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# The Role of Environmental Impact Assessments (EIAs) in India's Mining Sector: Legal Loopholes and Recent Reforms

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**ABSTRACT**

The study provides a critical perspective on the role of the Environmental Impact Assessments (EIA) in India's mining sector vis-à-vis legal regime, implementation challenges, and new reforms. EIAs are the very tool that determines and mitigates environmental and social impacts emanating from mining projects, which rank among some of the most environmentally appalling industrial activities to occur in India. The assessment process, per Section 3 of the Environment (Protection) Act, 1986, and in consonance with the EIA Notification, 2006, is a procedural mechanism followed at least through multi-stage screening, scoping, public consultation, and appraisal. However, many systemic issues have drained the vitality from the EIA. These shortcomings include lack of adequate public participation especially at the time of screening, weak enforcement in the post-clearance stage, and also various legal loopholes such as bifurcation of project area, post-facto approvals, etc. Case studies from Meghalaya and Jharkhand highlight institutional failures and procedural infringements that facilitate environmental degradation and social dislocation. Though various court rulings, including from the Supreme Court and National Green Tribunal, have strived to uphold the constitutional and statutory mandate, there, however, exist administrative and political hurdles in their way to enforce effectively. The recent amendments, especially the Draft EIA Notification 2020, further signal a strong drift towards deregulation. The study argues that unless there is a fundamental restructuring of the EIA regime to impart scientific precision, make it institutionally accountable, and truly involve public participation, this regime risks being further reduced to a mere formality devoid of any ability to genuinely safeguard India's environmental and social interests in mining areas.

**Keywords:** Environmental Impact Assessment, Mining Regulation, Environment (Protection) Act, Legal Loopholes, Public Consultation, Compliance Monitoring, EIA Notification 2020

## Introduction

Environmental governance in India has witnessed a sea of changes in the last few decades, especially with the acceleration of environmental degradation from extractive industries such as mining. The introduction and enforcement of Environmental Impact Assessments (EIAs) have been one of the most structured legal methods of forecasting, minimizing, and handling ecological damage occasioned by industrial operation. Within this ambit, the mining sector has attracted special attention because of its highly invasive nature and irreversible effect upon landscapes, forests, groundwater, and local communities. EIAs, under law, act as the first hurdle before clearance can be granted for any mining activity and thus remain the foremost legal filter by which any environmental considerations can be assessed. The legal framework for EIAs in India stems from "Section 3 of the Environment (Protection) Act, 1986", which empowers the central government to frame rules restricting industrial activity in the interest of environment. This paper therefore analyses the role, drawbacks, and recent changes in the regulatory apparatus governing EIAs in the mining sector in India, and focuses resolutely on mining-specific problems.[1]

## Importance of EIA's in the Mining Sector

Environmental governance has faced dramatic shifts in the preceding few decades, and a major cause of this has been environmental degradation brought about by extractive industries such as mining. The enforcement of the Environmental Impact Assessment (EIA), a highly structured legal mechanism to foresee, mitigate, and manage ecological damage caused by industrial activities, is perhaps the best example. Within this ambit, the mining industry has been specially targeted on account of its highly invasive nature and irreversibility of its impact on the landscape, forests, groundwater, and local communities. The Environmental Impact Assessment preceded any potential clearance for mining activity and thus remains the first and foremost legislative check on environmental consequences. The legal regime regarding EIAs stems from "Section 3 of the Environment (Protection) Act, 1986", which provides the central government to make rules to prohibit industries on environmental grounds. Herein, the author examines the role of EIAs in

[1] Aijaj Ahmed Raj, Zubair Ahmed, et.al., *Environmental Impact Assessment: Percept & Practice* 347 (Manakin Press Pvt. Ltd., New Delhi, 1st edn., 2019).

the mining sector in India, the deficiencies therein, and the recent legislative changes concerning EIAs-for-mining-and-the-challenges-so-specific-to-mining.

## Overview of India's Mining Sector and Environmental Challenges

Environmental Impact Assessments (EIAs) are vital tools through which the potential environmental and social consequences of a mining project are examined and predicted before approval. They seek to make sure that suspected consequences affecting air, water, land, and nearby communities are analyzed side by side and in full view. EIAs work not only as compliance tools but also as preventive legal tools to foresee potential adverse effects of any mining project and its alternatives and suggestions for mitigation. EIAs are crucial to the mining discourse for curbing issues like deforestation, diminution of biodiversity, contamination of groundwater, silting of rivers, and displacement of indigenous populations. Mining activities predominantly open-cast mining lead to the stripping off of topsoil, forest cover, and changes in drainage patterns. In the absence of a truly effective EIA mechanism, such acts continue unhindered to cause environmental damage, which may very well be irreversible. Globally, the concept of EIAs gained currency through various documents such as the Rio Declaration on Environment and Development (1992) which endorse prior environmental scrutiny. In India, EIAs were given a statutory basis in 1994 by issuing of the Environment Impact Assessment Notification under "Section 3 of the Environment (Protection) Act, 1986". These guidelines were repealed and replaced by a more comprehensive notification in 2006, which categorizes projects and prescribes different levels of scrutiny depending on the expected impact. Mining activities, especially above a certain threshold of size and capacity, are listed under Category A for appraisal by the Expert Appraisal Committee at the central level. The intention behind imposing EIAs for mining has always been for sustainable development means: economic needs versus ecological preservation. EIAs were never supposed to become an administrative exercise but rather an instrument of participatory and informed decision-making emphasized by global assessments such as IISD 2019 report.[2]

