, others include associated gas and quarrying subsectors. In this unit our attention is on the crude oil sub sector which harbors a lot of petroleum products. We intend to give a historical perspective of the crude oil sub sector and follow it up with a discussion on the performance and contribution of the sub sector to Nigerian economy. I know you are very familiar with the activities of this sector because of its role in our routine life and overall economic development; this is an added advantage towards the understanding of this unit.

### **2.0    OBJECTIVES**

By the end of this unit you should be able to:

1. Summarize the history and evolution of the crude oil industry in Nigeria
2. Assess the contribution/performance of the crude oil sub sector in Nigeria

### **3.0    MAIN CONTENT**

#### **3.1    Historical Background of the Nigerian Crude Oil Industry**

Crude oil was discovered in Nigeria in 1956 (Olorunfemi, 1985). Oil production started immediately and increased rapidly. However, it was not until the 1970s before the tremendous influence of the crude oil industry as one prime mover of the Nigerian economy became apparent. This manifestation emerged from a combination of the global oil industry's circumstances, particularly the rise in oil prices which can be linked with Organisation of Petroleum Exporting Countries achievement in the 1970s. Prior to the 1956 oil discovery, there have been varying exploratory activities which started about 1908 with the establishment of the Nigeria Bitumen Company (NBC) by a German business interest for the exploration of bitumen. The NBC collapse during World War I and became replace in 1973 with Shell D'Arcy, a fore-runner of Shell

Petroleum Development Company which also collapsed during World War II (1939-1945). This oil company in partnership with British Petroleum (BP) returned to oil exploratory activities in 1946. Thereafter, after an initial investment expenditure of about 15 million, oil was discovered in commercial quantities at Olobiri in the Niger Delta area.

Before this time, that is, from November 1938, almost the entire country was covered by a concession granted to the company to explore for petroleum resources.

This period also witnessed the arrival on the scene of other MNOCs such as Gulf Oil, Texaco (now ChevronTexaco), Elf Petroleum (now Total), Mobil and Agip.

To date, the above companies constitute the major players in Nigeria's oil industry.

By 1958, oil production and exports started with about 5,100 barrels per day (bpd). Given the dynamics within the global oil market, perhaps, arising from the aforementioned persistent struggle among oil industry's operators and their impact on the parameters that influence the oil industry, oil production and exports consistently rose from about 0.5 million bpd in 1972 to about 2.5 million bpd in 1979/80 under oil price regime of about \$4 pb in 1972 and about \$40 pb in 1979/80. The development of the Nigeria oil industry has been based on different governments and the other oil operators (Table 4.2.1).

These include:

- i. The Concession Agreement;
- ii. The Joint Venture Agreement;
- iii. Production Sharing Contract; and
- iv. Service Contract;

**Table 4.2.1 Ultimate Hydrocarbon Recoverable in Nigeria Oil in 10<sup>6</sup> bbls**

	<b>Proven</b>	<b>Undiscovered</b>	<b>Total</b>
Land	14,000	4,300	183000
Off-shore	6,500	6,200	12700
Grand Total	20,500	10,500	31000
TOE (10x6)	<u>2665</u>	<u>1371</u>	<u>4036</u>

**Source:** Balogun (1991). Energy Utilization in Nigeria

Nigeria has a total of 159 oil fields and 1481 wells in operation according to the Ministry of Petroleum Resources. The most productive region of the nation is the coastal Niger Delta Basin in the Niger Delta or "South-south" region which encompasses 78 of the 159 oil fields. Most of Nigeria's oil fields are small and scattered, and as at 1990, these small unproductive fields accounted for 62.1% of all Nigerian production. This contrasts with the sixteen largest fields which produced 37.9% of Nigeria's petroleum at that time. As a result of the numerous small fields, an

extensive and well-developed pipeline network has been engineered to transport the crude. Also due to the lack of highly productive fields, money from the jointly operated (with the federal government) companies is constantly directed towards petroleum exploration and production. Nigeria's petroleum is classified mostly as "light" and "sweet", as the oil is largely free of sulphur. Nigeria is the largest producer of sweet oil in OPEC. This sweet oil is similar in composition to petroleum extracted from the North Sea. This crude oil is known as "Bonny light". Names of other Nigerian crudes, all of which are named according to export terminal, are Qua Ibo, Escravos blend, Brass river, Forcados, and Pennington Anfan.

There are six petroleum exportation terminals in the country. Shell owns two, while Mobil, Chevron, Texaco, and Agip own one each. Oil companies in Africa investigate offshore production as an alternative area of production. Deepwater production mainly involves underwater drilling that exists 400 m or more below the surface of the water. By expanding to deep water drilling the possible sources for finding new oil reserves is expanded. Through the introduction of deep water drilling 50% more oil is extracted than before the new forms of retrieving the oil. Angola and Nigeria are the largest oil producers in Africa. The U.S. remains the largest importer of Nigeria's crude oil, accounting for 40% of the country's total oil exports.

Nigeria had an estimated 37.2 billion barrels of proven oil reserves as of January 2011. The majority of reserves are found along the country's Niger River Delta and offshore in the Bight of Benin, the Gulf of Guinea, and the Bight of Bonny. Current exploration activities are mostly focused in the deep and ultra-deep offshore with some activities in the Chad basin, located in the northeast of the country. In 2010, total oil production in Nigeria was slightly over 2.46 million bbl/d, making it the largest oil producer in Africa. Crude oil production averaged close to 2.15 million bbl/d for the year. Recent offshore oil developments combined with the restart of some shut-in onshore production have boosted crude production to an average of 2.17 million bbl/d for the month of July 2011. Planned upstream developments should increase Nigerian oil production in the medium term but the timing of these startups will depend heavily on the Petroleum Industry Bill (PIB) and the fiscal/regulatory terms it imposes on the oil industry.

## **SELF-ASSESSMENT EXERCISE 1**

Throw more light on the following agreement with multinational companies in oil contract

- i. The Concession Agreement;
- ii. The Joint Venture Agreement;
- iii. Production Sharing Contract; and

iv. Service Contract;

### **3.2 Performance of the Crude Oil and Gas sub Sector**

It is obvious from Table 4.2.2 that the Crude Petroleum and gas sub sector dominates the contribution of the mining and quarrying sector to the GDP in Nigeria. The contribution rose from 30.6 of the total contribution of the mining and quarrying sector to 88.0 percent in 1995. From 1970 till date the sub sector accounted for more than 90 percent of the total contribution from the sector with minimal contribution from the counterpart solid mineral subsector. The contribution was even more than 98 percent of the mining and quarrying GDP from 1985 to 2010. This is a reflection of the over concentration on the crude oil sub sector over and above other subsectors in the mining and quarrying sector.

