

LEGAL FRAMEWORK FOR SUSTAINABLE MINING IN INDIA: CRITICAL ANALYSIS

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Abstract

Mining is one of the most expensive activities which occurs in any country. Those countries which have large deposits of natural minerals are considered to be blessed as these minerals are a major source of income to any economy, fast development requires fast consumption, and the need is satisfied by the minerals. Though minerals are limited and non-renewable resources the way they have been used by us for decades was unwise. Due to not understanding the consequences of our actions, generations of humans had destroyed nature without seeing the harm they have caused. Especially in the last two centuries since science has started to develop, the use of machinery in an injudicious way had also been increased. In this research article, we will have a closer look that how in these times we are trying to conserve our environment by the means of Sustainable Methods of mining. As mining, if done without proper planning would cost the lives of many. India is trying to achieve Sustainable goals for a better environment and have a number of legislations to prevent contamination of soil, air, and water, and relief to the displaced group of individuals.

Keywords: Mining, Sustainable Development, Environment, Economy, Minerals

1. Introduction

Mining is the extraction of monetarily significant minerals or other lithosphere materials from the earth's surface. It might be from a mineral body, ore, reef, seam, or placer deposit. Since the start of humanity, individuals have utilized stone, earthenware production, and, later, metals discovered near the Earth's surface. Minerals are the extremely important component as it is utilized as the raw material for many industries. Earth's common materials are utilized as composts and for the creation of metals like

steel. These were utilized to make early apparatuses and weapons.¹ This report gives the subtleties of the generally received strategies for mining, both surface and underground and to have a diagram of the considerable number of activities that are made to investigate the financial mineral assets. India is blessed with numerous minerals. The minerals are essential and strategic materials for modern and monetary advancement. In mining, the potential outcomes of unfriendly consequences for the earth are very high if the antagonistic impacts are not contained or decreased to the least. The negative effect of mining could be controlled through the utilization of the idea and standards of feasible advancement to mining tasks. Sustainable Mining is pivotal for the advancement of comprehensive development.²

The Indian mineral industry involves enormous and little mines that work under open, private segments and casual parts covering most minor minerals being separated. The open area keeps on assuming a prevailing job underway of different minerals (coal, lignite, oil, iron and steel, bauxite, and aluminium). According to the Constitution, improvement and guideline of mines, and minerals is constrained by the Union government. The Mine and Minerals (Development and Regulation) Act 1957 was corrected in 2015, to include the arrangement for a straightforward system for giving mining lease or prospecting permit through competitive bidding, other than guaranteed transfer and simple transferability of mineral concession conceded through closeout. It also included a severe punishment arrangement in order to stop unlawful mining. The complete estimation of the nation's mineral creation (barring nuclear minerals) during 2015-16 has been assessed at Rs. 2, 68,955 crores, after a decline of about 5.05 percent over the earlier year.³

The issues related to mining activities are so grave that they are being recognised and now are being strategized for the betterment of the environment. These strategies and plans would work more efficiently when the administrative bodies which are introduced for the proper working and dealings of these activities would be functioning. Lately, India is experiencing changes in the monetary framework due to administrative changes. This work on mining part in India endeavours against the scenery of Planning

¹J. Katz and C. Pietrobelli, “*Natural resource based growth, global value chains and domestic capabilities in the mining industry*,” *Resources Policy*, vol. 58, pp. 11–20, 2018.

²<https://www.undp.org/content/dam/undp/library/Sustainable%20Development/Extractives/UNDP-MMFSD-HighResolution.pdf> (Last visited on 28th April, 2020).

³*Id.*

Commission's High-level Committee Report on National Mineral Policy, 2006, and the ensuing entry of Mines and Minerals (Development and Regulation) Bill, 2011 (hereinafter alluded to as 'NMDR Bill, 2011'). Revoking the Mines and Minerals (Development and Regulation) Act, 1957, the new MMDR Bill, 2011, centres on making an empowering administrative condition for pulling in venture and innovation into the mining part. One more significant progress in the mining strategy of India is towards perceiving the negative externalities of the mining area in India on human advancement and condition and measures to address these issues. The new mining approach of India has been effective, all things considered, in reclassifying the mining code fusing these issues.⁴ Be that as it may, the technique recommended addressing these issues by producing a Development Fund through benefit-sharing recipe – twenty-six percent of benefits from the coal excavators and hundred percent eminence proportional cash from different diggers has become controversial. This point will be returned to later in the paper. As of late, however, the legitimate structure of the mining division has joined the natural and human formative perspectives in its arrangement, the financial system identified with mining is in a condition of motion. This task on the mining area is an endeavour to break down the division, specifically, at its ecological difficulties. Against the scenery of the Planning Commission's High-level Committee Report on National Mineral Policy, and the ensuing Mines and Minerals (Development and Regulation) Bill, 2011, this work endeavours at the legitimate and monetary arrangement progress in the mining division of India.⁵

