CHAPTER X
MINING - AN INTRODUCTION
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The process of taking out the mineral substances from the earth is known as mining. A mineral substance is almost any non-living thing that is found in the earth. These substances include metal compounds, coal, sand, oil, natural gas and many other useful things. The process of taking out the mineral substances from the earth is known as mining.

Mining in a broad sense is the excavation of valuable mineral materials from the earth's crust and includes minerals of organic origin, such as coal and petroleum.\(^1\) The art of practice of profitably extracting from the ground minerals useful to man is called mining.\(^2\) Mining is the process of extracting, from the earth or oceans, minerals or certain other materials that can be useful to man.\(^3\) In otherwords, mining broadly is the industrial process of removing a mineral substances from the place of its natural occurrence in the earth crust.\(^4\) The term mining industry commonly includes such functions as exploration, mineral separation hydrometallurgy, electrolytic reduction and smelting and ferining, even though these are not actually mining operations.\(^5\)
1.1. MINING - MEANING:

Mining is one of the fascinating and difficult tasks. The earth does not give up its mineral riches easily. Men must tear them from the earth with picks and shovels, drills and explosives. The work is not easy but it is well worth the trouble. Our modern civilization could not exist without the materials provided by mining.

Man has mined the earth for thousands of years. About 6,000 B.C., men dug pits and tunnels to obtain flint, a hard stone used to make tools and weapons. By 3,000 B.C., men were mining tin and copper. These metals were combined to make bronze, a hard alloy (mixture of metals) that made better tools and weapons.

The ancient Romans, probably, were the first people to realise that mining could make a nation rich and powerful. Merchants traded valuable stones and metals and brought riches to the Roman empire. The Romans took over the mines of every country they conquered. For about a thousand years, few advancements were made in mining. During the 1400's coal, iron and other minerals were mined in Europe, especially in Germany and France. Mining also began to develop in South America at that time.
Most of the food and clothing we use come from materials on the surface of the earth. But many other important things, including metals, chemicals are dug out of the earth. Even food and cloth could not be provided in abundance without metal machinery to weave cloth etc.

1.2. MINING AS A SOURCE OF ECONOMIC DEVELOPMENT:

Natural resources indicate the most important portion of potential wealth of a country. This potential wealth, when properly harnessed by the people of a country, can become a key factor in the process of economic development. Effective utilisation of natural resources of a country assists the development of industries, raises income and improves living standards of the people of that country.

Natural resources include land and water resources, mineral resources, forests, marine resources, climate, rainfall and topography. Among the natural resources mineral resources occupy a distinct position, providing not only metals and fuels but also necessary raw materials for various purposes and thereby constituting strategic factors in the process of planning for rapid economic development. For proper utilisation of mineral resources we use the technique of mining.
Mineral resources have great importance in modern world. The world never run out of mineral resources. Today, the mineral products of the earth are so commonly used that they affect every aspect of our lives. The shelter we live in is made up of brick, stone, cement, glass, iron, copper, aluminium etc. The transport system will standstill without such materials as fuel, steel, aluminium, copper and many more. In fact, the basic raw materials used by mankind such as energy, water, food and shelter are obtained to a greater or lesser degree from four industries namely mining, drilling, agriculture and forestry.

The mining industry is not only directly essential for all elements of civilisation but also critically important for the conservation of other earth's resources. The use of mineral fuels in place of wood has contributed for the maintenance of large forest areas. Thus, mining has been an important source of economic development in any country.

The contributions of mining industry to the development of an economy are many and varied. Mining industry yields usable products and accelerates the process of industrialisation of any country. It serves as a field of employment and training for local labour. Mining industry brings into being facilities which are capable of serving other markets.
and other purposes than the mines themselves and thus promoting development of a more diversified nature. Mining industry yields the saleable export products and acts as a source of foreign exchange which can be utilised for financing imports of capital goods necessary for developmental purposes. It is estimated that nearly 45 per cent of the value of imports from all the developing countries by industrial countries consists of metals and fuels.

Mining has been a source of National Income and employment in many countries. The mineral industry, whose two main components are mining and processing, has been an important growth oriented export sector of the economy of many countries in recent decades. However, the contribution of minerals can be better judged by looking at the activities of the mineral industry in relation to Gross National Product (GNP), labour force, wages and salaries and exports.

Mining is done by hand in countries like India where labour is cheap, but in more industrialised countries it is a highly mechanized operation. The $25,000 capital outlay per worker in mining is five times more than the average capital outlay per worker in domestic industries. In India average daily employment of labour in mines (excluding atomic and miner minerals) witnessed a steady increase
since independence. The wages paid to workers increased from Rs. 4.7 lakhs in 1947 to Rs. 8.0 lakhs in 1990.

Mining industry has been one of the important source of revenue to the government of a country endowed with natural resources. Governments and public at large benefit through the indirect generation of employment, income and tax revenues arising from linkages between the mineral industry and other sectors of the economy. In addition, direct taxation of the mineral industry is another means by which governments obtain a good share of benefits from the development of mineral resources.

Mining industry contributes for the economic development of an economy by providing the infrastructural facilities. This industry, generally, makes an extensive impact on other sectors of the economy. Mineral development calls for the provision of modern infrastructure facilities like transportation, communications, power etc. Many mines are generally found in villages and remote areas. So the development of mineral deposits involves construction of complete infrastructure facilities which include rail roads, roads, air fields, port facilities, power facilities and townships. This has been done in many parts of the world such as in the development of copper deposits of Congo, Chile and Peru. Thus, the
development of infrastructure has contributed significantly to the economic health of the region.

