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Research Article

Illegal Mining as Environmental Crime in India: A Green Criminological Perspective

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Abstract

Illegal mining has a detrimental effect on environment; it also effected not only the humans but non-humans too. As illegal mining is the causes of deforestation and biodiversity loss. It also results in the forced relocation of tribal communities. In the year of 2026, 409 cases relating to illegal mining were registered before the National Green Tribunal. Though we have laws which regulates mining in India since independence such as Mines and Minerals (Development and Regulation) Act, 1957, Mines and Minerals (Development and Regulation) Act, 2015, Wildlife Protection Act, 1972 & Forest Conservation Act, 1980. Mining includes the extraction of minerals, metals, and other natural resources from the earth. Mining is an exploitative developmental activity in which ecological balance is often sacrificed for monetary interest. In India illegal mining transformed into a complex form of organized crime involving corruption, ecological destruction, and institutional inefficiency. Illegal mining is considered a form of green crime because it results in severe ecological destruction. In India illegal mining is often related with corruption, exploitation of labour, organized criminal networks. In this paper the author seeks to examine the major reasons behind illegal mining and the legal & administrative loopholes that enable such activities to continue. This papers also highlight the socio-economic consequences emerging from these loopholes particularly their effects on environmental sustainability.

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1. INTRODUCTION

Mining is the process of extracting valuable metals, minerals etc from the earth and this mining become illegal when the mining process is undertaken without state permission. Mining of valuable minerals from earth provides economic benefits to the society but in return its harm the environment and also causes environmental degradation. The legal-illegal nexus within the market facilitates the illicit trade and laundering of flora and fauna, while certain environmental related offences intersect with other forms of transnational criminal activity, including arms smuggling, human trafficking, and narcotics trafficking. These offences are further linked to exploitative labour practices, including forced labour, and pose substantial threat to the health, safety, and welfare of workers. This paper explores the complex connection between criminal networks, and governance shortcomings and environmental degradation. Additionally, it examines the judicial reactions to the issue of illegal mining and green criminology and makes policy suggestions to improve environmental governance.

2. OBJECTIVE OF THE STUDY

1. To evaluate illegal mining as an environmental crime in the context of Green Criminology.
2. To find out the main causes that contributing to the growth of illegal mining.
3. To analyse the environmental consequences of illegal mining such as land degradation, deforestation, loss of biodiversity, pollution.
4. To identify major causes of regulatory loopholes and weak enforcement mechanisms.
5. To evaluate the effectiveness of the existing legal framework governing mining and environmental protection in India.
6. To explore the role of the judiciary and environmental tribunals in resolving illegal mining and ensuring environmental justice.

3. METHODOLOGY

The study based on doctrinal research methodology. It is primarily based on secondary sources of data, including journal articles, books, government reports, statutory provisions and judicial decisions relating to mining regulation, environmental crime and environmental protection in India. The study further draws upon the theoretical insights of green criminology to understand illegal mining

4. FINDINGS

The research finds that illegal mining in India has emerged from a basic regulatory violation into a significant environmental crime with serious ecological, social, and economic significance. From a green criminological context, illegal mining causes harm to both human and non-human communities through deforestation, soil degradation, biodiversity loss, water pollution and ecosystem disruption. According to this study mineral-rich states persists to report a high number of illegal mining cases even with the existence of comprehensive legal frameworks. The study also finds that illegal mining leads to socio- economic harms,

CRIMINOLOGY AND ENVIRONMENT:

Environmental crimes occur in numerous ways. One major category is mineral -related offences. This type of crime includes a diverse set of operations extends across the supply chain, for example illegal mining and unlawful trade in metals and minerals, along with related concerns such as corruption and money laundering. (United Nations Office on Drugs and Crime, 2025) Illegal mining in India has shifted from a regulatory deficiency to a well-organised environmental crime controlled by criminal organisations, popularly known as mafia. (Ghosalkar & Chaudhury, 2026) Green criminology contends that these ecological harms constitute crimes not only when mining regulations are breached, but also they represent systematic harms arising from the structural decisions of powerful actors to externalise environmental and social costs onto ecosystem and vulnerable communities. In 20th and 21st centuries an important threat to biodiversity consists of criminal and harmful activities against the environment. A green criminological perspective considers environmental offences through a broader concept of harm that includes negative impact on both human and non-human victims. Flora and fauna crime groups are not uniform in nature; rather they consist of organised criminal networks, corporate offenders, and unstructured criminal groups. (van Uhm, Daan, 2024)

ILLEGAL MINING IN INDIA:

India is a federal union consisting of 28 states and 8 union territories, making a total of 36 subnational units. These states and union territories are further divided into nearly 800 districts. So here in India numerous mining related scams and instances of illegal extraction have been reported, particularly in mineral-rich states. However, there is no single official database that precise exact number of mining scam cases nationwide. One data from government shows state -wise number of cases of illegal mining in the year 2022-23. And according to this data Telangana reported the highest number of illegal mining cases and the number is 17938 cases, which is indicating a significant prevalence of illegal mining activities in the state. It also collected a substantial number of fines Rs. 7,221.83 lakh. Rajasthan recorded 7,645 illegal mining cases, the second- highest among the states. This state realized the highest fine amount of Rs. 8,147.56 lakh. It registered 856 FIRs and seized 5,511 vehicles. Gujrat detected 4,886 illegal mining cases, lodged 28 FIRs, filed 13 court cases, seized 3,551 vehicles, and recovered Rs. 7,656.69 lakh in fines. Tamil Nadu

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reported 4,495 cases but no FIRs, court cases, or vehicles are seized but the state collected Rs. 743.12 lakh in fines. Andhra Pradesh recorded 4,296 cases and realized Rs. 7,312.55 lakh through penalties and 232 vehicles are seized. Madhya Pradesh reported 3,901 cases and the number of court cases are 1,584 which is maximum. Also, this state collected the highest fine amount of Rs. 27,343.25 lakh. Kerala recorded 3,671 cases and recovered Rs. 6,840.16 lakh in fines. 3,607 cases reported in Maharashtra, 190 FIRs lodged, 483 vehicles are seized, and collected Rs.4,323.98 lakh in fines. Karnataka recorded 2,960 illegal mining cases with 384 FIRs and 150 court cases. 340 vehicle seizures, generating Rs.1,546.18 lakh in fines. Jammu and Kashmir reported 2,667 cases, with 235 FIRs, 8 court cases, and 2,828 vehicles seized, with Rs.620.01 lakh fines. Himachal Pradesh recorded 1,934 illegal mining cases and 189 court cases, but only 3 vehicles were seized, with fine amounting to Rs. 50.08 lakh. Apart from these states there are other states namely Jharkhand, Uttar Pradesh, Sikkim, Odisha reported comparatively lower levels of illegal mining activities, recording 1626, 757, 28, and 7 cases respectively, with different levels of enforcement actions and fine recovery. (Government of India, 2026) The data indicate both the incidence of illegal mining and the enforcement measures taken to curb it among the states. Madhya Pradesh recovered the largest amount in penalties. While Rajasthan and Gujarat reported the highest number of vehicle seizures, which reflecting robust enforcement initiatives. These findings suggest that illegal mining continues to pose a serious environmental and administrative challenge across several Indian states. These problems requiring stricter monitoring, effective law enforcement.

ENVIRONMENTAL IMPACT:

In this world where the majority of goods are not effectively recycled or recovered for reuse, mining continues to be indispensable in supplying the materials required for economic expansion and enhance living standard. Mining may increase our economic activity, provide jobs but mining process also harm our environmental biodiversity and causing water and air pollution. There are various forms of mining and Surface mine is one of them. Though surface Mining is cost effective and it allows the extraction of large amounts of minerals and raw materials quickly without harming the workers but it creates disturbance of land surfaces and ecological balance. Surface Mining generates large quantities of waste and release pollutants into air and water, which posing risk to human health and aquatic ecosystem. Even surface mining contributes to carbon emission through transportation and energy consumption. The extraction industry is responsible for nearly 4-7% of greenhouse gas emissions worldwide. (Oxfam Australia, 2025) Another important factor relates to the quantity of greenhouse gases emitted per unit mass of extracted material, as some lower-grade mineral deposits require proportionally greater energy consumption. As example, extracting one kilogram of diamond mining releases around 800,000 kg CO_2e compared to one kilogram of a highly abundant mineral such as iron, which releases only 2 kg CO_2e. (Witchalls, 2022) There is also Sand Mining, and after water sand is the second most exploited natural resource in the world. As reported by the United Nations Environment Programme (UNEP) Sand extraction has increased threefold over the last two decades, with consumption rising to 50 billion tonnes annually in 2019. (Whiting & North, 2023) Sand mining refers to the extraction of sand primarily through open-pit excavation, although it is obtained from beaches and inland dunes or extracted by dredging from ocean floors and riverbeds. (Wikipedia contributors, n.d.) The main problem relating this mining is the extraction, sourcing, use and management of sand is ungoverned in many parts of the world and we are depleting it faster than it can be replaced by geological processes. UNEP report says sand mining from marine and rivers ecosystems can loss of protection against storm surges and impact on biodiversity, can lead to erosion which threatens livelihoods through impacts on water availability, agricultural output, fisheries and the tourism industry. (United Nations Environment Programme, 2022) Sand mining is an ecological concern in India. Illegal sand mining impacting biodiversity also the river ecosystems. According to the Geological Survey of India (Vajiram Content Team, 2026) Over extraction of sand affects river morphology, disturbs natural flow of river also disturbing aquatic reproduction and ecological balance. Irregular mining practice causes riverbank deterioration and loss of agriculture land also deep pits formed through sand extraction decrease groundwater levels, reducing drinking water availability and causing water scarcity in surrounding communities.