## Legal Framework of EIAs in India's Mining Sector

The Environmental Impact Assessment (EIA) regime in India served as a statutory and procedural safeguard with the objective of regulating developmental projects, particularly those with a large ecological footprint, such as mining. Being one of the most environmentally intrusive industries, the mining sector finds itself firmly under environmental scrutiny. The legal structure regarding EIAs is based on overarching environment laws and activated through executive notifications and institutional mechanisms. The reasons for the need for a legal framework for EIA stemmed from the growing concern about resource depletion, environmental degradation, and insufficient regulatory oversight during the early phase of India's industrial growth. Over a period, the EIA has, in effect, ceased to be merely a policy tool and converted into a statutory requirement for attaining Environmental Clearances (ECs) for mining activities. The present framework is not enshrined in a singular statute but is, in fact, an outcome of key legislations, ministerial notifications, and evolving administrative praxis. This section altogether covers the historical development of EIA legislation, more particularly focusing on the bedrock Environment (Protection) Act, 1986, with the EIA Notifications of 1994 and 2006 following suit, which still govern EIA procedures in the mining sector of India.[3]

## Historical Development of EIA Legislation

The Environmental Impact Assessment (EIA) has evolved into statutory and procedural safeguards with which developmental projects must be regulated, especially those having considerable ecological footprints such as mining. Mining is one of the most environment-intrusive industries; therefore, it has to come within the environmental scrutiny. Within the ambit of overarching statutes that address the environment generally, the legal arrangement for EIA is created with executive notifications and implementing mechanisms. The need for a defined legal framework for EIAs developed with heightened concern over resource depletion, environmental degradation, and lax regulatory surveillance during the early phase of India's industrial development. Over the years, EIAs have slowly been converted from a mere policy instrument to one required together with an application for Environmental Clearances (ECs) for mining activities. There exists no single law to govern the current system but rather a composite of all the key laws and ministerial notifications and evolving administrative practices. This chapter looks at the history of the EIA legislation, particularly with reference to the Environment (Protection) Act, 1986, which laid the foundation for EIA legislation, and then the EIA Notifications of 1994 and 2006 that still govern the EIA process in the mining sector in India.

### *The Environment (Protection) Act, 1986*

The legal development of Environmental Impact Assessments in India traces its origin along the increasing realization of the hazards posed by unregulated industrial growth and resource extraction to environmental degradation and human health. In India, during the 1970s and 1980s, neither a legislative framework was in existence to carry out an EIA for potential hazardous effects of the mining operations nor was there a set of laws to limit such adverse effects. The environmental governance was scattered and remained retroactive in nature. A turning point was set after global environmental happenings such as the Stockholm Conference of 1972, which influenced Indian legislators to instigate the safeguarding of environment on a stronger basis. This led to the enactment of the Environment (Protection) Act, 1986, shortly after the Bhopal Gas Tragedy, as a legal instrument enabling the Central Government

[2] Aijaj Ahmed Raj, Zubair Ahmed, et.al., *Environment Impact Assessment* 196 (CRC Press, London, 1st edn., 2021).

[3] Gurdeep Singh, *Environmental Impact Assessment of Mining Projects* 178 (Proceedings of International Conference on TREIA-2008, Nagpur, 1st edn., 2008).

to issue direct controls over environmental hazards. Within this statutory umbrella, the concept of Environmental Impact Assessment was gradually introduced through executive means such as notifications. The transition of EIAs from being mere administrative checklists to binding regulatory conditions wasnever immediate; it gathered momentum over the next 30 years through a series of amendments, judicial interpretations, and policy restructuring.[4]

***EIA Notification, 1994, and Amendments***

Often defined as the key piece of environmental legislation in India, the Environment (Protection) Act, 1986 is central to the legal framework surrounding EIAs. The Act was passed in the aftermath of the Bhopal disaster and provides contrasting legal footing to environmental protection and improvement in India. The very powers under "Section 3 of the Environment (Protection) Act, 1986", give the Central Government to take all measures as it thinks fit to protect and improve the quality of the environment and prevent environmental hazards. It is this sweeping delegation of power that has been largely responsible for providing the Ministry of Environment, Forest and Climate Change (MoEFCC) the authority to issue binding notifications, which in themselves constitute the core procedure setting mechanism for EIA processes. Further, "Section 5 of the Environment (Protection) Act, 1986" provides the government with the authority to issue directions in writing to any person, officer, or authority, including directions to close, prohibit, or regulate any industry, operation, or processes. In conjunction, these powers form the legal basis for requiring EIAs as a prerequisite for granting environmental clearances to mining projects. The Act, however, does not have any substantive procedural provisions for EIAs but rather entrusts the executive to frame the same under its own legislation. This legal flexibility allowed the issuance of the EIA Notifications of 1994 and 2006, through which EIAs came to be formally codified as an operational entity. This flexibility and comprehensive scope make it a living document, which can accommodate contemporary and evolving environmental concerns in mining, including biodiversity loss, land degradation, and pollution control.[5]

***EIA Notification, 2006***

The issuance of the "EIA Notification, 1994" was the first formal attempt to institutionalize EIAs in the legal structure of environmental governance in India, under the powers granted by the "Environment (Protection) Act, 1986." This Notification shifted environmental review from a discretionary procedure to a legally binding one, especially in the case of mining projects. The 1994 Notification required all projects listed in Schedule 1-many of which were mining and mining-related infrastructure-to undertake Environmental Clearance (EC) before implementing the projects from the Central Government through prior environmental scrutiny. Any mining requiring an EIA report for lease areas over five hectares also required: conducting a public hearing thereon under the aegis of the MoEFCC and finally obtaining clearance from the MoEFCC before commencement of the project. An important feature of this notification was the introduction of preliminary screening of whether a full EIA was necessary. Since its issuance, the 1994 Notification underwent twelve amendments in an attempt to remove procedural ambiguities and plug loopholes in its operation. These amendments took care of the issue of exemption thresholds, categorization of projects, and time-bound procedures for public consultations. The improvements notwithstanding, the 1994 Notification had glaring drawbacks, such as the absence of decentralized appraisal systems and inconsistent public participation mechanisms. The lack of clarity about thresholds for projects and setting time-bound procedures led to delays and arbitrary approvals in many instances. With the expansion of mining activities witnessed during the early 2000s, it dawned upon the authorities that the 1994 Notification was in need of a comprehensive overhaul if it were to address emerging administrative requirements and the gargantuan scale of resultant environmental impacts. Therefore, in 2006, it was replaced by a far more comprehensive one.