In terms of contribution of crude oil and gas to overall GDP, the subsector rose from a contribution of mere 0.4 percent at independence to 3.7 and 11.9 percent in 1965 and 1970 respectively prior to the active commercial quantity discovery and exploration in the oil sector. This contribution continued to rise over time from 1975 (21.4% of the total GDP) to 35.9 percent in 1985 and reached its peak, contributing about 38 percent in 1990. The subsector soon began to decline in its contribution from 1995 and has recently dropped to 15.9 percent from 24.3 percent in 2005. This is probably arising from a concerted effort aimed at diversification of the country resource base emerging from a series of programmes and policies since the advent of the Structural Adjustment Programme (SAP) in 1986.

Since the global energy crisis of 1972/73, the energy sector, particularly the petroleum sub-energy sector of the Nigerian economy has become the single most important source of revenue, particularly foreign exchange earnings. Revenue from the petroleum sector has risen in the share of total revenue from 55.4% in 1980 to well over 80% in 2001. The share in foreign exchange earnings is currently above 90% of the total. For example, in the year 2000, that sub-energy sector of the country accounted for over 90% of the country's foreign exchange earnings; about 85% of the Federal Government's collectable revenue; and over 78 of the national commercial energy consumption. In 2008, the total trade in oil was valued at ₦10,600,273.7 billion which is more than double trade in non-oil products in the same fiscal year. The revenue from oil valued at ₦6, 530, 630.10 represents 83 percent of the total revenue for the year 2008. These significantly explain why most Nigerian energy analysts define the Nigerian petroleum sub-energy sector and virtually the energy sector as the Nigerian engine of growth; fuelling the entire Nigerian economy and society.



Globally, Nigeria ranks the sixth largest producer of crude oil and the first in sub-Saharan Africa. Besides, it is an OPEC member with OPEC production quota of about 2, 033 mbd up till June in year 2001 out of which about 300, 000 barrels (15%) was allocated for domestic-consumption using its four refineries with a total installed capacity (which is usually far above available capacity), is expected to yield about 22.75m litres of gasoline per day against an estimated domestic consumption of 21.4m litres with a balance of 1.35m litres available for exports to African and European countries.

Incidentally, analysts have gone further to link the development witnessed in education, health, transportation and the other sector of the Nigerian economy with the finances derived from the sector. Thus, the petroleum sub-energy sector and the entire sector are critical to Nigeria's national economy while their management is of keen interest to all governments (federal, state and local) in the country.

**Table 4.2.2: Contribution of the Oil sub sector to Real Gross Domestic Product 1960-2010 (Nmillion)**

	1960	1965	1970	1975	1980	1985
<b>Mining&amp;Quarrying</b>	<b>31.6</b>	<b>149.8</b>	<b>501.5</b>	<b>6276.5</b>	<b>7437.0</b>	<b>73065.0</b>
<b>a. Crude</b>						
<b>Petroleum.&amp; gas b.</b>	11.0	116.8	465.6	5,770.6	6,754.3	72152.0
<b>Solid Minerals</b>	20.6	33.0	35.9	505.9	682.7	913.0
<b>Crud. Pet % of M&amp;Q</b>	30.6	88.0	92.8	91.9	90.8	98.8
<b>Crud. Pet % of Total</b>	0.4	3.7	11.9	21.2	21.4	35.9
<b>Total GDP</b>	<b>2,489.0</b>	<b>3,146.8</b>	<b>4,219.0</b>	<b>27172.0</b>	<b>31,546.8</b>	<b>201,036.3</b>

	1990	1995	2000	2005	2008	2010
<b>Mining&amp;Quarrying</b>	<b>100889.0</b>	<b>94326.7</b>	<b>107797.7</b>	<b>137856.3</b>	<b>118712.9</b>	<b>125623.7</b>
<b>a. Crud. Petr.&amp; gas</b>						
<b>b. Solid Minerals</b>	100,223.4	93,536.7	106,827.5	136,345.5	116594.6	122957.9
<b>Crud. Pet % of M&amp;Q</b>	665.6	789.8	970.2	1,510.8	2118.26	2665.8
<b>Crud. Pet % of Total</b>	99.3	99.2	99.1	98.9	98.2	97.9
	37.5	33.2	32.5	24.3	17.4	15.9
<b>Total GDP</b>	<b>267,550.0</b>	<b>281,407.4</b>	<b>329,178.7</b>	<b>561,931.4</b>	<b>672202.6</b>	<b>775525.7</b>

**Source:** Computed from NBS, Statistical Bulletin, 2010 compiled edition

Note that the GDP was compiled from 1960-1973 using 1962/1963 constant basic price, from 1974-1980 using 1977/1978 constant basic price and from 1981-2010 using 1990 constant basic price

## **SELF ASSESSMENT EXERCISE 2**

Do you project an upward or downward trend in the performance of the crude oil subsector?

## **4.0 CONCLUSION**

This unit is an exposition of the activities of the oil subsector in Nigeria. The unit commenced with a historical background where it was stated that crude oil was discovered in Nigeria in 1956 and it was not until the 1970s before the tremendous influence of the crude oil industry as one prime mover of the Nigerian economy became apparent. Pioneer actors in the oil industry include the Nigeria Bitumen Company(NBC), Shell D'Arcy, Gulf Oil, Texaco (now ChevronTexaco), Elf Petroleum (now Total), Mobil and Agip under various arrangements. Nigeria had an estimated 37.2 billion barrels of proven oil reserves as of January 2011 found mainly along the country's Niger River and Delta. In 2010, total oil production in Nigeria was slightly over 2.46 million bbl/d, making Nigeria the largest oil producer in Africa. The performance of the crude oil and gas sub sector reveals that the energy sector, particularly the petroleum sub-energy sector of the Nigerian economy has become the single most important source of revenue, particularly foreign exchange earnings. The revenue from oil valued at ₦6, 530, 630.10 represents 83 percent of the total revenue for the year 2008 and 15.9 percent of the GDP in the same year.

## **5.0 SUMMARY**

So far this unit has treated us to a discussion on the Nigerian oil industry, from the historical background of the sub sector to the performance of the sector in terms of foreign exchange earnings and contribution to GDP. Having learnt these, you can now proceed to examine the counterpart of the oil sector in the mining industry, the solid mineral subsector in the next unit.

## **6.0 TUTOR-MARKED ASSIGNMENT**

Write short notes on activities of foreign operators in the Nigerian oil industry.

## **7.0 REFERENCES/FURTHER READINGS**

**Anyanwu, J.C. (1993).** *Monetary Economics; Theory, Policy and Institutions*. Hybrid

Publishers Ltd. Onitsha, Chapter 8

**Anyanwu, J.C., A. Oyefusi, H. Oaikhenan and F.A. Dimowo (1997).** *The Structure of*

*the Nigerian Economy (1960-1997)*. Joanee Educational Publishers Ltd., Anambra, Nigeria. 661pp.