India is a country with various resources of regular minerals and has a rich quality and quantity of natural resources. It is the fourth largest country in producing minerals after the USA, China, and Russia. Further, it is positioned as the eighth country on the creation of mineral resources in 2009 by the World Mining Congress, an international institution for mineral production and regulation. The Mining division in a way is one of the most important parts of India's economy which contributes around two percent to our GDP. In any case, the commitment of the area to India's GDP has been on the decay. The mining part contributed three decimal four percent of India's GDP in 1992-93. This declined to three percent in the year 1999 to 2000, and further to two decimal

⁴Bohmer & Kucera “*Prospecting and Exploration of Mineral Deposits*”, Elsevier Science (2nd Ed. Vol. 21, 2013).

⁵https://www.researchgate.net/publication/305810324_Sustainable_mining_local_communities_and_environmental_regulation (Last visited on 30th April, 2020).

three percent in 2009 and 2010. Also, with the part contracting in total terms over the most recent few years, the commitment of the mining division to India's GDP has come down to two percent in 2012-13.⁶

The mining activities are spinning for over two years now and are under the mixture of high acquisition cost and strategy because if the party fails the motion of reasoning, the legislation would not allow the practice. There has been a conflict between the administrative bodies and the land acquisition bodies about the mining schemes which slows down the process of working. The examination tries to distinguish the basic issues and suggest the route forward that would enable the area to leave the stalemate. India delivers up to eighty-seven minerals, which includes four fuel minerals, ten metallic minerals, forty-seven non-metallic minerals, three nuclear minerals and the remaining twenty-three minor minerals. Minerals can be divided into two categories, fuels, and non-fuel minerals. Coal, crude oil, petroleum gas, and lignite are the four mineral fuels we have. Nuclear fuels can also be counted under the category of fuel minerals. These minerals are used for atomic power to generate energy for various purposes. The most commonly used elements for atomic energy generation are Uranium and Thorium as these minerals are most intense for producing energy.⁷ Under the non-fuel category of mineral, they are sub-divided into metallic and non-metallic minerals these include minor minerals as well. Metallic minerals are defined as those substances which can be moulded into new different items such as iron, zinc, copper, silver, gold, tin, and so on whereas, Non-metallic minerals are those which cannot be reshaped after melting and usually are sedimentary rocks such as mica, limestone, dolomite and so on. Most of the eighty minerals are covered right now. Be that as it may, the report doesn't club these minerals, utilized for mechanical creation, into metallic minerals and non-metallic minerals. Rather the report, based on the attributes of these minerals, isolates them into four classes and furthermore has a part on little mines, as the need to include a section of little mines was felt.

2. Regulation, Sustainability & Mining in India

⁶https://www.researchgate.net/publication/3058895624_Sustainable_mining_and_environmental_regulation (Last visited on 30th April, 2020).

⁷*Id.*

The historical background of mineral sector improvement is as old as human advancement. If there should be an occurrence of India, the mineral creation goes back to the antiquated occasions as the mining exercises can be followed as far back as 6,000 years or somewhere in the vicinity. The remaining parts of a portion of the old mine functions are an observer to this reality. A couple of these activities have prompted the revelation of various huge mineral stores, which are being worked in right now. Lately, the driving force to the mineral improvement was conferred in the nation simply after the political Independence came in the year 1947 when the noteworthiness of job of minerals was acknowledged in the country building. Understanding the criticalness of modern advancement of the nation, Industrial Policy Resolution was declared in 1956 by the Central Government. Under this aggressive program of building up a few businesses, (for example, steel, non-ferrous metals, concrete, power, composites, and so on.) were propelled which required expanding amounts of minerals. Coal was the one to have gotten the greatest consideration for being the fundamental fuel for an entire scope of enterprises, for example, steel, railroads, and force plants. The whole creation of lignite, oil and petroleum gas, copper, lead-zinc metals, gold, silver, precious stone, tungsten concentrates, pyrites, rock phosphate, and so on was contributed from the mines worked under the open area.