***Key Legislations Governing Mining and Environment***

"The laws in India related to mining encompass a complicated set of laws, which intertwines industrial regulation, land acquisition, environmental compliance, forest protection, etc. While for Environmental Impact Assessments, notices issued under the "Environment (Protection) Act, 1986" are primarily invoked, there are numerous other Acts that may bear directly or indirectly on the EIA process in relation to mining operations. These Acts include those specific to certain sectors like the "Mines Act, 1952", the "Mines and Minerals (Development and Regulation) Act, 1957", and the "Forest Conservation Act, 1980", all of which focus on the various facets of mining activity and environmental check. These Acts act as various avenues through which environmental safety can be administered, but at the same time, they require a certain institutional coordination during the EIA clearance process. These Acts amalgamate into one legal body with the EIA regime, thereby increasing the enforceability of legal responsibility among mining operators and ensuring that mining operations are not carried out disregarding the ecological and social welfare and public health. This section focuses on the aforesaid key statutes to highlight how these laws interface with the EIA mechanism and ultimately affect mining regulation in India."

***The Mines Act, 1952***

India's mining sector operates in a complex network of regulation emphasizing industrial regulation, land acquisition, environmental compliance, and forest protection. Under the "Environment (Protection) Act), 1986", EIA is governed primarily by notification. However, many other laws influence EIA proceedings for mining operations either directly or indirectly. They include the sector laws such as the "Mines Act, 1952", the "Mines and Minerals

[4] Bulletin on Environmental Aspects of Mining Areas, *available at:* https://ibm.gov.in/IBMPortal/pages/Bulletin_on_Environmental_Aspects_of_Mining_Areas (Visited on March 3, 2025).

[5] Reforms related to Mining Sector under EIA regime, *available at:* https://mines.gov.in/admin/storage/ckeditor/DAY_2_PPT_16_1737544745.pdf (Visited on March 12, 2025).

(Development and Regulation) Act, 1957", and the "Forest Conservation Act, 1980", each addressing parts of mining activity and environmental policing. These laws give regulatory points of contact for environmental safety while facilitating institutional coordination during EIA clearances. Their operation alongside the EIA regime renders mining operators practically liable within the law and prevents a mine from being opened or operated without consideration of a few ecological, social, or public health issues. This section tries to envelop the ebbs and flows of these major acts to show how they intersect with the EIA regime to form the regulatory body for mining in India.[6]

***The Mines and Minerals (Development and Regulation) Act, 1957***

"Mines Act, 1952" stands as a sort of antiquated legislation regulating the operation of mines in India toward health, safety, and welfare of mine workers. An environmental theme has not been directly set down under the Act. Instead, it acts as an indirect contributor to the structure of environmental compliance-related mining activity. Regarding the Environmental Impact Assessment, Section 57 of the Mines Act, 1952 offers its most direct reference: The section empowers the Central Government to make regulations for the purpose of preventing accidents and ensuring safety in mines. The Act, originally covering occupational hazards, was changed through an amendment in the year 1987 that recognized and accepted environmental hazards as part of mining hazards. The amendment made it possible for the government to frame rules relating to the adverse effects of mining operations not only on the workers but also on the surrounding environment, thereby widening the aspect of safety in terms of ecology. This approach facilitated greater coordination between the Directorate General of Mines Safety (DGMS) and the Ministry of Environment, Forest and Climate Change (MoEFCC), especially with relation to determining the cumulative effects of mining. For example, as part of the EIA procedure, the project proponents must submit their safety plans as per the guidelines under the Mines Act, within which it is guaranteed that methods of excavation will not subject the area to environmental risks which are practically unmanageable. The Act, not being a substitute for EIAs, hence acts as an additional scope-embedded operation restriction that serves environmental objectives in one form or the other.[7]

***The Forest Conservation Act, 1980***

The "Mines and Minerals (Development and Regulation) Act, 1957" (MMDR Act) is the statutory piece that provides for the regulation and development of mines and minerals in the country. Various amendments were made to the Act, including the latest one in 2021, turning it into a proper mechanism for granting reconnaissance permits, prospecting licenses, and mining leases. The role of this statute in the EIA framework can be viewed from "Section 10 of the MMDR Act, 1957", which states that a mining lease shall not be granted, except when the applicant complies with all the laws in force. This requirement absorbs EIA compliance into the mining lease application process. The holder of a mining lease has to think of establishing proof that Environmental Clearance (EC) has been obtained as per the "EIA Notification, 2006" before the commencement of actual mining activity, in addition to other requirements. Therefore, through this approach, mining operations under the MMDR Act are harmonized with the principles of environmental governance, so as not to get through without any ecological scrutiny. The amendment of 2021 resulted in modernization of the Act, by way of enabling auctioning of mineral blocks without restriction as to end use, and thus was the revivification of the attention on the robustness of screening under the EIA, with such possibly aggressive bidding giving rise to ecological concerns. Since mineral rights rest under the concurrent jurisdiction of the Central and State Governments, the statute places an implied imperative on State Governments to ensure strict enforcement of environmental regulations. This concurrent scheme ensures that both governments need to coordinate toward a strict evaluation of EIA reports and that mining does not proceed without full environmental compliance.

