

MINING IN EAST AFRICA

Mining refers to all attempts to extract valuable minerals both solid and liquid from the earth crust. East Africa endowed with a number of minerals like diamonds, copper, soda ash, salt, gold, iron etc. Many of these minerals are in small quantities like gold in west Kenya, Coal in south Tanzania etc. However, the most important minerals in East Africa include diamonds, copper and soda ash.

TYPES OF MINERALS IN EAST AFRICA

There are three types of minerals

Metallic Minerals: which include silver, gold, copper, zinc, lead, aluminum, tin etc

Non-metallic minerals: Phosphates, calcium, salt, nitrates, potash, sulphur, mica

Minerals, which provide power. Includes petroleum, natural gas, uranium, water

METHODS OF MINING IN EAST AFRICA

Open cast methods

This method is employed when the mineral occurs near the earth surface. The overlying soil is removed (stripped off) and dumped nearby. The mineral deposit is then removed by digging using picks and shovels. Sometimes explosives are used, it is then loaded on tracks.

In East Africa, it is used for mining the following: copper, diamonds, gold, phosphates, salt etc.

This method destroys vegetation, soil profile and structure. It also leads to the creation of deep holes on the earth crust.

Underground Mining

This method is used when the mineral deposit is at great depth below the surface of the earth. The methods involve the effect.

Adit Mining

This method is used when the mineral is on the hillside like copper on mountain Ruwenzori.

Horizontal/inclined tunnels are dug in the hill site where the mineral occurs at the site of the mountain.

The roof of the tunnel is supported by steel or concrete beams to prevent it from collapsing.

The mineral-bearing rock is blasted and transported to the surface by light railways or conveyor belts.

This method is used in the mining of copper in Kileleshwa mineral.

SHAFT MINING

Vertical shafts are sunk into the earth crust to reach the mineral deposit. From these shafts horizontal shafts are dug to reach concrete beams to prevent it from collapsing.

Light railways are used to transport the deposit to the shaft hoisting to the surface.

DISADVANTAGES OF UNDERGROUND MINING

- ✓ Accidents due to collapsing of the roofs of the mines
- ✓ Pollution due to poor ventilation.
- ✓ High temperatures below the earth crust.
- ✓ High costs of mining
- ✓ Diseases, which affect the respiratory organs.

ALLUVIAL/ PLACER MINING

This method is used when the minerals appear as alluvial deposits. It involves mining of the alluvial deposits in a container. The mixture is rotated until light particles such as sand, mud and small stones are washed off leaving mineral particles such as gold, platinum and diamonds.

DRILLING e.g. oil on Lake Albert.

DREDGING: Used in mining of the minerals like soda ash.

FACTORS FAVORING THE DEVELOPMENT OF MINING IN EAST AFRICA

- ✓ Presence of large deposits of minerals like gold petroleum limestone, soda ash etc that attract the government and foreign investors to come and export.
- ✓ The occurrence to the minerals near the Earth surface making extraction relatively easy and cheap using open cast method.
- ✓ Presence of adequate supplies of power for processing and transporting of minerals, e.g. H.E.P from Nalubaale power project petroleum etc.
- ✓ Availability of adequate and reliable source of capital provided by the government and foreign investors to buy machinery.
- ✓ Presence of efficient and reliable transport network based on roads and railways, that have facilitated the transportation of the minerals to processing centres
- ✓ Favorable government policies of attracting foreign investors and diversifying the economy.
- ✓ Political stability wins the mining areas to attract many foreign investors in the industry.
- ✓ Presence at large supplies of water for processing the minerals provided by rivers and lakes like Victoria
- ✓ Availability of large supplies of labour both skilled and unskilled to work in the industry.
- ✓ Presence of improved and appropriate technology enabling easy construction and transportation of the minerals.
- ✓ Availability of a large and ready market both domestic and foreign.

DISTRIBUTION OF MAJOR MINERALS IN EAST AFRICA MINERALS IN UGANDA

The following are the major minerals in Uganda

Copper and cobalt from Kasese (Kilembe)

Gold Karamoja and Busia

Phosphates and Limestone from Tororo

Limestone from Hima

Petroleum from L. Albert

Abettors from Tororo

Salt from L. Katwe.

Tin, Iron Ore, tungsten Kigezi.

N:B Copper in Uganda a major mineral mined at the foot at Mountain Ruwenzori on the steep valleys of River Nyawmamba

MINING IN TANZANIA

The minerals in Tanzania include diamonds at Mwadui, Gold in Lramba-sekenke, Musarra Cooper and Coal Ruhuhu valley iron are in Mbeya hills and liganga. Mica in Kilosa and Mpanda etc.

DIAMONDS MINING IN TANZANIA

Diamonds are mined 20km from shinyanga at Mwadui, these diamonds are formed by the intrusion of magma of solidified in a pipe to form a plug. The plug was later exposed by erosion are also scattered the diamonds. The diamond bearing rock is called Kimberlite. the methods of mining is open cast or quarrying. The processing procedure includes separation crushing extraction and processing.

