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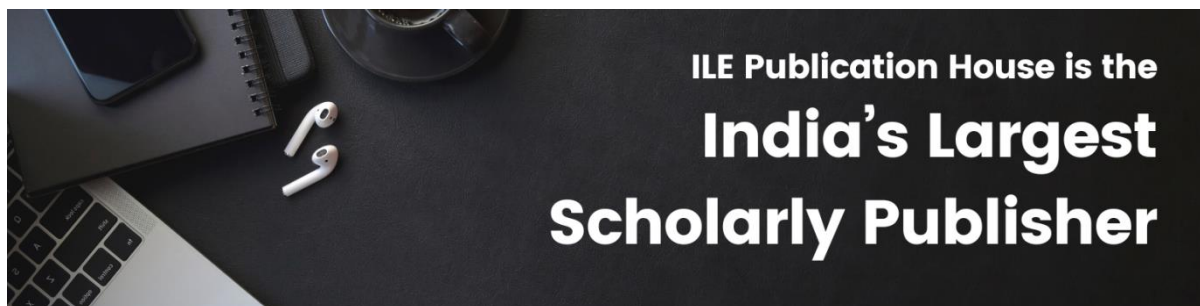
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## Balancing Natural Resource Extraction and Ecological Preservation: A Study of Mining Regulations in India

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### Abstract

This paper explores the complex relationship between mining of natural resources, environmental regulation, and ecological balance in India. Mining is a critical contributor to the Indian economy, providing employment opportunities and powering various industries. This paper examines the various regulatory frameworks in place to mitigate these impacts, including the Forest Conservation Act, the Water (Prevention and Control of Pollution) Act, and the Environmental Impact Assessment Notification. The paper also analyzes the challenges associated with implementing these regulations, including weak enforcement mechanisms and corruption. Finally, the paper discusses the importance of achieving a balance between natural resource extraction and ecological preservation, suggesting potential strategies for achieving this balance, such as sustainable mining practices and community engagement. Overall, this paper highlights the need for ongoing monitoring and regulation of mining activities to ensure that they do not come at the expense of the environment and local communities.

**Keywords:** Environment Law, Legal Issues around Climate Change and Environmental Sustainability, Legal Issues around Sustainable Use of Natural Resources, Legal Issues around Sustainability, Biodiversity and Conservation.

### Introduction

Mining is a vital contributor to the country's economy, forming a fundamental raw material for many important industries. As per the Annual Report 2016-17 of the Ministry of Mines (MoM), India produces as many as 95 minerals. The Indian mining industry is characterized by a large number of small operational mines along with the presence of few large-scale mines that contributes to a significant share of the overall production.<sup>30</sup>

From a macro view, India's domestic demand is likely to motivate production growth. Sustained growth in India's automotive sector has been driving demand for steel and aluminium, while the power sector demands great proportions of fuel minerals. Another likely driver is the construction industry. Infrastructure buildup is seeing strong growth, not only on housing, but also on projects like roads, rail and airport development, luxury buildings, and other necessities in a rapidly urbanizing landscape. This will create opportunities for steel, zinc and aluminium producers in the near future.

It is unfortunate but true that the mining process, from exploration to reclamation of exhausted mines, is highly destructive to the environment. Amongst common problems are drilling and explosives that degrade the local environment, dust pollution, water contamination due to poor tillage

<sup>30</sup> India Infrastructure Limited. (2016b, October). India Infrastructure Limited. March November 22, 2022, from Catching up: Trends in IT deployment and automation in mining: <https://indianinfrastructure.com/2016/10/28/catching-up-2/>



management, noise pollution and incomplete or inadequate waste management.<sup>31</sup> The Indian mining sector is highly regulated with strong legal and regulatory mechanisms with the government introducing and revamping several acts, policies, rules at the central and state levels. In sum, the future for mining in India looks quite progressive but there are certain challenges that need immediate attention.

### **Governance of Mineral Resources in India: Institutional, Regulatory and Legal Framework**

#### **Institutional Governance of Mineral Resources**

Mineral resources in India are mainly divided into five categories: fuel, metallic, non metallic, atomic and minor. India has set up dedicated ministries for undertaking the work of survey, exploration, mining, production, demand-supply management, auctioning, marketing and pricing of minerals in correspondence to the different mines and mineral categories.