***Role of Regulatory Bodies***

"Forest Conservation Act, 1980" is central in environmental governance for mining, especially where mining operations intersect with forest land. The prime legal instrument under the Act is that, under Section 2 of the Forest Conservation Act, 1980, one cannot de-reserve forest land or use it for any purpose other than forest without the prior approval of the Central Government. This requirement, in itself, acts as a significant procedural hurdle within the EIA process for mining projects that have forest lands as their immediate vicinity. Therefore, in addition to environmental clearance, mining operators must also procure forest clearance, ensuring that forest ecology is never sacrificed on mere economic grounds. The Forest Advisory Committee (FAC) under this Act examines if the proposed mining project can be permitted when it would result in irreversible damage to biodiversity, wildlife habitat, and forest-dependent communities. In the case of projects that straddle both forest and non-forest land, the EIA needs to factor in the ecological footprints of both, while approval under the Forest Conservation Act becomes a must for granting the final Environmental Clearance (EC). Furthermore, the synergistic working of this Act with the EIA process commonly entails compensatory afforestation and payment of Net Present Value (NPV) for diverted forest land, thereby placing economic liability on the environment governance front. Since mineralized zones lie in forest-rich states such as in Jharkhand, Chhattisgarh, and Odisha, the Forest Conservation Act is central to regulating the burgeoning mining industry in ecologically sensitive areas. This coordination with the EIA framework not only undoes forest cover but also obligates the mining industries to contribute to mitigation and rehabilitation on the ground.[8]

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[6] E. Kumar, "Environmental Impact Assessment for Iron Ore Mines – An Expert System", 3 *IJLTEMAS* 10 (2014).

[7] Importance of Environmental Impact Assessment in India, *available at:* https://www.corpseed.com/knowledge-centre/importance-of-environmental-impact-assessment-in-india (Visited on April 17, 2025).

[8] K. Vizayakumar, Pratap K.J. Mohapatra, et.al., "Environmental impact analysis of a coalfield", 34 *JEM* 88 (1992).

***Ministry of Environment, Forest and Climate Change***

In India, the Environmental Impact Assessment (EIA) regime functions not just on statutory provisions and government notifications but also by way of regulatory institutional mechanisms with well-articulated roles and responsibilities. These institutions provide for practical implementation of the legal precepts laid down under pertinent environmental and mining laws at different levels. In view of the federal polity, both the central and state institutions share responsibilities for enforcing the EIA norms for mining projects. The roles and responsibilities of MoEFCC, SPCBs, and DGMS are interlinked to form a system through which implementations and monitoring of EIA are undertaken. These dependent bodies possess distinctly defined responsibilities-from policy level, clearance grant, monitoring level, and safety level. They act as a source of information, supervise public consultations, and ensure mitigation measures are enforced. The coordination between these institutions is, therefore, fundamental in ensuring that mining proceeds after due environmental scrutiny and conformity to the prescribed environmental safeguards. This section deals with the roles and inter-linkages among these regulatory authorities in the context of the Indian mining sector and its EIA regime.[9]

***State Pollution Control Boards***

State Pollution Control Boards (SPCBs) constitute the indispensable sub-national regulatory bodies that control environmental compliance at the state level. The State Pollution Control Boards operate under the "Water (Prevention and Control of Pollution) Act, 1974" and the "Air (Prevention and Control of Pollution) Act, 1981". They also coordinate with the MoEFCC and the State Environmental Impact Assessment Authorities (SEIAAs) for mining projects to ensure that environmental norms set by the authorities are implemented. SPCBs, however, do not grant Environmental Clearances themselves since the implementation of conditions laid down in those clearances becomes imperative under the control of the States through the SPCBs. For example, in mining projects, once the EIA is accepted and EC has been issued, the SPCB shall be responsible for issuing Consent to Establish (CTE) and Consent to Operate (CTO) which the mining operator must necessarily have before the operator can commence operations or continue operation. These consents are issued subject to the state of environmental safeguards as contained in the EC, thus shielding SPCBs as the enforcement agency in many respects of operational environmental conditions. The SPCBs conduct site visits, gathering samples of air and water quality evidence, and reporting on the environmental condition of the project; in fulfilling its mandate, SPCB is expected on the evaluation of the allegations to collaborate with the MoEFCC. The SPCBs were responsible for overseeing the public hearing process at the EIA stage for projects under Category B, ensuring the transparency and participation of local stakeholders. This is especially crucial for mining projects that adversely affect forest-dependent populations and indigenous communities. While the workings of SPCBs oftentimes vary from state to state owing to differences in administrative capacity, their legal authority and proximity to project sites make these boards among the most vital actors that bring the EIA to life.[10]

***Directorate General of Mines Safety***

The Director General of Mines Safety (DGMS), the apex government agency that comes under the Ministry of Labour and Employment, primarily handles the safety and health standards in mining operations. While the principal focus of DGMS is not environment-related, various aspects of its jurisdiction do tie up with environmental concerns, making DGMS an important complementary agency in the EIA enforcement regime. The DGMS implements the "Mines Act, 1952" with its rules and regulations, including the safe management of waste, control of dust emissions, protection of groundwater, and subsidence; all are equally important components of any mining-related Environmental Impact Assessment. DMS officials have the power to inspect mining sites, issue notices, and punish those found guilty of a breach of regulations relating to safety or environment. These inspections help in post-clearance monitoring by the MoEFCC and SPCBs; in addition, safety reports from DGMS are sometimes cited in EIA studies to assess whether the proposed mining methods could pose unacceptable ecological risk. For instance, the appraisal of proposals can see EACs use DGMS input to assess whether methods of excavation and allied activities comply with best practices designed to minimize environmental degradation. As highlighted by "Raj, 2019, Environmental Impact Assessment of Mining in India", DGMS exercises an indirect but crucial role in protecting the environment, especially in underground and opencast mining operations where a higher degree of potential ecological damage exists. The linkage of DGMS's oversight function with environmental monitoring ensures that the actual operation of mining activity does not breach norms related to the environment laid down in EIAs and ECs. Their technical expertise and a field-level approach thus strengthen the institutional framework that supports the EIA process for mining in India.

