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Mineral Resources in India and Its management System

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Abstract: ***Availability of minerals has a unique distinction of influencing the course of economic development of a country. Iron and still, aluminum, cement, coal petroleum and fertilizer industries have a vital role in the economic progress because they create conditions of large scale industrialization and thus create conditions for large-scale industrialization and thus enable a country to reach a high level of development. Among these coal and petroleum are mining industries and their products are sources of energy.***

Introduction: Iron and still industry in any country provides the basis for all-round industrial growth. It is a mineral based industry and requires big quantities of iron ore and coal a raw materials. For high transportation costs this industry has been set up mostly in regions where if regions where coal and iron ore are available in abundant quantity.Aluminium is one of the most important non-ferrous metals and raw material for manufacturing aluminum is bauxite etc.The basic raw material for manufacturing aluminum is bauxite. The fertilizers industry in agriculture is mineral based industry. As mineral-based industry is labour intensive so for picking up minerals ,labours are also required. Therefore whether it is industrialization or agricultural development, mineral resources of the country will have a decisive influence on the course and also level of development. This research paper tries to highlight the necessarily of mineral resources for country's development and it's problem of picking up from ground earth surface level and tries to find out the ways for solving the problems.

Keywords: Mineral resources, Land surface, Industrialization, Raw matrails, Manufacturing factories, Labour, Capital, Industry, Energy etc.

I. OBJECTIVES OF THE STUDY

The objectives of the study are-

1) To study the importance of mineral resources for industrial development as raw material.
2) To know about the role of mineral recourses for country's growth and economical improvements.
3) To know about the picking up problem of mineral resources from ground earth surface level and to suggest for solving the problems.
4) To put forward an ideal model for proper utilization of mineral resources for its development and compare it with total mineral resources in India.
5) To put forward the recommendations for removing the problem of mineral resources and its development.

Methodology of the study: The paper is based on both primary and secondary data sources have been collected through extensive survey in different mineral and mineral-based induatries.Primary data have been collected mostly by direct contact method from the people of different mineral resources producing area, various mineral resources producing organization, workers of mineral etc.The Questionnaires and interview schedules have been taken to carry out the whole investigation. Secondary information have been obtained from different literatures like magazines,newspaper,journels,books,websites,university libraries, planning commission,govt.publications(central and state).state and district wise statistical office, mineral resources marketing committee etc.Most popular mineral producing areas and factories are repeatedly visited and various informations were documented time to time.

II. STATEMENT OF THE PROBLEM

India's mineral resources can be broadly classified into three categories. In the first category we may include such minerals whose known reserves are considerable. Iron ore, manganese, mica, thorium, ilmenite, chromite and magnetite belong to this category. Bauxite, coal, limestone, silica, salt and barium fall into the second category. The country has adequate known reserves of these minerals but cannot afford to export any one of them. In the third category, we may include copper, zinc, and lead, gold, silver crude oil. The known reserves of these important industrial minerals are inadequate. Further there are very little known reserves of potash, sulpher, borax, tin, platinum and mercury. The country has a range of useful minerals sufficient to make it industrially developed. India's iron ore reserves are the fourth largest, manganese reserves the third largest in the world. The known reserves of the fuel

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minerals, viz, coal and petroleum are inadequate which serious obstacle to growth is. Geophysical exploration for new mineral deposits is not easy in the Indian subcontinent as crystalline rocks are covered in large parts of the country, particularly in North India by thick layers of alluvial soil. Large tracts of land are buried under desert or ancient lava flows. Thus a number of institutions including the Geographical Survey of India, the Indian Bureau of Mines and oil and Natural Gas Commission were set up to carry out exploratory work on an extensive scale. This has increased our knowledge about the country's mineral wealth and it has also given us the confidence that more intensive geophysical exploration will lead to discoveries of deposits.1) Iron ore: India possesses extensive deposits of iron ore. Its known reserves are about 6.6 % of the world's deposits. The known iron ore reserves are concentrated only in a few states. Hematite deposits are found in Jharkhand, Orissa, Chhattisgarh, Karnataka and Goa. Magnetite ore reserves containing 25 to 62% iron content exist in Tamil Nadu, Karnataka, Jharkhand, Orissa and Andhra Pradesh. India has been able to develop some new regions during the planning period.2) Ferro-alloyes: Ferro-alloys are metals that are required to be mixed up in small quantities with iron for making steel. The commodity used ferro-alloyes are manganese, nickel, chromite, cobalt, vanadium, tungsten etc.Each one of these substances provides a particular property to steel. For example, manganese provides strength to rails, chromite makes steel resistant to corrosion from liquids and so on. In India except manganese and chromite, no other ferro-alloy metal is available in abundant quantity. Main deposits fall in Orissa followed by Karnataka, Madhya Pradesh, Maharashtra, Andhra Pradesh, Jharkhand and Goa.Minor occurrences of manganese are in Rajasthan Gujarat and West Bengal. The production of it is higher than its demand of steel manufacturing. Chromite deposits occur in Bihar, Karnatak, Maharashtra, Orissa and Tamil Nadu.Production of nickel and tungsten is small in the country. On-ferrous minerals: In the category of more important industrial non-ferrous minerals, copper, aluminium, zinc, lead nickel and tin are included. Uranium and throrium are also non-ferrous minerals but they are used for producing nuclear energy. Gold and silver are precious metallic minerals. The importance of non-ferrous metals has greatly increased due to their versatility but unfortunately India is poorly endowed with non-ferrous minerals. Over the planning period great efforts have been made to explore new sources of non –ferrous metals. The success achieved is rather, limited. Besides this Copper is one of the most important minerals used in modern industry due to high corrosion resistance and high productivity of heat and electricity. The principal copper belt in India is located in Singhbhum and Hazaribagh districts of Bihar. Copper reserves also exist in Rajasthan. Karnataka and Andhra Pradesh. Bauxite is used for manufacturing aluminium.In contrast to scare reserves of copper; the deposits of bauxite in this country are large. Deposits of Bauxite are existing in Jharkhand, Chhattisgarh, Tamil Nadu, Maharastra, Karnataka and Goa.Due to larger production India has now become its net exporter. Lead is industrially useful because of its malleability, softness and resistance to corrosion. Zinc is used for a thin coating on sheet steel which protects it from rusting. Deposits of lead and zinc are limited in India and are concentrated at a few places.