The presence of minerals is a plus point for any country as these resources become a major source of foreign exchange and help in the development of that country. However, as it is a limited asset that is also non-renewable in nature, the precaution on its usage is to be exercised. India is blessed with both metallic and non-metallic minerals and therefore a portion of its economy depends upon these resources. India has a total of 89 known minerals till now, where four of them are fuel minerals, the other forty-eight are non-metallic minerals, ten metallic minerals, three nuclear minerals, and the remaining ten minor minerals. Till the 1990s, the mining sector was under the control of the government sector with limited private interference which was due to the Act of Industrial Policy Resolution, 1956. The Schedule A of the act secured all the major minerals such as coal, iron, copper, zinc, etc., under only the government's discretion of usage, and under and under Schedule B, it enlisted minor minerals in which private parties could invest. Due to the changes which were made in the 1990s in India, the new mineral policy was introduced in 1993. Here, the foreign investment was made allowed as before this no policy was there for direct foreign investment for

this sector. Before mining sector was limited to organisations with forty percent outside holding in different parts. After the new Act, foreign investment was permitted up to fifty percent with no restriction on hostage mines. Extra foreign investment could also be permitted if the situation was demanding. All FDI's were required to take permission from the Board of Foreign Investment Promotion which was a body established by the government for this purpose. By 1997, fifty percent of foreign investment was removed to be replaced by seventy-four percent of freedom for foreign investment by 2000 which also included mining of precious stones and jewels. By the year 2006 hundred percent mining segment was open for foreign investment for the only mineral which is not fuels and nuclear minerals. Apart from these, all minerals are open for investment. The impact of these decisions can be denoted through the economic achievements of India since 2006, as there is a prominent boost in the private sector which is responsible for a stable economic state of our country. After these liberal steps by the Indian government, the portion of open part in the complete estimation of mineral creation has declined from 91.19 percent in 1988-89 to 74.61 percent in the year 2004-05.

3. Mining Policies, Acts, and Regulations

Mineral resources in India are fundamentally classified into five classes: fuel, metallic, non-metallic, nuclear, and minor. India has set up devoted services for undertaking crafted by study, investigation, mining, and creation, request supply the executives, selling, advertising, and evaluating of minerals in correspondence to the various mines and mineral classes. Service of Mines is the pinnacle institutional association answerable for the definition and organization of policies, rules, guidelines, and laws identifying with mines in India concerning review, investigation, mining, creation, selling, estimating, and income assortment everything being equal (counting minor minerals), other than flammable gas, oil, nuclear minerals, and coal. Service of Coal exclusively manages review, investigation, mining, creation, selling, and evaluating of coal and lignite holds while the Ministry of Petroleum and Natural Gas is answerable for investigation, creation, supply dispersion, advertising, and valuing of oil including flammable gas and oil-based commodities. Division of Atomic Energy is capable to do land investigation and revelation of mineral stores (basically uranium saves) required for the Atomic Energy power program of India.⁸

⁸*Id.*

3.1 Mines and Minerals (Development & Regulation) Act, 1957

The regulation came in 1957 related with Mines & Minerals was one of the most critical enactments which stand out with regards to setting up regulation with administrative and administration structure of mining sector at very ground level in within our nation. Throughout the period of development due to fiscal advancement and competitive changes in the mining sector, the regulatory framework was altered on various occasions. Under this regulation, it is bifurcated into eight parts & further divided into thirty-three different subparts, under which the prerequisites for acquiring hazardous & radioactive minerals were constrained by the Central Government while organization and administrative administration of minor minerals are totally assigned to distinguished state governments. Under the third section of the above-mentioned regulations allow the Central Government to inform 'minor minerals' by including or erasing the minerals in the rundown while as per Section 15 under this regulation give state governments definite scope for making rules& regulation in regards to minor minerals mining, demand. Then again, extraction activities related to a wide range of major and mineral minerals in regions which is near to the coastal region, regional waters, mainland rack, selective monetary zone and other sea zones of India is the duty of the Central Government which will define the responsibility-taking body. For managing the mining and improvement of minerals in the seaward region, the Parliament had enacted specific regulation with regards to it in the year 2002 which allows the Central Government under the authoritative scope related with the relevant ministry to concede mineral concessions for costal & protected areas over which have control due to the sovereignty aspect.⁹