## Process of EIA in Mining Projects

Environmental Impact Assessment (EIA) in the context of mining runs through a stepwise, legally prescribed schema that is designed to foresee environmental damage and seek ways of minimizing such damage. Since mining entails large-scale land use alterations, deforestation, spread of pollution, and disruption of ecosystems, the EIA process is crucial in assessing the environmental feasibility of mining operations. The very purpose of EIA is to take environmental considerations into account during planning, design, and early stages of decision-making. In India, the procedural framework under which EIA in mining is conducted is defined under the "EIA Notification, 2006", promulgated under the powers of "Section 3 of the Environment (Protection) Act, 1986", and the said notification specifies the whole process from the detailed assessment through stakeholder consultations ending in

[9] Iftikhar Hussain Bhat, "From Reform to Controversy: A Critical Analysis of India's Environmental Impact Assessment (EIA) Framework", 9 *JSK* 67 (2019).

[10] Mining & Mineral Extraction Industries, *available at:* https://www.ppsthane.com/mining-mineral-extraction-industries (Visited on March 22, 2025).

the final appraisal by the regulatory authorities as designated. The steps constitute interdependent processes; hence, if any one of them is not performed with utmost transparency and rigor, it certainly compromises both integrity and efficacy of the clearance itself. The process is to ensure ecological integrity after balancing it with developmental concerns. This is more significant in the states where mining is on a large scale, such as Jharkhand, Odisha, Chhattisgarh, and Rajasthan, wherein unchecked resource extraction has led to great environmental degradation and public health concerns.[11]

## Stages of EIA

The Environmental Impact Assessment as per the "EIA Notification, 2006" is a four-stage process consisting of screening, scoping, public consultation, and appraisal, together potentially forming the entire review mechanism for a project. The screening stage is the first, and with regard to mining areas, generally fits into the Category B type. In other words, the project is scrutinized and decided upon whether it requires a full-fledged EIA on account of its size, nature, and possible impact. Those that drop below the threshold may be granted clearance without due consideration of a full report, whilst others may be sent for a complete assessment. The next step comes scoping, in which the EAC or SEAC lay down the detailed Terms of Reference (ToR). These determine the boundaries within which the EIA report should cover issues concerning environmental parameters such as air quality, biodiversity, water sources, community health, etc. Public consultation is the third stage and is the most controversial in the EIA process. It consists of two parts: a public hearing held at or near the project site, and a written submission process wherein local interested parties are allowed to file objections or suggestions. This is a very crucial stage for any mining project, especially one that impacts tribal and forest-dwelling communities. However, it has over time become fraught with procedural lacunae, unavailability of relevant information, and inadequate timelines. The last is the appraisal, where the EAC or SEAC examines the EIA report and the outcome of the public consultation and proceeds to give or refuse Environmental Clearance. The entire process is binding, and all stages are to be recorded and be accessible to the public for the sake of transparency.

## EIA Report Preparation

The Environmental Impact Assessment (EIA) report is the core document in the clearance process, and the accuracy and completeness of these documents can tilt the scale towards positive or negative regulatory decisions. It is required that accredited Environmental Impact Assessment consultants prepare this report with a multi-dimensional approach to the environmental footprint of the mining project. Thus, it contains baseline data concerning the prevailing land use pattern, air and water quality, biological biodiversity, geology, hydrology, and socio-economic baseline in the project area. The data thus acts as a baseline against which changes in the future can be measured. Included in the report would be detailed studies of the anticipated environmental impacts during construction, operation, and post-closure phases of a mine. The study may include soil erosion, water pollution, air emissions, noise levels, and possible displacement of communities among others. The EIA report should put forward mitigation measures that are both technically feasible and economically viable for every impact identified. Some of these measures may include pollution control systems, greenbelt development, water treatment facilities, and noise barriers. The most severe drawback pointed out in many mining EIA reports in India in the "IISD, 2019, Legal Framework of Environmental and Social Impact Assessment" is the lack of scientific rigour and site-specific detail. Sometimes reports are prepared based on generic data or copied from other unrelated projects, thus creating room for bad decision making. The absence of quality assurance mechanisms and the expediency pressures on clearances seriously affect the reliability of EIA documentation, especially with mining proposals where environmental risks are serious and stay long-term.[12]

## Environmental Management Plan

Environmental Management Plan (EMP) is an integral part of the Environmental Impact Assessment procedure and is required to be submitted as a separate section within the main report. Strategies and actions are provided for the mitigation, monitoring, and management of the remaining adverse environmental impacts identified in the assessment stage. As in all mining operations, the EMP must address some very important issues, including land reclamation, topsoil conservation, dust suppression, water resource management, environmental conservation, occupational health and safety for mine workers, and welfare of displaced communities. The EMP will also provide the approximate cost for the implementation of the proposed mitigation measures, while identifying the institutional setup responsible for carrying out the same. For instance, reclamation activities should be commenced along with mining activities and should never be delayed till the exhaustion of mineral lease. The plan must include a mine closure plan that addresses final land use, measures for re-vegetation, and post-mining monitoring arrangements. According to "IISD, 2019", EMPs play a critical role in moving environmental obligations from the realm of theory to actionable and monitorable commitments. However, many EMPs tend to be generic in nature, with indefinite timing for implementations and without adequate budget provisions for mine restoration compensation in real terms. Agencies such as MoEFCC and SPCBs must ascertain that EMPs are implemented, but lax follow-up and inadequate on-ground inspections have allowed project proponents to dilute or outrightly sidestep EMP conditions following grant of clearances.[13]

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[11] Environmental Impact Assessment and Environmental Management Plan, *available at:* https://megspcb.gov.in/public%20hearing/CEM%20Wah%20Pynkon%2013.58%20Ha.%20Lst%20EMP.pdf (Visited on April 9, 2025).