**Ayodele, A.S. and G.O. Falokun (2005).** *The Nigerian Economy; Structure and Pattern of Development*. Printoteque, Lagos, Nigeria 301pp.

**Central Bank of Nigeria** Annual Report and Statement of Accounts Various Years

**Central Bank of Nigeria (2008).** *Statistical Bulletin*, Golden Jubile Edition, 2008

**Central Bank of Nigeria (1993).** *Perspectives of Economic Policy Reforms in Nigeria: A Study Report*. CBN, Lagos

**Iwayemi, A. (1995).** *Oil and the Macroeconomy: A Perspective on Recent Economic Performance* in Iwayemi, A. ed. Op.cit.61-92

**National Bureau of Statistics (2011).** *Annual Abstract of Statistics*, Compiled Edition, 2010

**NNPC.** *The Nigeria Oil Industry, the Babangida Era (August 1985 to January 1993)*. Tanns Comma Ltd, Lagos Marina

**NNPC (1983).** *Nigerian Oil Industry Statistical Buletin*, NNPC Lagos

**Ojo, M.O. and Adebusi, B.S. (1996).** The State of the Nigerian Petroleum Industry: Performance, Problems and Outstanding Issues, *CBN Economic and Financial Review* 34(3).

**Olalokun et al (1979).** *Structure of The Nigerian Economy*, Macmillian Press Ltd. and University of Lagos press, Lagos.

**Olayide S.O. (1979).** *Economic Survey of Nigeria (1960-1975)* Aromolaran Publishing Company Ltd. Ibadan

**Wikipedia (2012).** Petroleum Industry in Nigeria. Wikipedia, [http://en.wikipedia.org/w/index.php?title=Petroleum\\_industry\\_in\\_Nigeria](http://en.wikipedia.org/w/index.php?title=Petroleum_industry_in_Nigeria)

## **UNIT 3 THE SOLID MINERALS AND ASSOCIATED GAS SUBSECTOR CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
- 3.1 Solid Minerals' Production in Nigeria
- 3.2 Performance of the Solid Mineral Subsector
- 3.3 Associated Natural Gas Production in Nigeria
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

Principal minerals produced (at present) in Nigeria (apart from crude oil) are Cassiterite (tin ore), columbite, coal, limestone, marble and gas. The first five however differ from the last in that they belong to the class of solid minerals. In this section, we shall examine developments in the mining sector stating the production trend of different types of minerals and the contribution of the sector to GDP. In addition, we shall also study the activities of the associated gas subsector of the mining industry.

### **2.0 OBJECTIVES**

Student should by the end of this unit be able to:

1. Highlight the production trend of different minerals in Nigeria
2. Describe the overall performance of the solid mineral subsector in Nigeria
3. Discuss the activities of the associated gas subsector

### **3.0 MAIN CONTENT**

#### **3.1 Solid Minerals' Production in Nigeria**

The Geology of Nigeria is comparable to those of other countries where world class deposits have been found. The mineral spread in Nigeria is significant with evidence of 34 different minerals distributed in Nigeria's richly endowed geology. Although not all the mineral occurrences ultimately have enough reserves to be of viable interest to mining companies. Nigeria has several previously explored mines that could be re-opened. The gold mining opportunity in Nigeria could be very much like that of Ghana where abandoned mines could be redeveloped. Thus, significantly increasing the country's mining potential. Some of the known minerals include: Gold, Coal, Bitumen, Iron-ore, Tantalite, Columbite, Lead, Zinc Sulphides, Barytes, Cassiterite, Gemstones, Talc, Feldspar and marble.

In its September 2008 ministerial press briefing, the Minister in charge of the Ministry of Solid Minerals Development stated that in order to give the reforms in the mining sector a more meaningful approach, the leadership of the Ministry has prioritized the development of Seven Strategic Minerals (7SM), Coal, Bitumen, Limestone, Iron Ore, Barytes, Gold and Lead, Zinc. These seven minerals are world class and have been carefully chosen for development in view of their strategic importance to Nigeria's economy and their availability in quantities that are sufficient to sustain mining operations for years. One obvious implication of the above is that potential investments in any of these seven may receive accelerated response from the government as such investments would be seen as being in alignment with the government broader goal of enhancing infrastructural development across the six geopolitical zones of the country and their expected contribution to the nation's GDP.

The production of solid minerals in Nigeria has generally been on the increase. From 763, 511 tonnes in 1970, it increased by 171.1% to 2, 069.233 tonnes in 1973. It however fell in 1975 and 1977 (by 7.6 and 10.2% respectively to 1,912,014 and 1,717,346 tonnes respectively. Production increased by 57.2% in 1980 and fell again by 41.9% to 1,567,162 tonnes in 1983. There were positive growths in 1985 and 1987 (29.8% and 38.4% respectively) while 1990 recorded a production fall of 49.7%. Total output in 1990 was 1,416, 574.5 tonnes. The subsequent years however witnessed continuous rise production of solid minerals with percentage increase of 6.4 in 1991, 130.4 in 1992; 2.9, 1.0 in 1993 and 1994 respectively and 12% in 1995. The increase in 1995 is particularly noteworthy. It was in that year that the Nigerian Government showed some seriousness in the development of the sub-sector by creating the Federal Ministry of Solid Minerals with a mandate to evolve appropriate policy and machinery for rapid exploration and development of solid minerals in the country. This followed from the recognition of the role of solid minerals as a major source of basic inputs for the industrial segment of the non-oil export sub-sector. Again the emergence of public interest in the sector attracted private sector response to invest and exploit the sector.

(a) Limestone

Limestone has been the major solid mineral produce in Nigeria accounting on the average for over 90% of total output. The highest level of production indexed 143.2 and 142.3 in 1994 and 1995 respectively. For those years, the percentage increases in limestone production were 75.2 and 38.9 respectively. These are, however, less than the 130.4% increase experienced in 1992. The continued growth in limestone production is a result of increasing demand by the Aladja Steel Company and the various cement companies which use it as the minerals.

(b) Coal

Coal occupies a second place in solid mineral production in Nigeria. It is particularly used as a source of energy in Nigeria and beyond, even though its share of energy consumption

in the country is negligible. According to 7.9% of total solid mineral production in 1970, its share increased to 15.8% in 1973 and 12.6% in 1977. In 1980 however, the percentage share of output fell to 6.5 and 3.4 in 1983. In 1985, there was an improvement in production as revealed in a share of 6.9%, and also in 1986 as a result of a greater external demand which resulted in the export of 30,000 tonnes compared with 5,000 in 1985. In 1991, the percentage share had risen to 9.1%. Coal production however has been witnessing a continuous downward production movement since 1992. The index of production (with 1985 as base year) was 70.8 in 1992, 38.5 in 1993, 16.6 in 1994 and 13.8 in 1995.