Ministry of Mines is the apex institutional organisation responsible for formulation and administration of policies, rules, regulations and laws relating to mines in India with regards to survey, exploration, mining, production, auctioning, pricing and revenue collection of all minerals (including minor minerals), other than natural gas, petroleum, atomic minerals and coal.

#### **National Policies, Acts, Rules and Regulations**

The predominant Acts that govern entire mineral sector of India are the Mines Act, 1952 and Mines and Minerals Development & Regulation Act (MMRD) of 1957 under the administration of MoM while the National Mineral Policy of 1993 is the key reference document of rules, regulations, principles and procedures for regulating, developing and controlling the mineral sector (excluding coal, petroleum and atomic minerals).<sup>32</sup> Significant

rules in force under the MMDR-1957 are the Mineral Concession Rules (MCR), 1960 and the Mineral Conservation and Development Rules (MCDR), 1988.<sup>33</sup>

The Mines and Minerals Act of 1957 (MMRD 1957) is the principal legislation that lays down the regulatory and governance framework of mineral and mining sector at the central level in India. Section 3 (e) of MMRD 1957 gives the Central Government the power to notify 'minor minerals' (by adding or deleting the minerals in the list) while per Section 15 provide state governments complete powers for making rules regarding minor mineral mining, levy, collection of royalty and so on.

#### **Mines and Minerals Amendment Act, 2015**

MMRD 1957 had certain flaws as it did not permit auctioning of mineral concessions; there were issues regarding the historically non-transparent process for grant of mineral concession; and the process of granting and renewing of mineral concessions was quite slow which led to a decline in mineral production affecting the manufacturing sector as a whole.

MMRD Amendment Act, 2015 incorporates major changes; adds more minerals in the notified minerals category under an additional Fourth Schedule: bauxite, iron ore, limestone and manganese ore with further amendments as notified by the Central Government;

Provides relaxation for maximum area limits by amending the provision of just providing a single entity with one mining lease for a maximum area of 10 sq km. Under this Act, the mining lease period has been increased from 30 years to 50 years and after the license lapses, the lease will be put for auction and cannot be renewed;<sup>34</sup>

<sup>31</sup> Indian Bureau of Mines . (2014, August 20). Noamundi Iron ore mine of TATA Steel, West Singhbhum, Jharkhand. Retrieved March 11, 2022, from <http://ibm.nic.in/writereaddata/files/08202014164430Nuvamundi%20Iron%20Ore%20Mnes-.pdf>

<sup>33</sup> Kumar, R. B., Chandrasekhar, S., & Reddy, V. B. (2009). Construction and operation of high capacity longwall project : Adriyala experience. Recent Advances in Rock Engineering.

<sup>34</sup> PRS Legislative Research . (2015, March 27). Mines and Minerals (Development and Regulation) Amendment Act, 2015. Retrieved March 5, 2022, from <http://www.prsindia.org/billtrack/the-mines-and-minerals-development-and-regulationamendment-bill-2015-3648/>



Provides for the creation of a DMF. Under this Act, requires every mine lease holder is mandated to contribute 30 per cent of the royalty amount to the DMF which is required to be utilised by the District Collector/Magistrate for development and socio-economic and environmental activities in and around areas where mining operations are carried by the lease holder;

### **National Mineral Policy, 2008**

The first National Mineral Policy (NMP, 1993) (for non - fuel and non - atomic minerals) was implemented in the year 1993 and is one of most important legal framework for the mines and mineral sector in India. The policy lays down provisions with regards to regulation of minerals, role of the state in mineral development, survey and exploration, national inventory of mineral resources, strategy of mineral development, foreign trade, fiscal aspects and research and development.

Considerable changes in the Indian mining sector has led to the revision of this policy and enactment of NMP, 2008 (for non-fuel and non-coal minerals).<sup>35</sup> This policy stresses the importance of practicing sustainable mining in order to preserve and augment the exhaustible minerals reserves and aims for optimal utilization of natural mineral resources of the country.

### **Environmentally Sustainable Mining: A Sectoral Overview of its Legal and Regulatory Framework**

#### **Impact of Mining Activities on the Environment**

The mining sector is perceived as a major contributor to environmental degradation throughout the world. It is often tagged as a 'polluting industry' with substantial amount of environmental footprint which is also under of claws of illegal mining activities that exacerbates ecological degradation. Even though minerals are core constituents for many

manufacturing and industrial sectors, their extraction and processing creates considerable negative environmental and social effects.