[12] Tarini Mehta, Abhiroop Chowdhury, "Role of mining in India's environmental future", *The Statesman*, September 30, 2020.

[13] Manan Sarupria, Sampatrao D. Manjare, et.al., "Environmental impact assessment studies for mining area in Goa, India, using the new approach", 191 *EMA* 116 (2018).

## Monitoring and Compliance

While India does maintain a strong statutory regime in support of its EIA process and corresponding institutional mechanisms at both the centre and state levels, its efficacy in regulating mining remains marred by certain systemic loopholes. The problem is not the absence of legal procedures, but those processes being subjected to poor implementation, selective enforcement, or diluted by executive actions. The very purpose of EIAs is to protect the environment from irreversible harm; thus, it defeats the purpose if public consultations are hurried or poorly executed, if compliance mechanisms remain under-monitored and patently inadequate, and if regulatory authorities operate without sufficient manpower and financial resources. The situation is even more volatile in the mining sector, which is affected by socio-political pressures, economic pull, and bureaucratic opacity. These challenges get further exacerbated in ecologically sensitive and tribally dominated territories where the due diligence process is bypassed under various forms of state patronage. These legal loopholes not only seriously thwart the spirit of laws such as the Environment (Protection) Act, 1986 and the Forest Conservation Act, 1980 but also go against India's commitments to environmental justice and sustainable development on the international status. Three major problem areas that continue to confront the EIA regime in mining, these discussed below, include inadequate public participation, weak enforcement, and policy-based exemptions or dilutions.

## Legal Loopholes and Challenges in EIAs

Witnessing that the Environmental Impact Assessment (EIA) in the Indian context sits on a sound legal framework and institutional mechanisms at the central and state levels, loopholes in the process render it only moderately effective in regulating mining. The problem arises not because of the absence of legal procedures but because of their compromised and selective execution, diluted further through executive actions. The very purpose of EIAs, which is to safeguard the environment from irreparable damage, gets undermined in instances where public consultation is hurried, mismanaged, compliance monitoring is lacking, or when the regulatory bodies themselves are crippled by a deficiency of manpower and resources. The situation becomes compounded in the mining sector characterized by numerous socio-political pressures, economic impulses, and opaque bureaucracy. This problem becomes increasingly severe where environmentally fragile and tribal areas exist, and mining companies, reportedly with state aid, circumvent due diligence. These legal blank spots thus further dilute the intent of legislation such as the Environment (Protection) Act, 1986, the Forest Conservation Act, 1980, and also stand in contradiction to India's international commitments regarding environmental justice and sustainable development. This section dwells upon an exploration of the three major problematic areas afflicting mining in the EIA regime: deficient public participation, weak enforcement, and policy-based exemptions, or dilutions.[14]

## Inadequate Public Participation

Public consultation is one of the fundamental pillars of the EIA system, intended to democratize decision-making by allowing affected communities to express their grievances and objections and to suggest changes before the project is being cleared by relevant authorities. This requirement stems from the principles of transparency, free and informed consent, and environmental justice. In India, this stage of consultation is compulsory for most mining projects and basically involves public hearings as also representations in writing. However, this procedural safeguard often fails on ground due to a number of lapses that systematically exclude the very communities that are affected by mining operations. In far-flung regions often inhabited by tribal populations, once the EIA documents are submitted at the regional, state, and central offices for inspection by the public, for a given period, the Environment Department or the Pollution Control Board hardly ever publicizes it properly in local languages. Information relating to the date of hearing is either kept away or disseminated only at the eleventh hour. Such procedural gaps snatch away an honest opportunity for participation. Furthermore, hearings are often held in distant administrative centers and not in villages affected by the project, depriving marginalized communities of easier access. Lack of trained facilitators, poor infrastructure, and the presence of law enforcement serve to further tarnish the neutrality and openness of such consultations. As documented by Human Rights Watch in its 2012 report "Out of Control: Mining, Regulatory Failure, and Human Rights in India", public hearings very often become a formality with local opinions being ignored or suppressed. Besides, several EIA reports are drafted in a technical jargon that local residents cannot understand, rendering their participation symbolic and not in a meaningful manner. This, therefore, directly contravenes the constitutional guarantee of participatory governance and the statutory requirements enshrined in the "EIA Notification, 2006". By not incorporating the lived realities and genuine objections of affected communities, the EIA process serves to erode public confidence while, simultaneously, using the cover of procedural compliance to push through projects detrimental to the environment.[15]

## Weak Enforcement

At times, even in incidents where EIA has been properly conducted and EC is granted with stringent conditions for mitigation and monitoring, the least supervised link in the regulatory chain has been on actually enforcing those permit conditions. The legal framework requires project proponents to submit compliance reports every six months and enables regulatory authorities at the central and state levels to conduct field inspections. In theory, penalties can be imposed for violations and, under Section 5 of the Environment (Protection) Act, 1986, even the clearances can be revoked. In reality, enforcement is

[14] S. Gerassis, E. Giráldez, et.al., "AI Approaches to Environmental Impact Assessments (EIAs) in the Mining and Metals Sector Using AutoML and Bayesian Modeling", 11 *AS* 93 (2021).