(c) Cassiterite

Cassiterite (or tin ore) production in Nigeria has been on the downward trend since 1970 (except 1990 that recorded a percentage production increase of 47.3 and 1993, 1994, 62.8 and 19.0 respectively). Accounting for 1.4% of total solid mineral production in 1970, the share fell to 0.4% in 1973 and continued on the downward journey to 0.00%. The index of production which was 972.7 in 1970, 716.5 in 1973, 543.8 in 1975, 400.8, 322.3 and 190.9 in 1977, 1980 and 1993 respectively fell to a mere 6.6 in 1992 and 12.4 in 1995.

One of the problems facing the production of cassiterite in Nigeria is that of marketing. The production of the mineral is much tied to events in the global market as a large proportion of output is exported. Excess supply in the world market and the attendant fall in prices have had negative effects on production. During the first nine months of 1985 for example, the average price of tin in the international market was £9, 548.80 per tonne, about 10.4% higher than 1984 average price. However, the glut in the market persisted and the price of tin in the London Metal Exchange (LME) dropped to £8, 140.00 in October 1985 (about 4.2%) below the International Tin Council's permissible level of £8, 500.00 (CBN, 1985). In 1988, the price had declined further to £4, 300.00 per tonne. In the same year, following the sixth meeting of the Conference of Ministers of the Association of Tin Producing Companies (ATPC) held at Abuja. The Nigerian Minister of Mines, Power and Steel announced various measures to revive the tin industry in Nigeria (CBN, 1988) but nothing serious appeared to have been achieved in this regard as the production of cassiterite continued to suffer even after 1988. Neither has the ATPC been able to rationalise the supply of tin to the international market.

(d) Marble

Of the solid minerals in Nigeria, marble has experienced about the highest average production growth rate. From an output of 1, 830.0 tonnes production increased to 5,680.0 tonnes in 1977. Output increased further by a staggering 3, 301.5% from 2,137.0 in 1985 to 72,691 tonnes in 1987. There were declines in production in 1980, 1990, 1992

and 1993. However, in 1995, marble output increased by 31.8% to 22,460.0 tonnes. Despite this impressive growth, the share of marble in total solid minerals production in Nigeria has been very negligible (less than 1% except in 1986, 1987, 1990, and 1991). The Nigeria Marble Mining Company, Iggetti and the Jakura Marble Plant, Lokoja which both constitute the main producer of marble in the country presently operate a huge excess capacity.

(e) Columbite

Like marble, columbite occupies a very insignificant share in total solid mineral production in Nigeria. The percentage share of output since 1970 1997 has been less than (0.5%) half a percentage. Up till 1990, production has generally been on the decline (from a production index of 1,608.1 in 1970 to 69.4 in 1990. There was however improvement in output in 1991 through 1992, 1994 and 1995 (with percentage increases 19.4, 6.7, 3.0 and 117.6 respectively). The highest percentage production growth was recorded in 1995. However, production growth in these periods did not translate into any increased share of total output.

(f) Other Minor Minerals

Other minerals which are currently being produced in the country include lead, zinc, gold, zircon, wolfram (a byproduct of tin mining) and radio-active minerals (uranium, thlorite etc). Other trace minerals like tungsten, molybednite, gypsum, bauxite, barites and phosphates have been indicated through geological surveys but their mining has not developed.

## SELF ASSESSMENT EXERCISE 1

Can the mining of solid minerals serve as a viable complement to the production of crude oil in Nigeria?

### 3.2 Performance of the Solid Minerals subsector

Generally, the contribution of the solid mineral sub sector remains insignificant since the advent of oil in the 1970s. The sector contributed about 65 percent to the mining and quarrying sector GDP which drastically reduced to 22 percent in 1965. The sub sector witnessed further decline in 1970 to 7.2 percent in 1970 and appreciated slightly to 9.2 percent by 1980.

**Table 4.3.1: Contribution of the Solid Mineral Sector to Real Gross Domestic Product 1960-2010**  
(Nmillion)

	1960	1965	1970	1975	1980	1985
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<b>Mining&amp;Quarrying</b>	<b>31.6</b>	<b>149.8</b>	<b>501.5</b>	<b>6276.5</b>	<b>7437.0</b>	<b>73065.0</b>
<b>a. Crude Petr.&amp; gas</b>						
<b>b. Solid Minerals</b>	11.0	116.8	465.6	5,770.6	6,754.3	72152.0
Coal Mining						
Metal Ore	<b>20.6</b>	<b>33.0</b>	<b>35.9</b>	<b>505.9</b>	<b>682.7</b>	<b>913.0</b>
Quarry. & Other Min.	1.8	2.8	0.2	-	-	1.53
Solid Mineral as a % of Mining GDP	9.0	10.8	8.6	-	-	15.02
	9.8	19.4	27.1	505.9	682.7	896.5
	65.2	22.0	7.2	8.1	9.2	1.3
	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2008</b>	<b>2010</b>
<b>Mining&amp;Quarrying</b>	<b>100889.0</b>	<b>94326.7</b>	<b>107797.7</b>	<b>137856.3</b>	<b>118712.9</b>	<b>125623.7</b>
<b>a. Crud. Petr.&amp; gas</b>						
<b>b. Solid Minerals</b>	100,223.4	93,536.7	106,827.5	136,345.5	116594.6	122957.9
Coal Mining						
Metal Ore	<b>665.6</b>	<b>789.8</b>	<b>970.2</b>	<b>1,510.8</b>	<b>2118.26</b>	<b>2665.8</b>
Quarry. & Other Min.	0.91	0.13	0.18	0.12	0.16	0.19
Solid Mineral as % of Mining GDP	12.06	6.4	6.78	7.56	10.6	13.24
	652.6	783.3	963.2	1,503.2	2107.5	2652.4
	0.7	0.8	0.9	1.1	1.8	2.1

**Source:** CBN, Statistical Bulletin, Golden Jubilee Edition, 2008; Computed from NBS, Annual Abstract of Statistics, Compiled edition, 2010

\*Note that the GDP was compiled from 1960-1973 using 1962/1963 constant basic price, from 1974-1980 using 1977/1978 constant basic price and from 1981-2010 using 1990 constant basic price

The neglect of the sector overtime was reflected in its value share that ranges between 0.7 and 2.1 between 1990 and 2010 with the lowest value (0.7 percent) recorded in 1990 and the highest share (2.1) being recorded in 2010 perhaps for the recent efforts at rejuvenating the moribund subsector of the mining industry. Of all the individual components of the sector, quarrying and other mining divisions seems to contribute most to GDP followed by metal ore mining and lastly coal mining.

## **SELF ASSESSMENT EXERCISE 2**

Why is coal mining contribution relatively low in the solid minerals subsector?