In sum, mining leads to destruction of flora and fauna, clearance of large tracts of land, air - water-soil pollution and can even disrupt local ecological balance or wipe out local biodiversity. Social impacts of developing a mining facility majorly involves relocation of tribal people or communities dwelling in mineral rich areas which are often met by social resistance and disagreements around issues such as resettlement, compensation and land rights of the indigenous people.

There are several phases in a mining project - site exploration; development (construction of access roads, site preparation and clearing); active mining (open cast mining, placer mining, underground mining, reworking of inactive or abandoned mines and tailings); disposal of overburden and waste rock; ore extraction and transportation; beneficiation (including milling); tailings disposal; and site reclamation and closure. These eight stages are further segregated into different process having a specific environmental footprint

### **Legal and Regulatory Framework for Environmentally Sustainable Mining in India**

MoEFCC is the apex organisation that has laid down a set of policies, acts, rules and regulation to combat environmental conflicts that might arise due to different mining activities. The policy framework under the MoEFCC is generic for the entire industrial sector - Environment Protection Act (EPA) 1986 with the recent amendments, Environment Protection (Amendment) Act (EPA 2006) and the Forest (Conservation) Act, 1980 (FCA 1980) as the two main policies that have specific clauses for monitoring mining activities for the protection of the environment.<sup>36</sup>

<sup>35</sup> Khanna, A. A. (2013). Governance in Coal Mining: Issues and Challenges. New Delhi: The Energy and Resource Institute (TERI)

<sup>36</sup> ISID. (2012). Sustainable Development: Emerging Issues in India's Mineral Sector. Institute for Studies in Industrial Development (ISID). New Delhi: ISID.



Forest (Conservation) Act (FCA 1980) empowers the Central Government to take all measures as deemed necessary for protecting the environment, and preventing, controlling, and abating pollution. Under EPA 2006, EIA is most important environmental requirement for a mining operation which was started in 1994 and is being continued with refinements since that date. In order to curtail the impacts of mining processes on the environment, CPCB has laid down the Water Act of 1974, Air (Prevention and Control of Pollution) Act, 1981 and the Coastal Zone Regulation, 2011.

Apart from the central regulatory bodies, in conjunction with the central institutions, laws and regulations, respective state governments have set-up dedicated departments for controlling and regulating the mineral sector of their states. At the state level, the key institutions include the Department for Mining (DoM), the Department of Forest 24 Sustainable Mining in India (DoF) and State Pollution Control Boards (SPCB). This was considering for mining to happen in a sustainable way, the carrying capacity of the region must be considered as well as the overall ecological impacts.

### **Observations and conclusion**

The review of flagship mining cases adjudicated by the Supreme Court underscores some fundamental principles that have been repeatedly invoked to ensure responsible mining practices and effective mining governance. The Court has applied four key principles that serves the interests of local communities, the environment, while also taking into account economic considerations that must serve the public by large, and not just certain groups.<sup>37</sup>

Also, in almost all matters, the Supreme Court has expansively invoked Article 21 of the Constitution of India. The Court has interpreted 'environment' as "one of the facets of the right to life guaranteed under Article 21 of the

Constitution". What is clear from this is, while the Court has responded to specific petitions or applications as it appeared before the bench, in the process the judiciary has tried to address the fundamental philosophies of resource management and exploitation, and has dealt with the complexities of balancing the interests of environment, the local community, as well as the economy.

While the Court interventions have certainly led to some positive outcomes, from a governance perspective it also equally important to realize that Courts cannot be the only recourse to ensure regulatory compliance and proper implementation of regulatory provisions related to mining.

Also, post-facto compensatory charges or a ban does not really off-set for the environmental and community distress, or loss to the state exchequer. At the same time, it also does not make economic sense to exploit regulatory loopholes as this only increases the chances of legal disputes and might lead to far-reaching outcomes which can be detrimental to the mining sector in economic terms.

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<sup>37</sup> Supreme Court of India, Order dated February 27, 2012, in the matter of Deepak Kumar etc. Versus State of Haryana and Others etc., I.A. Nos.12-13 of 2011 in Special Leave Petition (C) No. 19628-19629 OF 2009