[15] Md Toufique Kalim, Kumar Nikhil, et.al., "Environmental Impact Assessment (EIA) Study of Coal Mines: A Critical Review", 2 *IJETR* 134 (2014).

irregular, with outdated laws, insufficient personnel in the political arena, and often considered an issue of economic interest. MoEFCC and SPCBs have long been short-staffed and lacked the much-needed field-level presence for close monitoring of active mining sites. The EMPs, commitments which are binding at the time of clearance, are rarely implemented in full. The Pharmaceutical measures include land reclamation, dust suppression, groundwater protection, and compensatory afforestation are poorly implemented or completely disregarded. Many mining companies, especially those operating in remote strife-torn areas, continue with their operations without submitting compliance reports or instead submitting documents containing quite unverifiable claims. The absence of a public-access centralized database that tracks compliance further widens this regulatory gap. According to a 2012 report by Human Rights Watch, companies have been able to violate norms with impunity due to implementation mechanisms lacking accountability and with adverse institutional response. Rare fines or suspensions to operations happen too late, at least after the damage to the environment and thereby the livelihood of communities around from which they are meant to benefit, becomes irreversible. This disconnect, between legal expectations and realities on the ground, has effectively eroded the deterrence value of the EIA regime and promoted a culture of impunity in the mining industry.[16]

## Exemptions and Dilutions

Specific instances of environmental governance failure in India's mining sector offer good insight into the real-world limitations of the Environmental Impact Assessment (EIA) regime. Case studies serve as empirical anchoring points for legal analysis, showing the operational weaknesses that are often not caught by abstract legal provisions. They demonstrate that sometimes statutes under the "Environment (Protection) Act, 1986", "Forest Conservation Act, 1980", and the "Mines and Minerals (Development and Regulation) Act, 1957" might be sub-optimally implemented or not even implemented at all. These failures are not peculiarities in law, but systemic breakages that highlight structural inadequacies in institutional supervision, inter-agency nexus, and public accountability. Illegal coal mining of Meghalaya and unregulated coal extraction in Jharkhand are just some examples that illustrate the nature of the regulatory lacunae still found within the EIA system. These case studies show how the legal promise of sustainable development meets its doom amidst political apathy, administrative lethargy, and economic expediency.

## Case Studies

Studying such various cases of environmental governance failure in the mining sector of India plants a seed for thinking about the practical difficulties within the EIA system. The case study acts as an empirical foundation for legal analysis and caters to the operational weaknesses that abstract provisions of the law never seem to. They portray how statutory requirements under various legislation such as the "Environment (Protection) Act, 1986", "Forest Conservation Act, 1980", and the "Mines and Minerals (Development and Regulation) Act, 1957" are sometimes poorly implemented or ignored altogether. The failures might simply be called anomalies, yet by being so systemic, they suggest inadequacies within the structure of institutional oversight, interagency coordination, and public accountability. Systematic study of cases of illegal coal mining in Meghalaya and uncontrolled capture of coal and other mineral species in Jharkhand deepens this understanding of regulatory gaps that still plague the EIA system. The case studies also illustrate how, on many occasions, the promise in durative development offered by law is broken by the stiff political will, blistering administrative inertia, and the ruthless logic of economics.[17]

### *Illegal Mining in Meghalaya (2019)*

The illegal coal mining crisis in Meghalaya caused a highly visible extinction of EIA enforcement and revealed an institutional failure in upholding environmental law. In 2019, the National Green Tribunal (NGT) slapped a penalty of ₹100 crore on the Government of Meghalaya for failure to prevent illegal coal mining activities that had continued for years in blatant contravention of EIA regulations. According to "The Hindu, 2019, Illegal Mining: NGT Slaps ₹100 Crore Fine on Meghalaya", the penalty was imposed not only as a punishment but also as a recognition of the degree of environmental damage caused due to unregulated mining activities in the state. The issue related to the widespread practice of rat-hole mining, a banned evil that wreaked havoc on the environment but was allowed to continue due to inaction on the part of regulators. The EIA Notification, 2006 prescribes that all mining operations, including those of coal, require prior Environmental Clearance (EC), with the submission of baseline environmental data, public hearing, and preparation of an Environmental Management Plan (EMP). None of these procedures were adopted in the case of Meghalaya's illegal mines. Not having an EC was almost being a free license to pollute, cause havoc by contaminating water, cutting down trees, and destroying underground aquifers. The State Pollution Control Board was apparently so overwhelmed or hopelessly negligent that it failed to monitor or inspect properly. In spite of possessing the power to intervene and stop any such activity deemed dangerous to the environment by virtue of "Section 3 of the Environment (Protection) Act, 1986", the MoEFCC was overwhelmed by inertia and non-intervention. The local administration, in any case, did not have resources or interest to enforce the conditions of EIA, and illegal mining blossomed under their nose. The case effectively demonstrated that an EIA framework, while legally correct, becomes meaningless every time an institution at any level chooses to disregard its statutory duties. More importantly, this case also brought out how often political economy takes precedence over environmental regulation, particularly in resource-rich yet governance-poor states.[18]

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[16] Taşkın Deniz Yıldız, "The impacts of EIA procedure on the mining sector in the permit process of mining operating activities & Turkey analysis", 67 *RP* 142 (2020).

[17] Sangeeta Vasudeo Rashivdekar, G. S. Kulkarni, et.al., "Environmental Impact Assessment of Iron Ore Mine in GOA", 4 *IJSR* 121 (2015).

[18] Sneha Thapliyal, Meenakshi Kapoor, et.al., "The Road Ahead for Environmental Impact Assessment in India: Insights from Expansion in Coal Mining", 12 *NLSA* 73 (2022).

***Coal Mining in Jharkhand***

In the last few decades, India has witnessed a sea change in the EIA framework, especially in the mining sector. The expert narrative, however, does not really pin the reform movement on any specific single actor, instead presenting it as a coalition of forces-steering policy shifts from above, judicial scrutiny from below, with civil society agitation in between. Such interventions illustrate the increasing awareness of the complex nexus between economic development and environmental protection. The mining sector is naturally considered the cauldron for environmental jurisprudence due to its resource-intensive and ecologically contentious nature. While the long-term impact on land, water, air, and biodiversity is simply the common English of the land, the changes in the EIA process or its regulatory framework characteristically alter the governance of the mining sector. After 2009, public demand for environmental security grew stronger and more vigorous, such that some legal reforms even went toward weakening environmental safeguards in the interest of administrative expediency. Concomitantly, Indian courts and the National Green Tribunal have emerged as key actors in the process of refining and implementing the norms governing environmental assessments. This part of the paper looks at aspects of the recent policy-level quest for reforms, mainly the amendments to the "EIA Notification, 2006", as well as some key judicial pronouncements and the institutional role of the NGT that have contributed towards fashioning the path of EIAs in the mining context.