Recommendations

1) The government should take the grant of mineral concessions through auction by competitive bidding which is transparent and non-discriminatory method.
2) The government should adopt transition provisions for extension of existing leases to obviate disruptions in supply of ore and to ensure regular supply of raw material to industry.
3) Assured tenure and easy transferability of mineral concessions should be granted through auction to attract private investments and foreign direct investments.
4) Stricter penalty provision to deter illegal mining should be done by the government and special court should be constituted if necessary.
5) District Mineral foundation to be established in each mining affected district and National Mineral Exploration Trust to be set up for exploration

The government undertaken policy for proper utilization of mineral resources and its development:

Before Independence, the British rulers of India had interest neither in optimum utilization of mineral resources nor in conversion. Minerals are non-renewable resources and their reckless extraction and indiscriminate export are contrary to the long-term interests of the country. So the mineral policy of the country should be based on the long-term perspective and must avoid ad holism because it may lead to disastrous consequences. But after Indenpence, the Geological Survey of India, the principal agency for mapping and exploration of minerals was set up. Mining in the private sector has generally been found contrary to national interest. Private companies in order to maximize their returns overlook long term interests of the country and exploit mineral wealth in a wasteful manner. They do not often use of low grade ore. In view of this widespread practice in mining industry the Indian Bureau of Mines was established in 1948.It carries out research on benefits of low grade ores and provides technical consultancy services to the mining industry. The Central Act to provide for the development and regulation of mines and minerals is the Mines and Minerals

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(Development and Regulation) Act, 1957 which came into force on June 1, 1958..Section 13 of the MMDR Act empowers the central government to formulate rules for regulation of grant of mineral concessions for major minerals, on the basis of which Mineral Concession Rules, 1960 have been framed. Section 18 of MMDR Act, 1957 empowers the Central government to frame rules for the conservation and systematic development of minerals and for the protection of environment in accordance of which Mineral Conservation and Development Rules, 1988 have been framed. Section 15 of MMDR Act, 1957 empowers state governments to frame rules for regulating the grant of quarry leases, mining leases or other mineral concessions in respect of minor minerals. The Offshore Areas Mineral (development and Regulation)Act,2002 providing for the development and regulation of mineral resources in the territorial waters, continental shelf and the exclusive economic zone was notified on January 31,2013.It's purpose is to streamline mineral exploration and development in the offshore areas and ensure systematic and scientific exploitation of mineral reserves for attracting private investments. The government made some large changes in its mineral policy in 1993 and opened the mining sector to foreign direct investment. The government is allowing now both domestic and foreign private concerns to make investment in mineral extraction and export. According to the Hoda Committee constituted by the planning commission to review the national Mineral Policy, i) a New National Mineral Policy, 2008 was approved by the Government which advocates use of state of the art technology for exploration. ii) Zero-waste mining, iii) transparency in allocation of concessions IV) auction of ore bodies prospected at public expense.vi) Independent Mining Administrative Tribunal. Mines and Minerals (development and Regulation) Act, 2015 by amending the Mines and Minerals (development and regulation) Act, 1957 has effected from January 12, 2015 for promoting the mining sector. Under this Act, the state governments will conduct auction for grant of mineral concessions. The role of the central governments is to prescribe the terms and conditions and procedures of auction including the bidding parameters for the selection's on 31 December,2015 a total of 35 mineral blocks have been offered by seven states namely Rahasthan,Gujrat,Maharastra,Jharkhand,Karnataka,Chhatisgarh and Orissa for the auctioning of ores such as limestone,tungsten,gold ,iron and bauxite.