### **3.3 Associated Natural Gas (ANG) Production in Nigeria**

The production of natural gas in Nigeria is associated with crude oil (petroleum)



production. The exploitation of crude petroleum inevitably involves the extraction of natural gas. Such gas produced can either be utilised or flared. Gas flaring involves the burning of unwanted gas. Such activities apart from being a waste of a resource which could otherwise have generated billions of naira for the nation if utilized, generate serious environmental consequences. The utilisation of ANG in Nigeria has been in various ways. Some of the natural gas utilised is consumed as fuel by the oil companies, some are sold to industries while some are converted into Liquid (LNG). An average of 50% of the natural gas utilised in the country (about 12.5% of total production) has been for industrial use. Natural Gas is infact a significant source of energy in Nigeria. Some major industrial users are the Power Holding Company of Nigeria (PHCN), National Fertilizer Company of Nigeria (NAFCON), The Obigbo Gas plant, Delta Glass, etc. Of these, NEPA accounts for an average of over 75% of total industrial purchase and acts as the major determinant of the changes in the level of industry consumption of natural gas in the country.

About 30% (on the average) of natural gas utilised (almost 8.5% of total gas produced) are reinjected while an average of 13% of utilised gas (about 2.5% of total gas produced) are used by oil companies. The proportion of utilised gas converted into liquid form (for domestic use among others) has been negligible and declining over time from 7.8% of utilised gas (or 1.9% of total gas produced) in 1985 to 1.8% (or 0.5% of total gas produced) in 1986 and 0.34% (0.08% of total production) in 1992, only in 1993, did the percentage share of LNG in gas utilisation rose to 13.3% (almost 4% of totally produced gas). This corresponded to a decline of 15% in gas flared during the same year.

Nigeria had an estimated 187 trillion cubic feet (Tcf) of proven natural gas reserves as of December 2010 according to the *BP Statistical Review of World Energy*, which makes Nigeria the ninth largest natural gas reserve holder in the world and the largest in Africa. The majority of the natural gas reserves are located in the Niger Delta and the sector is also impacted by the security and regulatory issues affecting the oil industry.

In 2009, Nigeria produced about 820 Bcf of marketed natural gas and consumed about 255, mostly for electricity generation where, according to the International Energy Agency (IEA) natural gas accounts for about 60 percent of generated electricity.

The greater bulk of natural gas produced in Nigeria are flared. Gas flaring accounts for an average of over 75% of total gas produced (the lowest percentage recorded so far given available statistics was the 69.9% for 1987 which amounted to 11,768.6 million cubic meter). The economics of gas flaring in Nigeria is a simple one. Gas is inevitably extracted, in oil production, and, usually, the more oil (petroleum) is exploited, the more the natural gas extracted. The utilisation of natural gas for each of the four purposes above involves some cost. Thus, after selling to industries, oil companies find it economically convenient to flare the excess than to reject or convert to liquid gas, especially when the former has no apparent cost. The first attempt by the Nigerian government to discourage

and perhaps eliminate gas flaring in Nigeria was made in 1979 via Decree 99. The decree was aimed at stopping gas flaring in the country by January 1985. In December 1985 however, a modification was made to the decree stipulating a fine of 2kobo payable in foreign exchange for every thousand cubic metre of gas flared. An exception was however given to some 86 of the 155 oil fields where 75% of gas produced was effectively utilised or where the gas contained 15% of impurities which considerably render the gas unsuitable for industrial purposes (CBN, 1983). The decree (with its modification) had a pronounced effect during the subsequent two to three years as the percentage of gas flared to total output fell from 79.2 in 1984 to 75.2 in 1985, 75.0 in 1986, 69.9 in 1987 and 72.8 in 1988. Thereafter however, gas flaring went on the increase. True to economic rationality, the oil companies found it cheaper to pay the prescribed fine than to inject excess natural gas.

In 1992, the Nigerian National Petroleum Company (NNPC) represented by the National Engineer and Technical Company (one of its subsidiaries) signed an agreement with Chevron Nigeria Ltd. (a major oil producing company in Nigeria) and Bechtel Ltd, to process gas for the domestic market. The agreement involved engineering designs needed by Chevron Nigeria Ltd. to install gas gathering and extraction facilities on the Escravos coast in Delta State. The gas process contract was to cost \$450 million (CBN, 1992). In addition, by 1993, concrete arrangements had been made for the establishment of the Nigerian Liquefied Natural Gas (NLNG) company. The company was to be a joint venture between NNPC and three other major oil and gas producing companies in Nigeria (Shell, Elf and Agip). Its mission is “to acquire and ensure a growing share of the international market for Nigeria’s abundant natural gas resources by the promotion and sustained implementation of a competitive LNG project” (NNPC, 1993).

### **SELF-ASSESSMENT EXERCISE 3**

What are the demerits of gas flaring in Nigeria?

## **4.0 CONCLUSION**

The production of solid minerals in Nigeria has overtime been on a fluctuating trend but increased in aggregate terms. Limestone has been the major solid mineral produce in Nigeria accounting on the average for over 90% of total output. This is followed by coal while other minerals that contributed significantly to solid minerals output are marble, caseterite and columbite. Others produced in minor quantities include lead, Zinc, gold, Zicron, wolfram (a byproduct of tin mining) and radio-active minerals (uranium, thlorite etc.) while many more have been identified but yet to be mined. Associated natural gas accompanied crude oil production and is considered significant for their variety of uses and conversion into liquefied natural gas. However, large quantities of these gases are still being flared.

## 5.0 SUMMARY

In this unit, you have been opportune to trace the general production and performance of the solid minerals subsector of the mining industry in Nigeria. You have also studied the production of specific solid minerals while a discussion on associated natural gas was equally rendered in the unit. You have finally come to the end of the discussion on the solid mineral subsector. You are left with only one unit in this module where the challenges of various industries in the mining sub sectors will be discussed and remedies proffered.

## 6.0 TUTOR-MARKED ASSIGNMENT

Discuss the steps to improve the performance of the Mining Sector in Nigeria.

## 7.0 REFERENCES/FURTHER READING

**Anyanwu, J.C., A. Oyefusi, H. Oaikhenan and F.A. Dimowo (1997).** *The Structure of the Nigerian Economy (1960-1997)*. Joanee Educational Publishers Ltd.

Anambra, Nigeria. 661pp.

**Central Bank of Nigeria.** *Annual Report and Statement of Accounts*. Various Years

**Central Bank of Nigeria (2008).** *Statistical Bulletin*. Golden Jubile Edition, 2008

**FGN (2007a).** *Nigerian Minerals and Mining Act*. 2007.

**FGN (2007b).** *The Nigerian National Minerals and Metals Policy*. 2007

**Ishola, S.T (2008).** Ministerial Press Briefing by Honourable Minister of Mines and Steel Development. September 2008

**National Bureau of Statistics (2011).** *Annual Abstract of Statistics*, Compilled Edition, 2010

**NNPC.** *The Nigeria Oil Industry, the Babangida Era (August 1985 to January 1993)*. Tanns Comma Ltd, Lagos Marina

**Olalokun et al (1979).** *Structure of The Nigerian Economy*. Macmillian Press Ltd. and University of Lagos press, Lagos.