## Conclusion

India being a rapidly growing economy, the environmental sustainability concerns arising out of mining have necessitated the conduct of EIA and necessity of mining permissions. Mining activities bring about a wide array of irreversible impacts: loss of biodiversity, groundwater pollution, land degradation, displacement of community livelihoods, and so on. These are primary mechanisms within the EIA framework that are supposed to assess such impacts and set forth conditions to address or mitigate them prior to project commencement. Whereas in theory, the EIA process is envisaged to be an all-encompassing, participatory, and precautionary approach to environmental governance, grounded in "Section 3 of the Environment (Protection) Act, 1986" and further operationalized by the "EIA Notification, 2006", the effectiveness has always been hampered by several issues largely arising out of institutional inertia, selective enforcement, and expediency, among others. In furtherance of this, the intent and integrity of the framework have in a particular sense been diluted through legal loopholes, procedural dilutions, and lack of public engagement, especially in mineral-rich states where extractive activities are interwoven with ecological vulnerability and social inequity.

While the statutory regime has been set up, and numerous regulating bodies exist-the MoEFCC, SPCBs, and DGMS, in particular-there remains the problem of compliance and monitoring. The EMP and six-monthly reporting are required after clearance, but since there is rarely any field-level verification and even more rarely any penalties imposed on violators, these have become mere instructions. The use of generic EIA reports, inadequate baseline data, and limited technical capacity further limit the scientific validity of environmental assessments. Public consultation, while mandated under the "EIA Notification, 2006", is often shallow and excludes the very marginalised groups that are most affected by mining activities. These failures in participation not only exclude local communities from decision-making processes but also contravene constitutional doctrines of equality and informed choice, undermining the democratic foundation upon which an EIA is framed.

Recent developments such as the 2020 EIA Notification and a series of amendments post 2009 do give rise to concerns as to the direction environmental governance is taking in India. The reforms, by attempting to extend clearance validity, legitimize post-facto approvals, and diminish the scope for public scrutiny, appeared to favor brevity in procedure over ecological caution. Though some provisions were amended against public outcry, on the whole, the current trajectory reveals an intent to adopt a deregulated model that could dilute existing environmental safeguards. Simultaneously, judicial interventions, especially those of the Supreme Court and the National Green Tribunal (NGT), have provided corrective emphasis regarding the constitutional and statutory role of EIAs in protecting the environment. These judicial pronouncements have firmly established said assessments as activities that must be carried out, reinforced procedural requirements, and put in place sanctions where institutions have failed. To convince the State for long-term structural reform, however, remains the biggest limitation of the judiciary in the absence of change in the administrative culture and allocations.

## Suggestions

Building on the analysis of the role of Environmental Impact Assessments in India's mining sector, the following targeted suggestions are proposed to strengthen the regulatory framework and ensure environmental sustainability:

**Refences**

1. Mandate Third-Party Verification of Eia Reports for Mining Projects to Eliminate the Misuse of Generic Data and Increase Scientific Accuracy. Independent Environmental Consultants Should Be Selected Through Transparent Bidding and Monitored for Adherence to Site-Specific Reporting Requirements.
2. Translate All Eia Summaries, Public Notices, and Hearing Documents Into Local Languages Spoken in Mining-Affected Regions. This Ensures That Tribal and Rural Communities Can Meaningfully Participate in Public Consultations Without Language Barriers.
3. Prohibit Project Fragmentation by Strictly Enforcing Contiguous Land Thresholds and Penalizing Intentional Subdivision of Large Mining Leases. Regulatory Bodies Should Use Satellite Imagery and GIS Tools to Detect and Prevent Evasion of Category a Scrutiny.

4. Digitize and Publicly Archive All Environmental Clearance and Compliance Data for Mining Operations, with Real-Time Updates and Audit Trails. This Will Enhance Transparency and Allow Civil Society to Participate in Watchdog Functions.
5. Strengthen the Post-Clearance Monitoring Framework by Requiring Quarterly Site Inspections by SPCBs and MoEFCC Regional Offices, Particularly for High-Impact Category a Projects. Reports from These Inspections Must Be Published and Subject to Public Review.
6. Introduce Legal Provisions for Revoking Environmental Clearances Based on Persistent Non-Compliance with Environmental Management Plans (Emps). a Warning System Followed by a Fixed Review Period Can Ensure Corrective Action Before Escalated Penalties.
7. Establish a Dedicated Eia Ombudsman or Independent Redressal Authority to Handle Grievances Related to Flawed Assessments or Rigged Public Hearings. This Body Should Have the Power to Order Re-Hearings and Recommend Sanctions.
8. Integrate Cumulative Impact Assessments (CIAS) Into the Eia Process in Regions with Multiple Ongoing or Proposed Mining Projects. CIAS Should Analyze Overlapping Environmental and Social Burdens to Inform Strategic Decisions.
9. Cap the Validity of Environmental Clearances for Mining at 20 Years with Mandatory Mid-Term Reviews to Reassess Ecological Changes and Enforce Updated Mitigation Measures. Projects Failing the Review Should Face Suspension or Re-Appraisal.
10. Reform the Accreditation Process for Eia Consultants to Include Periodic Performance Audits and Disqualification for Repeated Violations or Conflicts of Interest. Accreditation Bodies Should Maintain a Public Record of Consultants’track Records in Mining Assessments.