III. CONCLUSION

Mineral Resources are important resources of our country. These resources provide raw materials for mining and mineral based industries.Iron-ore, aluminium, bauxite, chromium, copper, lead, tin, gold, silver all are mineral resources of India. Most of the mineral resources are found in Chotonagpur Platu in Bihar and Jharkhand state. So this area is called "the store-house of mineral resources of India. In others states also more or less mineral resources are explorated.Among them coal and petroleum are used as sources of energy for making electricity. Gold & silver are most valuable and are used for making attractive ornaments. So mineral resources' proper and suitable utilization is necessary. To do this the government should take various appropriate policy measures for improving condition of mining development and should also apply strict legal action for controlling illegal mining. If the government will do this, then only country's development is possible.

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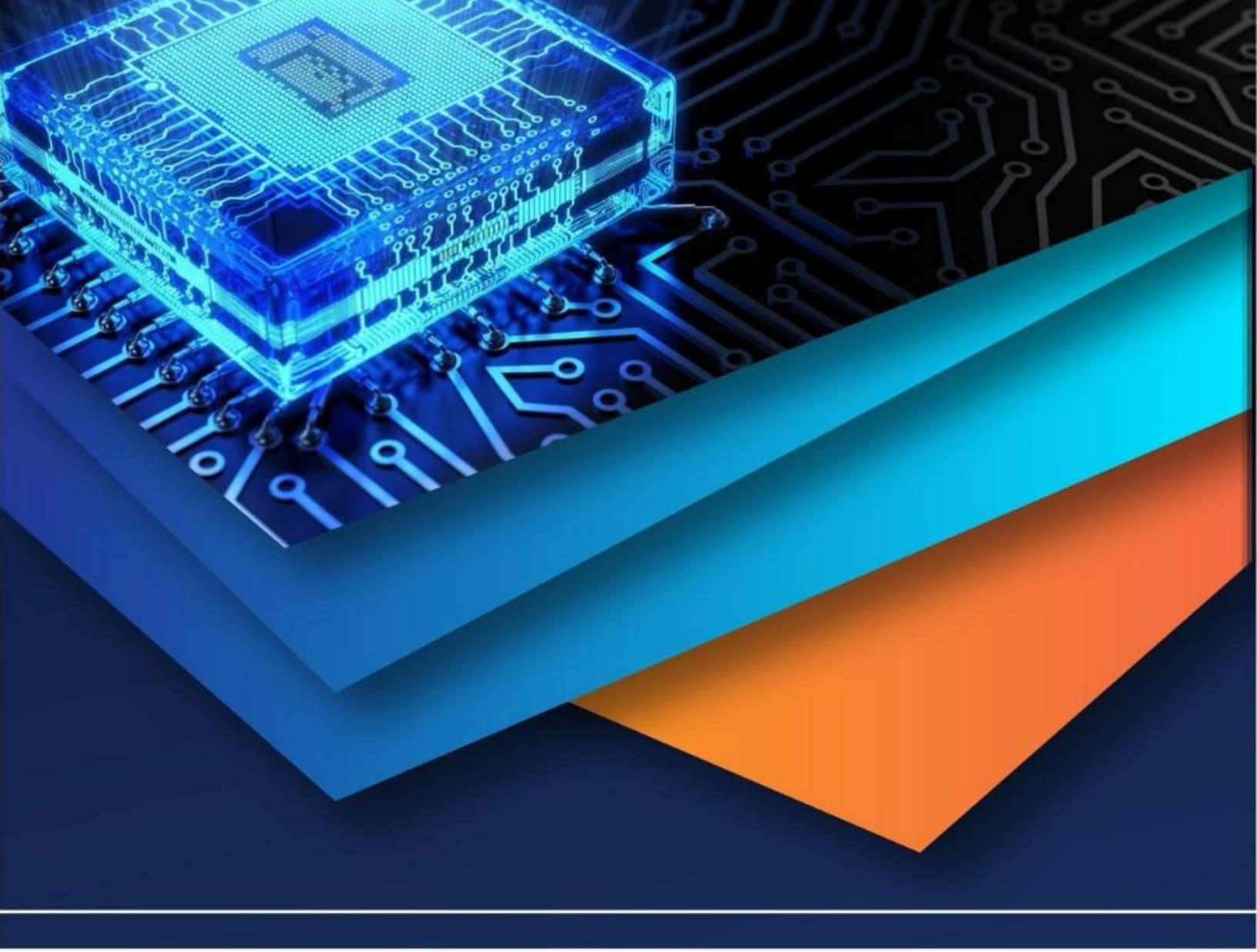

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