**Olayide S.O. (1979).** *Economic Survey of Nigeria (1960-1975)*. Aromolaran Publishing Company Ltd. Ibadan

**Wikipedia (2012).** Mining industry of Nigeria. Wikipedia,  
[http://en.wikipedia.org/w/index.php?title=Mining\\_industry\\_of\\_Nigeria&oldid=501226069](http://en.wikipedia.org/w/index.php?title=Mining_industry_of_Nigeria&oldid=501226069)

## **UNIT 4 THE CHALLENGES AND PROSPECTS OF THE MINING SUBSECTOR**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Challenges of the Nigerian Oil Industry; Remedy Measures
  - 3.2 Issues on Deregulation Policy in the Oil Industry
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- 4.0 Conclusion
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### **1.0 INTRODUCTION**

Despite the fact that the crude oil sub sector occupies a key position in the Nigerian economy because of its contribution to GDP, national income and foreign exchange earnings, the subsector is faced with numerous challenges that have attracted a lot of heated debate, a number of remedies have equally been suggested over time. In this unit, you will be treated to a light discussion on the challenges of the oil and solid minerals industries. Some suggestions to overcome these challenges will equally be rendered.

### **2.0 OBJECTIVES**

By the end of this unit you should be able to:

- ☐ Highlight the challenges of the crude oil industry
- ☐ Enumerate the challenges of the solid mineral subsector
- ☐ Examine the issue of gas flaring in the Associated Gas unit
- ☐ Suggest remedies to overcome the challenges highlighted above

### **3.0 Main Content**

#### **3.1 Challenges of the Nigerian Oil Industry; Remedy Measures**

The oil industry is primarily located in the Niger Delta where it has been a source of conflict. Local groups seeking a share of the oil wealth often attack the oil infrastructure and staff, forcing companies to declare *force majeure* on oil shipments. At the same time, oil theft, commonly referred to as "bunkering", leads to pipeline damage that is often severe, causing loss of production, pollution, and forcing companies to shut-in production. The industry has been blamed for polluting air, soil and water leading to observed losses in arable land and decreasing fish stocks. Another frustrating challenge of the industry has to do with inadequacy of the supply and

distribution of energy products, especially petroleum products with its associated disruption of economic activities and social life in the country. We will expose you to some details on these challenges in the next few paragraphs.

Since December 2005, Nigeria has experienced increased pipeline vandalism, kidnappings and militant takeovers of oil facilities in the Niger Delta. Additionally, kidnappings of oil workers for ransom are common and the Gulf of Guinea is also an area that has seen incidents of piracy. Security concerns have led some oil services firms to pull out of the country and oil workers unions to threaten strikes over security issues. The instability in the Niger Delta has caused significant amounts of shut-in production and several companies have declared *force majeure* on oil shipments. Energy Intelligence Agency estimates Nigeria's nameplate oil production capacity to have been close to 2.9 million barrels per day (bbl/d) at the end of 2010 but as a result of attacks on oil infrastructure, daily crude oil production ranged between 1.7 million and 2.1 million barrels. Disruptions have been attributed to direct attacks on oil infrastructure as well as pipeline leaks and explosions resulting from bunkering activities.

Considerable attention has been drawn to the environmental damage caused by oil spills in the Niger Delta. According to the Nigerian National Oil Spill Detection and Response Agency (NOSDRA) approximately 2,400 oil spills had been reported between 2006 and 2010 that resulted from sabotage, bunkering and poor infrastructure. The amount of oil spilled in Nigeria has been estimated to be around 260,000 barrels per year for the past 50 years according to a report cited in the New York Times. The oil spills have caused land, air, and water pollution severely affecting surrounding villages by decreasing fish stocks, contaminating water supplies and arable land. More recently, the United Nations Environment Program (UNEP) released a study on Ogoniland and the extent of environmental damage from over 50 years of oil production in the region. The study confirmed community concerns regarding oil contamination across land and water resources, stating that the damage is ongoing and estimating that it could take 25 to 30 years to repair.

Towards the end of 2009 an amnesty was declared and the militants came to an agreement with the government whereby they handed over weapons in exchange for cash payments and training opportunities. This amnesty has led to decreased attacks and some companies have been able to repair damaged oil infrastructure. However, the lack of progress in job creation and economic development has led to increased bunkering and other criminal attacks, which can significantly damage oil infrastructure. In order to remedy some of the oil, natural gas and electricity industry problems, the Nigerian government is currently debating a Petroleum Industry Bill (PIB) that is designed to reform the entire energy sector. The Bill was first introduced in 2009 and

although parts of the PIB have recently been made into law, the Bill in its entirety continues to be debated by the National Assembly. This ongoing debate has delayed investments in oil exploration, project development and has also affected the natural gas sector by delaying planned liquefied natural gas (LNG) projects.

It is important to note that there are increases in the prices of these products within the period of analysis. However, such price increases should not be taken as eliciting the expected reduction in the domestic consumption of these products. What is therefore, accountable for the decrease in petroleum products consumption is the inadequate supply and distribution of the products. The critical situation of this inadequacy of supply and distribution of energy products reached a serious energy crisis point in 1998/99 slightly before the inception of the civilian administration. Incidentally, this undesirable inadequacy of supply and distribution of energy products in Nigeria became compounded by some other prevailing socio- economic development bottlenecks such as

- i. chronic budget deficits;
- ii. serious erosion of the naira value;
- iii. huge internal and external debts;
- iv. iv. high stagflation pressures; and
- v. serious economic decline.

Some of the instruments which were planned to tackle this menace are:

- i. up-grade the performance of major infrastructural institutions such as the Nigerian National Petroleum Corporation (NNPC) and National Electric Power Authority (NEPA);, and
- ii. refurbishing, rehabilitation and expansion of the existing refineries;
- iii. encouragement of the private investors to establish refineries under the on-going deregulation policy; and
- iv. the deregulation of the prices of petroleum products and also the downstream activities.

### **SELF-ASSESSMENT EXERCISE 1**

Identify the main Challenges in the Nigerian oil industry

### **3.2 Issues on Deregulation Policy in the Oil Industry**

It may be recalled that the government approved the 1993 price increases under the expectation that the resultant revenue therefrom would not only eliminate NNPC's deficit,

but would in addition release about N40 billion to the government in 1994 for the prosecution of laudable public capital projects. This did not materialize, identical sentiments were put across 1995, 1997 and 2000 and 2012 for price increases and the results were basically the same simply because the prices were direct results of negotiations rather than being based on an objective analysis employing sophisticated pricing techniques. Thus, many analysts believe the answer to these energy problems lies in the deregulation and the liberalisation of the energy activities, particularly those relating to the downstream activities of the petroleum industry.

