

INTRODUCTION

The mining industry, as one of the components of the Nigerian economy, involves the extraction of the valuable materials and other geological materials from the earth. The exportation of these natural products makes Nigeria to realise revenue that further supports the nation's economy. Therefore, this chapter deals with the meaning of mining, the components of the mining industry and classification of the mining industry. Also, the chapter shows how the mining industry has contributed to the development of the nation.

OBJECTIVES

At the end of this chapter, students should be able to:

- ◆ Define the term 'mining';
- ◆ List the components of the mining industry;
- ◆ State the importance of mineral resources to Nigeria economy;
- ◆ State the problems affecting mining exploration in the Nigeria.

17.1 Definitions

Mining is the extraction of valuable minerals or other geological materials from the earth, usually from an ore body, vein or (coal) seam. The materials that can be recovered by mining include base metals, precious metals, iron, uranium, coal, diamonds, limestones, oil shale, rock salt, potash, and so on. Whatever metal that cannot be planted and grown through agricultural processes or even created artificially in a laboratory or factory is usually mined. Mining, in a wider sense, comprises of extraction of any non-renewable resources such as petroleum, natural gas and even water.

Historically, mining of stone and metal has been done since pre-historic times and the modern mining processes involve prospecting for ore bodies, analysis of the profit potential of a proposed mine, extraction of the desired materials and finally reclamation of the land to prepare it for other uses once the mine is closed. The

nature of mining processes is such that it has negative impact on the environment both during the mining operations and for years after the mine is closed. Such negative impact has made most of the world's nations to adopt regulations to moderate the negative effects of mining operations.

17.2 Components of the Mining Industry

The mining sector is dominated by large, often multinational companies, most of which are publicly listed. What is referred to as mining industry is actually two sectors, one specialising in:

- (a) Exploration for new resources
- (b) Mining those new resources

17.3 Classification of Mining Operations

Mining operations can be grouped into five major categories in terms of their respective resources.

These are

- (a) Oil and gas extraction;
- (b) Coal mining;
- (c) Metal mining;
- (d) Non-metallic mineral mining;
- (e) Quarrying and support activities for mining.

17.4 Classification of Mining Companies

(a) **Major companies:** Companies are said to be major when they have an adjusted annual mining-related revenue of more than US \$500 million, with the financial capability to develop a major mine on their own.

(b) **Intermediate companies:** Mining companies are said to be intermediate when they have at least \$50 million in annual revenue but less than \$500 million.

(c) **Junior companies:** These are companies that rely on equity financing as their principal means of funding exploration. Juniors are mainly pure exploration companies but may also produce minimally, and do not have a revenue of US \$50 million.

17.5 Minerals: Types, Uses and Location

Minerals	Uses	Location
1. Crude oil	Export, refined products, petrochemicals	Abia State, Obuzo, Owaza
2. Natural gas	Export, refined products, petrochemicals	Cross River State
3. Tar sand/soil shales	Asphalt, tar, refined products	Benue State
4. Lead, zinc, copper	Metal extraction	Bauchi State
5. Phosphate (Traces)	Fertilizer, detergent and other chemical industries	Abia State
6. Gypsum	Cement manufacturers, pharmaceuticals, chalk, Plaster of Paris	Borno State

(continued)

Minerals	Uses	Location
7. Limestone	Cement, glass, water treatment, sugar, refining iron and steel, construction, agriculture, fertilizer	Sokoto State
8. Iron ore	Iron and steel	Jigawa State
9. Kaolin	Paints, detergents, steel, glass, ceramics	Oyo State
10. Industrial sands	Glass, foundry, ceramics, abrasives	Abia State

17.6 Problems of Mining Exploration in Nigeria

- (a) Lack of infrastructural facilities.
- (b) Inadequate financial support.
- (c) Lack of mining experts.
- (d) Environmental problems such as impoverishment of the land, polluted water supplies.
- (e) Displacement of citizens from their farmlands.
- (f) Insecurity of oil installations.

Summary

This chapter examined the following:

- ◆ Definitions of mining.
- ◆ Components of mining industry.
- ◆ Classification of mining companies.
- ◆ Types, uses and location of minerals.
- ◆ Importance of mineral resources to Nigeria's economy.
- ◆ Problems of mining exploration in Nigeria.

Class Activity

The teacher should arrange for a trip to visit a mining site that can be found in the state, so that students can see how the mining site is and how mining is done.

Revision Questions

Objective Questions

1. Petrochemical industries are located in Rivers State of Nigeria due to the presence of:
 - (a) A favourable climate
 - (b) Coal deposits
 - (c) Oil palm product
 - (d) An undulating terrain
 - (e) Oil deposits
2. Where was oil first discovered in commercial quantities in Nigeria?
 - (a) Oloibiri
 - (b) Warri
 - (c) Elesa Eleme
 - (d) Onitsha
 - (e) Port Harcourt
3. The greatest revenue-earning industry in Nigeria is:
 - (a) Construction
 - (b) Agriculture
 - (c) Manufacturing
 - (d) Mining
4. Mining is an example of:
 - (a) Tertiary production
 - (b) Primary production
 - (c) Secondary production
 - (d) Advanced production
5. Among the problems of mining exploration in Nigeria are:
 - (a) Lack of infrastructural facilities
 - (b) Lack of mining experts
 - (c) Inadequate financial support
 - (d) Insecurity of oil installation
 - (e) All of the above

Essay Questions

1. What is mining?
2. List and explain the components of the mining industry.
3. The importance of the mining industry cannot be ruled out in the Nigerian economy. With this view, in what ways has the mining industry contributed to Nigeria's economy?
4. What are the problems associated with mining exploration in Nigeria?

Glossary

Mining: This is the extraction of valuables from the soil.

Mining industry: This is the firm that engages in the extraction of the valuables from the soil.