3.2 National Mineral Policy, 2008

National Mineral Policy which came in the year of coming for the regulation of non-fuel matter and which doesn't have radio-active minerals was also in the year 1993 and was also one of most significant frameworks for the mines and mineral part in India. This legislation has given a firm groundwork for the creation of guidelines and strategies for the progress in the state jobs related to minerals, about the examination and proper overview of these minerals which also helps in keeping a check upon the

⁹*Mines and Minerals (Development & Regulation) Act, 1957.* Retrieved from <https://mines.gov.in/writereaddata/UploadFile/MMDR%20Act,1957.pdf> (last visited on 30th April, 2020).

national stocks which depends on mineral resources. It also helped in improving the techniques of mineral extraction and usage, foreign exchange is dependent on the activities related to minerals and their extraction. But the provisions of this act made it apparent that the need for the sanctioning private theory which includes direct investments from foreign for the betterment of workmanship which would pull up innovation in this field. This step would help in figuring out significant improvising ideas which would help in keeping the mineral-based institutions efficient and constant. There has been a massive improvement in the Indian mining strategies in the past few decades which resulted in a change in the Act of 2008, for both, non-fuel and non-coal minerals. This procedure put emphasis on sustainable ways of mining the minerals, especially for those minerals which are very important for our country's economy. In short, this whole procedure is about saving minerals while trying to forbid ourselves from using these minerals in excess and use them judiciously so that they can be saved for future generations as well. Preservation of these minerals is an optimistic approach towards a bright future whereby improving mining techniques and low-quality of metals can be used so that it would give sufficient about of time to nature to heal itself. All sorts of mining activities that are environment friendly and helps in development in a sustainable way should be incorporated into the values of all people who belong to this field of work and be able to leave mining territories that are located in superior natural conditions for sake of saving the nature.¹⁰

3.3 National Mineral Exploration Policy, 2016

This arrangement accommodates activities that intend to guarantee extensive investigation of mineral assets both of which are not fuel and not coal as well for our country. To sum up the approach: Addresses the holes of information combination and states, so that pre-serious benchmark information (to get geography, structure, and so forth.) will be made accessible by the administration for nothing out of pocket and requires the Data which would be collected through the national repository of geological services, this is some storehouse which gathers various natural resources gauge and investigation information. Puts exceptional driving force to investigate profound situated mineral stores. Welcomes the private segment to do investigation in the distinguished squares and covers all the other required procedures which would be

¹⁰*National Mineral Policy, 2008.* Retrieved from [https://mines.gov.in/writereaddata/content/88753b05_NMP2008\[1\].pdf](https://mines.gov.in/writereaddata/content/88753b05_NMP2008[1].pdf) (last visited on 30th April, 2020).

in consent with sharing of income and spread-out further arrangements with respect to sharing of income and other compensatory measures if the non-public office neglects to find any mineral saves in the separate zones. This accommodates the body which is responsible for mineral targeting nation devoted to expanding the revelation rate in mineral investigation and the nature of disclosures not depending upon the significant increment in investigation consumption.¹¹

3.4 National Mineral Policy, 2019

National mineral policy, 2019 was the very first framework where sustainable development for the mining sector was expressly said. Under point 6.11 of the framework says that Ecological, monetary and social contemplations must be considered as ahead of schedule as conceivable in the dynamic procedure, to guarantee feasible advancement in the mining area which imagines mining as monetarily suitable, socially mindful, naturally, in fact, and logically stable, with a drawn-out perspective on improvement, utilizes mineral assets ideally and, guarantees practical post-conclusion land employments. The authorities will set a benchmark against which all mining tasks might be assessed as far as their similar exhibition on maintainable advancement system and uphold responsibility on part of the mining organizations to receive manageable improvement rehearses for accomplishing ecological and social objectives. Many other points in the framework contribute towards sustainable mining. These are: mine safety, human resource development, for the people who are displaced would be given relief, and for the protection of Environment but only for minerals which are neither fuel nor coal which itself says about its usefulness.¹²

4. Sustainable Mining

The process of extraction of mineral ores is seen as a threat to the ecosystem all over the world. This industry is famous for being the major polluter and degrading the environment which takes a very long period of time for nature to recover from. More the unlawful mining, more the degradation of the environment. Even though minerals are the most basic industry which is essential to run any other industry, the way these resources are extracted from the earth creates a deadly negative impact upon the planet.