Several authors have conceived the concept, deregulation, from varying but non-conflicting dimensions. The general consensus that emerges shows that it implies: “the reduction of government control and allowing the market forces to dominate in industry decision making” And/or “state withdrawal of its legal powers to direct the economic conduct (pricing, entry, and exit) and social conduct of non-governmental bodies”

This shows that economic deregulation implies greater freedom of choice in economic conduct by private businesses in a free (democratic) society, indicating why freedom of choice is the core of the mainstream of economic thought. This implies that the government will stop interfering in the downstream activities of the petroleum industry and would allow private investors to refine, distribute and sell petroleum products at prices not determined by the government or its agencies. The fundamental economic objective of deregulation is to allow for competition in the petroleum products markets with its attendant increased economic efficiency and welfare packages. Thus, economic case for deregulation is usually built around three issues which Iwayemi (2002) identifies as

- i elimination of the large welfare losses emanating from supply inefficiencies and poor quality of service;
- ii static efficiency gains in terms of allocative efficiency; and
- iii dynamic efficiency gains associated more with market-oriented pricing, providing the necessary incentive to innovate and improve the quality of supply through investment.

With these issues perfectly consider, deregulation, reinforced by liberalization, produces:

- i. A well run refining segment driven by competition and profit to deliver products efficiently
- ii. An effective distribution network propelled by profit and good management in a volume market; and
- iii. An efficient retail segment that is kept on its toes by the pressures of

competition in the market.

Given the foregoing analysis on deregulation, it is plausible to assume that technically, the price of petroleum products may not be easily deregulated, the new competition environment would affect the prices. Thus, to make economic deregulation work, particularly in the petroleum products markets in Nigeria, the government would need to put in place, a competition policy to ensure that collusion among producers or suppliers does not scuttle competition as provided in the U.S. under antitrust laws.

In recognition of the foregoing, particularly as applied to the case of petroleum products markets, effective deregulation would specifically embrace:

- i. Unrestricted access by legitimate domestic petroleum refiners to crude oil at international market prices;
- ii. Products prices to be set by demand and unmanaged supply;
- iii. Unrestricted freedom by willing entrepreneurs to import the products;
- iv. Competitive and transparent tariff structure on import when politically expedient, and counter balancing taxation of domestic production to ensure level playing ground; and
- v. Simplified transparent licensing and regulatory system to maintain highest safety and environmental production standards in subsectors of the industry.

Against this background, economic liberalisation, conceptualised as the permission of free entry to and exit from any business venture, is needed to reinforce the effectiveness of economic deregulation policy. This would make provision for many producers for competition which reinforce efficiency.

### **The Main Concern**

It is obvious from this discussion that for the policies of deregulation and liberalisation to attain their desired objectives, both the government and the populace would need to be watchful of some critical issues. Some of such issues as would have been noticed in the foregoing sections relate to the need for the:

- i. Establishment of a perfectly competition energy market environment so much so that consumers' needs are adequately met;
- ii. Prevention of any possible collusion by producers to form cartels to control the market – products quality and quantity, prices, investment etc;
- iii Establishment of optimal and affordable energy prices such that the poor is not neglected in the consumption of energy products;



- iv. Prevention of fraudulent practices in the energy market.
- v. Security of business ventures in the energy industry;
- vi. Transparent business operations in the energy industry;
- vii. Institution framework for energy planning and management in the country; and
- viii. Conceptual issue in policy design implementation, evaluation and others.

Thus, as earlier noted, to make economic regulation and liberalisation work effectively in Nigeria's energy sector, government would need to:

- i. Put in place antitrust laws to prevent producers' possible collusion to create a monopoly situation; and
- ii. Establish a regulatory agency to impose the 'Pareto Optimality' conditions required for perfect competitive environment- In fact, the Utilities Charges Commission (UCC) may be restructured and empowered to add this to its Functions.

## **SELF ASSESSMENT EXERCISE 2**

Do you support the removal of the petroleum subsidy?

### **3.3 Challenges of Solid Mineral and Associated Gas Production in Nigeria; Remedy Measures**

In relation to solid minerals, there exists a great work for the ministry to accomplish. Some of the problems besetting the subsector include rising production costs, depressed prices in global market, inadequate finance both for working capital and to purchase spares and recondition obsolete machineries and equipment (a reflection of the hitherto uncommittedness of the Nigerian Government to the subsector), inaccessibility of the mining sites due to excessive flooding during the rainy season and increased activities of illegal miners and smugglers which obscure the real level of mineral output (CBN, 1995). Given these however, the sub-sector has great potential and can be exploited to become a significant contributor to Gross Product and important foreign exchange earner, if the Government will give to it the same level of attention given to crude petroleum at the early stage of its exploitation.

Table 4.4.1 is on associated gas production and its utilization in Nigeria. It is apparent from the table that a sizable proportion of gas produced is usually flared. For

example, about 80 per cent was flared in 1985. This proportion declined to 77.5, 72.2 and 53.8 per cent in 1990, 1996 and 2000 respectively. The decline reached about 51.8% in 2002.

**Table 4.4.1: Associated Gas Production and Utilisation in  
Nigeria (Million Cubic Metres)**

Year	Production	Utilisation		Flaring	
		(mcm)	(%)	(mcm)	(%)
1985	18569	37723	20	14846	80
1986	18739	4822	25.7	13917	74.3
1987	17085	4794	28.1	12291	71.9
1988	20253	5516	27.2	14737	72.8
1989	25053	6323	25.2	18730	74.8
1990	28163	6343	22.2	21820	77.5
1991	31587	7000	22.2	24588	75.8
1992	32465	7058	21.7	25406	78.3
1993	33793	6577	20.1	26216	79.9
1994	32793	6577	20.1	26216	79.9
1995	32980	6910	21	26070	79
1996	36970	10150	27.5	26820	72.5
1997	36754.8	10207	27.8	26547.8	72.2
1998	36036.6	10886.5	30.2	25150.1	69.8
1999	35856.4	12664.6	35.3	23191.8	64.7
2000	47537.7	21945.5	46.2	25592.2	53.8

**Source:** CBN, Statistical Bulletin Vol. II No. 2 Dec. 2000

Because many of Nigeria's oil fields lack the infrastructure to produce and market associated natural gas, it is often flared. According to the National Oceanic and Atmospheric Administration (NOAA), Nigeria flared 536 Bcf natural gas in 2010 or about a third of gross natural gas produced in 2010 according to NNPC. In 2011, the NNPC claimed that flaring cost Nigeria US \$2.5 billion per year in lost revenue. Gas flaring is discouraged by the international community as it contributes to climate change. In fact, in Western Europe 99% of associated gas is used or re-injected into the ground. Gas flaring in Nigeria releases large amounts of methane, which has very high global warming potential. The methane is accompanied by carbon dioxide, of which Nigeria is estimated to have emitted more than 34.38 million tons in 2002, accounting for about 50% of all industrial emissions in the country and 30% of the total CO<sub>2</sub> emissions. As flaring in the west has been minimised, in Nigeria it has grown proportionally with oil production. While the international community, the Nigerian government, and the oil corporations seem to agree that gas flaring needs to be curtailed, efforts to do so have been slow and largely ineffective.