1.3. SIGNIFICANCE OF THE STUDY:

Mineral production in India continued to maintain the increasing trend with the quantum index (base 1980-81=100) moving up from only 20 in 1947 to 223 in 1991. On the other hand, the pit Head Unit Price Index (base 1980-81=100) has gone up more sharply i.e., from only 11 in 1947 to nearly 350 in 1991.

The value of mineral output in our country which was just Rs.58 crores in 1947 has increased leaps and bounds over the past 45 years to reach the level of over Rs.18,000 crores in 1991. The production of all the principal minerals except gold and mica increased enormously. The value of fuel minerals is only Rs.45 crores in 1947 and it increased continuously up to Rs.15,000 crores in 1991. The value of metallic minerals, on the other hand, increased from Rs.7.0 crores to Rs.1,300 crores and non-metallic minerals from Rs.5.0 crores to over Rs.1,400 crores in the same period.

The mining in our country has been conventional and by and large labour intensive. The average daily employment of labour in mines (excluding atomic and minor minerals)
witnessed a steady increase since independence and totaled to Rs.8.0 lakhs in 1990 relative to Rs.4.7 lakhs in 1947.

Coal mining sector has the largest number of employees, accounting for more than 5 lakh persons or 60 per cent of the total employment followed in order of importance by iron ore 48,000 or 6 per cent, limestone 44,000 or 6 per cent, petroleum and natural gas 25,000 or 3 per cent and manganese are 18,000 or 2 per cent during 1990.

The foreign trade swelled to a new height as rapid strides have been made in India's foreign trade in minerals and metals since independence. The trade horizon has been expended enormously and the share of minerals and metals in the country's overall merchandise recorded sharp increase. The value of exports which was Rs.10.7 crores in 1947 reached Rs.7,000 crores in 1991. The share of minerals which was barely 3 per cent of the total export of merchandise reached the highest level of 30 per cent in 1983-84 and ranged between 20 and 30 per cent thereafter.

The role of public sectors as well as private sector in India in mining increased tremendously. Our country was confered by the United Nations the status of pioneer investor in sea-bed mining for its successful exploration for polymetallic nodules. The span and depth of computer applications expended from year to year in a wide range of activities like geostatistics, mine planning, grade control, production controls, demand forecasting project
monitoring etc. Now thrust was given for production of mining machinery and explosives. Research and development facilities especially for mineral beneficitation were established and augmented. Adequate mining legislation was formed periodically to meet industry's genuine needs.

Investment in mineral industry in India has been increasing enormously, particularly from the Fifth Five Year Plan onwards. Accordingly, the contribution of mineral industry to the Gross Domestic Product has been on an increase over the period. Hence, inquisitive studies at the micro level exposing the effects of mining on the micro units of the economy proves significant and aids the policy makers to formulate macro designs for the development of mining.

The present study is an attempt in this direction which intends to evaluate the impact of mining on the socio economic structure of Malkapuram revenue village in Dhone, mandal of Kurnool district and the findings of this study would be of great importance and relevance in the context of rapid industrialisation.

METHODOLOGY AND SCOPE OF THE STUDY:

Mining activity in Malkapuram revenue village was started by private owners in the early sixties and it developed into a main occupation of the village later on. The mining industry has been in the private sector totally and
is responsible for the economic development of the village to a larger extent. Therefore, the present study proposes to evaluate the impact of mining on the village economy with the following objectives.

**Objectives:**

The objectives of the study are:

1. To collect the data on mining industry owned and managed by the private owners.
2. To estimate the magnitude of employment provided by this industry to the villagers in the neighbourhood of Malkapuram.
3. To assess the increase in incomes of the workers participated in mining industry and
4. To analyse the range of expansion of infrastructural facilities like transport, education, health, water supply, banking etc., in the village.

**Hypotheses:**

In view of the above set of objectives the following hypotheses have been formulated for verification.

1. Mining industry in Malkapuram village has been expanding continuously.
2. The industry has been providing employment to increasing number of workers over the period.
3. There has been an increase in the incomes and thereby the standard of living of villagers in Malkapuram.
4. The industry has been contributing for the allround development of Malkapuram village economy.
Methodology:

To understand the structure and growth of mining industry in India data relating to the value of production, export value of minerals have been collected from mining and geology department, Hyderabad, and Indian Bureau of Mining reports. The information on mineral deposits and mineral wealth relating to Andhra Pradesh have been collected from Andhra Pradesh Mineral Development Corporation, Hyderabad.

Kurnool district data on mineral production, mining area, revenue from minerals etc., have been collected from the Assistant Director of Mines and Geology, Kurnool. The data and information on minerals in Malkapuram village are also collected from the same office.

The literature on the studies of mining has been collected from the books and journals available in all the university libraries in the state. To review the performance of mining industry in India and Andhra Pradesh, Five Year Plans of our country and our state have been referred. The data on financial details and employment particulars of mining in Malkapuram have been collected from the records and audit reports of the mine owners in Malkapuram.

The data collected have been classified and presented in suitable tables. Further, data have been analysed and presented in suitable charts, diagrams and graphs.
Statistical tools such as averages, percentages, standard deviation, regression analysis and other related techniques have been used to describe various aspects in a meaningful way to draw relevant inferences.

**Scope and period of the study:**

The scope of present study is to analyse the revenue, expenditure and the surplus and deficit of mining industry in Malkapuram village. It is also attempted to assess the impact of mining on the development of Malkapuram revenue village. The period of study is confined to 1985-93.

The present study can be broadly divided into five chapters. The first one introduces the problem and reviews the importance of mining. The second part summarises the growth and structure of mining industry at the National and State levels. Next chapter deals with the structure of mineral wealth in Kurnool district, Dhone mandal and Malkapuram village. The fourth chapter presents the growth of limestone mining activity in Malkapuram village while the last part deals with the impact of mining on the development of Malkapuram revenue village.
Foot Notes