LOCATION OF WILIAMSONS DIAMOND MINE

Uses of Diamonds

For making Jewellery

For making drilling bits

For making precision goods like watches

FACTORS, WHICH FAVORED DIAMOND MINING AT MWADUI IN TANZANIA

- ✓ Presence at large diamond deposits at Mwadui
- ✓ The deposits occur close to the earth surface making it easier and cheaper to mine.
- ✓ The diamonds in Tanzania are dense, hard and repel water thus it is easy to extract.
- ✓ The land is relatively the allowing easy construction of roads and railways as well as use of machines like tractors
- ✓ The diamonds in Mwadui are at high quality.
- ✓ Adequate capital
- ✓ Reliable transport
- ✓ Large market
- ✓ Abundant supply of labour
- ✓ Favorable government policies

SKETCHMAP OF EAST AFRICA SHOWING THE DISTRIBUTION OF MINERALS

CONTRIBUTION OF THE MINING INDUSTRY IN EAST AFRICA

- ✓ It provides employment opportunities to many people like drivers, Engineers, researchers etc.
- ✓ It diversifies the economy of East Africa and thus widening the government tax base.
- ✓ The mining industry is the major source of foreign exchange through the exportation of major minerals like gold to France UK, U.S.A etc
- ✓ The industry has also led to the development of infrastructure like Roads, Railways etc that have facilitated the transportation of minerals to processing centers.
- ✓ Mining has led to the development of industries in East Africa especially those processing the minerals e.g. Tororo and Hima cement factories etc.
- ✓ It has led to the development of towns associated with mining e.g. Kasese Shinganga, Mambasa etc.
- ✓ It has promoted research and scientific study.
- ✓ It has promoted tourism in East Africa and thus earned an alternative source of foreign exchange.
- ✓ It's also a source of income to the local people employed in the mining industry helping to improve their standards of living.
- ✓ The mining population provides a market for both Agriculture and industrial products

EFFECTS OF MINING ON THE ENVIRONMENT

- ✓ Pollution of the Environment
- ✓ Displacement of many people calling for expensive resettlement
- ✓ Associated with accidents leading to death of many people.
- ✓ Open cast mining leads to the creation of pits on the Earth surface
- ✓ Mining leads to urbanization with associated problems like unemployment, high crime rate, prostitution, slum development
- ✓ It leads to loss of soil fertility.
- ✓ Mining promotes landslides, which also lead to death of many people.
- ✓ Underground mining promotes earthquakes because it weakens the rock strata
- ✓ Mining leads to fall of the water table.

THE ABOVE CAN BE SOLVED THROUGH.

- ✓ Application of artificial fertilizers
- ✓ Spraying to control disease vectors
- ✓ Resettlement of displaced people
- ✓ Carrying out reforestation and afforestation
- ✓ Transforming mining holes into man-made lakes for fishing.
- ✓ Deflection of the landscape can be solved by land filling.

CONDITIONS / FACTORS HINDERING/ LIMITING THE DEVELOPMENT OF THE MINING INDUSTRY IN EAST AFRICA

- ✓ Inadequate capital from mineral exploitation, transport and processing.
- ✓ Inadequate supply of skilled manpower in the mining industry because of the problems associated with it. Like accidents, low pay and etc.
- ✓ Political instability in some mining areas like Karamoja, South West Uganda.
- ✓ Minerals in East Africa occur in small quantities e.g. tin, beryllium, gold etc.
- ✓ Price fluctuations on international markets
- ✓ Inadequate supply of power for transportation, processing and extraction
- ✓ Small market for the minerals because of poor grades or quality e.g. coal in South Tanzania.
- ✓ Some mineral deposits are in remote areas e.g. coal in Tanzania, uranium in Mirima hills in the south coast of Mambasa.
- ✓ Minerals in East Africa are scattered making exploitation difficult.
- ✓ Competition with other developed countries like Germany

- ✓ Limited research in the mining industry.
- ✓ Exhaustion of some of the minerals
- ✓ Use of inappropriate technology like hoes.
- ✓ Unfavorable government policies of favoring other sectors with the economy.

STEPS TAKEN TO SOLVE THE ABOVE PROBLEMS

- ✓ Maintaining political stability in the mining areas.
- ✓ Diversification of the economy to include industries Agriculture, Tourism.
- ✓ Attracting foreign investors in the mining industry by providing concessions, maintaining political stability.
- ✓ Privatization of the mines like Tororo and Hima cement.
- ✓ Training more labours in the mining industry
- ✓ Establishing of industries to provide market for the minerals.
- ✓ Construction of more Hydro Electricity power dams to provide power.
- ✓ Increased research in mineral exploration.
- ✓ Extension of feeder roads and railways to the mining areas.