It was opined that with the establishment of the Ministry of Solid Minerals by the Nigerian Government in 1995 and the commencement of the liquefied Natural Gas Project (LNG) in 1997 after many years of planning and postponing will eliminate or at least bring to a minimum the pervasive occurrence of gas flaring in Nigeria. The government of Nigeria has been working to end natural gas flaring for several years but the deadline to implement the policies and fine oil companies has been repeatedly postponed with the most recent deadline being December 2012, which appears unlikely to be met. In 2009, the Nigerian government developed a Gas Master Plan that promotes new gas-fired power plants to help reduce gas flaring and provide much-needed electricity generation; however, progress is still limited.

#### -Gas to Liquids (GTL)

A Chevron-operated Escravos Gas to Liquids (GTL) project is currently underway. The project is a joint venture with NNPC and South Africa's Sasol and began in 2008. Escravos GTL has faced multiple delays and cost overruns but is currently scheduled to be operational by 2013.

#### -Liquefied Natural Gas (LNG)

A significant portion of Nigeria's marketed natural gas is processed into LNG. In 2009, Nigeria exported close to 500 Bcf of LNG. Of this, 13.3 Bcf went to the United States, providing 3 percent of total U.S. LNG imports (2 percent of Nigerian exports). Most of Nigeria's LNG was exported to Europe (66 percent), mainly Spain (31 percent), France (15 percent) and Portugal (13 percent). Other export destinations

include Asia (15 percent) and Mexico (16 percent). Nigerian LNG exports were down close to 30 percent from 2008 volumes which can also be attributable to problems in the Niger Delta, specifically problems at the Soku gas processing facility. Available U.S. EIA data indicate that the U.S. imported 41 Bcf of LNG from Nigeria in 2010 representing 10 percent of LNG imports but only about 1 percent of total U.S. natural gas imports. Nigeria's main natural gas project is the Nigeria Liquefied Natural Gas (NLNG) facility on Bonny Island. Partners including NNPC, Shell, Total, and Agip completed the first phase of the facility in September 1999.

### **SELF-ASSESSMENT EXERCISE 3**

What are the demerits of gas flaring in Nigeria?

### **4.0 CONCLUSION**

Nigeria oil industry is faced with many challenges of which bunkering and ethnic demands leading to pipeline damage, causing loss of production, land and sea pollution, and forcing companies to shut-in production in addition to inadequacy of the supply and distribution of energy products are of importance. Some of the instruments which were planned to tackle this menace are the up-grade of major infrastructural institutions; refurbishing, rehabilitation and expansion of the existing refineries; encouragement of the private investors to establish refineries couched under the on-going deregulation policy. Some of the problems besetting the solid mineral industry include rising production costs, depressed prices in the global market, inadequate finance, obsolete machineries and equipment, inaccessibility of the mining sites and increased activities of illegal miners and smugglers. Given these however, the sub-sector has great potential and can be exploited to become a significant contributor to Gross Product and important foreign exchange earner, if the Government will give to it the same level of attention given to crude petroleum at the early stage of its exploitation. A major problem in the associated gas industry is gas flaring; effort at conversion into LNG and other useful and harmless forms has been identified as the solution to this problem.

### **5.0 SUMMARY**

Here, we examined the challenges of the oil and solid mineral industry and relate some of the policy measures meant to address these challenges over time. The unit is also briefly dedicated to issues relating to the deregulation of the oil sector. Having learnt these, we have completed our discussion on the mining subsector of the industrial sector. Indeed we had a great discussion as in this module.

### **6.0 TUTOR-MARKED ASSIGNMENT**

Discuss extensively the challenges of the mining industry and suggest steps to

improve the performance of the subsector in Nigeria.

## 7.0 REFERENCES/FURTHER READINGS

**Anyanwu, J.C. (1993).** *Monetary Economics; Theory, Policy and Institutions*. Hybrid

Publishers Ltd. Onitsha, Chapter 8

**Anyanwu, J.C., A. Oyefusi, H. Oaikhenan and F.A. Dimowo (1997).** *The Structure of the Nigerian Economy (1960-1997)*. Joanee Educational Publishers Ltd., Anambra, Nigeria. 661pp.

**Ayodele, A.S. and G.O. Falokun (2005).** *The Nigerian Economy; Structure and Pattern of Development*. Printoteque, Lagos, Nigeria 301pp.

**Central Bank of Nigeria** Annual Report and Statement of Accounts Various Years

**Central Bank of Nigeria (2008).** *Statistical Bulletin*, Golden Jubile Edition, 2008

**Central Bank of Nigeria (1993).** *Perspectives of Economic Policy Reforms in Nigeria: A Study Report*. CBN, Lagos

**FGN (2007a).** *Nigerian Minerals and Mining Act*. 2007.

**FGN (2007b).** *The Nigerian National Minerals and Metals Policy*. 2007

**Ishola, S.T (2008).** Ministerial Press Briefing by Honourable Minister of Mines and Steel Development. September 2008

**Iwayemi, A. (1995).** *Oil and the Macroeconomy: A Perspective on Recent Economic Performance* in Iwayemi, A. ed. Op.cit.61-92

**National Bureau of Statistics (2011).** *Annual Abstract of Statistics*, Compilled Edition, 2010

**NNPC.** *The Nigeria Oil Industry, the Babangida Era (August 1985 to January 1993)*. Tanns Comma Ltd, Lagos Marina

**NNPC (1983).** *Nigerian Oil Industry Statistical Buletin*, NNPC Lagos

**Olalokun et al (1979).** *Structure of The Nigerian Economy*. Macmillian Press Ltd. and University of Lagos press, Lagos.

**Olayide S.O. (1979).** *Economic Survey of Nigeria (1960-1975)*. Aromolaran

Publishing Company Ltd. Ibadan

**Ojo, M.O. and Adebuseyi, B.S. (1996).** The State of the Nigerian Petroleum Industry: Performance, Problems and Outstanding Issues, *CBN Economic and Financial Review* 34(3).

**Wikipedia (2012).** Petroleum Industry in Nigeria. Wikipedia, [http://en.wikipedia.org/w/index.php?title=Petroleum\\_industry\\_in\\_Nigeria](http://en.wikipedia.org/w/index.php?title=Petroleum_industry_in_Nigeria)