¹¹*National Mineral Exploration Policy-2016*. Retrieved from http://ismenvis.nic.in/Database/MoM/NationalMineralExplorationPolicy2016_12545.aspx (last visited on 30th April, 2020).

¹²*National Mineral Policy, 2019*. Retrieved from <https://mines.gov.in/writereaddata/Content/NMP12032019.pdf> (last visited on 30th April, 2020).

It cost us the wild vegetation, forest lands, freedom of huge lands, water bodies, many natural habitats, also causes contamination of air, water, and soil, ultimately disturb the ecological conditions of that particular area and ruining the equation of biodiversity. This not only affects those organisms but also us and the planet as well. The adverse effects for humans are not only natural but social as well. Due to land acquisition, many people lose their homes and ancestral properties. The group of indigenous individuals suffers as well because providing resettlement and land privileges to these people is very difficult.

As mining is one of the most expensive procedures which not only involves money but leaves deep scars on the Earth's surface and that is why a large group of nations have expressed their concerns about this activity and have given proper administrative control to ensure the safety of the environment and the lives related to it. A proper administrative system has also been erected by the Indian government which is inspired by the existing internationally accepted set of rules, strategies, and guidelines. These laws ensure reasonable support for mining in a sustainable manner that would cause lesser harm to the environment in long run. The Department of Environment, Forest, and Climate Change is the highest authorised body that sets out the plans of who, how, and when the mining has to be done. Without the permission of this body, not a single body can proceed with mining procedure in any place within India. They follow the Act of Environment Protection of 1986 along with other Acts such as its amended EPA of 2006, also the forest conservation Act, they also run a digging exercise for the assurance that the said place is fine for mining activities and would not lead to any adversity.¹³

The legislation for the protection of forests has also been revised after 1980 in 2014 with significant alterations. This Act compels the Central Government to accept all the dealings of construction only after securing nature by decreasing the threats of any sort of contamination towards that area and due to the said activity and have control over the situation in any way which the government decides. This Act also enlists the rules about the release of harmful substances, the effects on air quality, and an assessment which would highlight the impacts on the environment. Under EPA 2006, EIA is the most important Act for the mining procedures and therefore these acts are still revising

¹³https://www.researchgate.net/publication/317779578_Mining_industry_and_sustainable_development_Time_for_change (Last visited on 30th April, 2020).

for a better legislative cause. The body which regulates the pollution level also falls under the MoEFCC and its job is to report about the activities which are causing any sort of damage to the environment or the resources such as air, water, and soil due to the construction activities.¹⁴

Mining unfavourably influences the Eco-system in general. It is imperative to direct reasonable evaluation studies to gain proficiency with the potential unfavourable effect of mining on widely varied types of plantations. To deteriorate from the issues, one ought to know about the different exercises of natural concern. A corrupted domain has dispossessed elective work openings particularly in the ranger service and agrarian area, driving the destitute individuals to crimes. This is on the grounds that

ecological corruption has influenced particularly the normal property assets, for example, land and water on which depend the subsistence and prosperity of the poor gatherings. The investigation district being the principal coal delivering area of the nation likewise positioned high in the rundown of earth debased territories.

5. Conclusion

In the mining sector, for sustainability in mining in our nation, we have an insufficient regulatory framework. In any case, consistency has been moderate and lopsided. The empowering system needs progressively engaged fortifying to guarantee that the standards of best mining and natural administration rehearses are received. Endeavours made toward this path during the most recent two years have brought about a significant move in the focal point of the mining ecological arrangement in India. The mining part faces a basic test in the coming years matching the difficulties of financial progression, and simultaneously, not to represent a risk to the biological honesty of the country. A general agreement among the partners, approach creators, and controllers has been reached and there is likewise political responsibility at the most significant level on improvement and condition. Most of the regulations are related to non-fuel & non-coal minerals due to which the major mining sector is untouched by the existing regulatory framework for sustainable mining. And even the existing regulatory framework is soft

¹⁴https://www.ltu.se/cms_fs/1.124549!/file/rapport%20making%20mining%20sustainable_low.pdf
(Last visited on 30th April, 2020).

in nature. Therefore, there is still a lot of scope for regulations with regards to sustainable mining.