SOCIO-LEGAL CONSEQUENCES:

Illegal mining rather unregulated mines driving devastating socio- environmental degradation. It is a severe problem that has several negative consequences for both the environment and society. Consequences of Illegal Mining:

Mining creates displacement conflicts; it's related to relocation and creates disputes as people oppose eviction from their ancestral lands.

Illegal sand mining disturbs the natural flow of rivers and destroyed aquatic habitats and undermining fish breeding and environmental sustainability, unregulated mining causes riverbank erosion, it's leading to loss of agricultural land and for that fisherman and farmers loss livelihood also a substantial reduction in government earnings due to tax evasion practices.

Sand mining also causes child labour due to extreme poverty. Children do work to support their families and for that their educational opportunities diminish as they leave their school because of financial crisis. Illegal mining poses the greatest threat in politically volatile and economically deprived regions, where organised crime syndicates, armed groups, and

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corporations are involved in ecologically damaging mining practices.

CONSTITUTIONAL AND LEGAL FRAMEWORK:

Indian constitution encompasses specific provisions concerning to environmental protection. Our Constitution imposes an obligation on the "State" under Article 48 A, also on the "Citizens" under article 51 A (g) to protect and improve the environment. Through the judicial interpretation, the right to a healthy environment has been acknowledged as a fundamental element of human rights and is now regarded as an integral part of the right to life under Article 21 of the Constitution. Article 32 and 226 of the Indian Constitution strengthens the Supreme Court and the High Courts to issue directions, orders on writs. Under the five writs mandamus, certiorari and prohibition are generally applied in environmental matters. In India, a majority of environmental disputes have been addressed through Public Interest Litigation (PIL). India has laws which are regulated mining from the 19th century. India's first Mine Act was passed in 1901 after that the Act has been re-acted in 1923, 1928 and 1935. But these Mine Act was not that much effective all over the India until Mines Act of 1952 has come into force. (Arora, 2022) There has been other more legislations relating to Mining in India, these are "Mines and Minerals (Development and Regulations) Act, 1957" and "Auction by Competitive Bidding of Coal Mines Rules, 2012". There is also "The Forest (Conservation) Act, 1980, then there is The Environment (Protection) Act, 1986 and this Act is for environmental impact assessment (EIA). Mining activities are subject to strict environmental monitoring. (Legal Partners and Associates, n.d.) These comprehensive forest and wildlife legislations designed to safeguard biodiversity, along with regulations controlling mine closure and restoration. Section 2(j) of Mines Act, 1952 defines 'mine' as any excavation where operations for the prospecting, extraction of minerals are undertaken. The word "mining" originated from the old French word miner and mine which means to extract minerals from the earth. Illegal mining related rules majorly introduced under Mines and Minerals (Development and Regulation) act, 2015. Under section 21(1) & (2) of MMDR Act the punishments are mentioned. The penalties have been increased from Rs. 25 thousand per hectares to Rs. 5 Lakh per hectares and term of imprisonment has been also increased from 2 years to 5 years. (Ministry of Mines, 2023) Under Rule 2 (1)(c) of the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 Illegal Mining is defined. There is also Mineral Concession Rules, 1960 which prescribe the processes and conditions for acquiring a prospecting license and mining lease. These rules also provide a 'mining plan' and this plan shall include a plan of the area indicating water resources, area limits of forest, effects of mining on forest, impact of mining activities on forests, and the ecosystem, including air and water contamination. Here also we have Mineral Conservation and Development Rules, 1988, this rule gives us some directions for maintaining scientifically regulated mining operations while safeguarding the environment concurrently. (Centre for Environment, 2012)

ROLE OF JUDICIARY:

Illegal mining or illegal extraction of minerals has become a major concern in today's world. Forests, ponds, mountain etc. are natural resources and these need to be protected for a healthy environment. Illegal mining can cause deforestation, deterioration of ozone layer, soil pollution, air pollution, water pollution and all of these cause dangerous diseases. Judiciary may be viewed as the most dedicated defender of democratic principles. And the practice of mining is closely related to forestry and ecological concerns. The role of judiciary is not only to interpret laws but also, it has shown Judicial activism through the adjudication of Public Interest Litigation. Supreme Court as the apex court of India and the High Court's promoting sustainable development to protect the environment and have delivered many important judgements:

In R.L. & E. Kendra Dehradun v. State of U.P., (Rural Litigation and Entitlement Kendra v State of Uttar Pradesh, 1987) which popularly known as the Dehradun Quarrying case, the Supreme Court examined the environmental consequences of unregulated limestone mining in the Mussoorie Hills and Doon Valley. The Court noted that reckless quarrying had led to deforestation, soil degradation and ecological degradation. The Court also recognizes the importance of mineral resources for economic development but it also emphasized the natural resources must be utilized responsibly and does not cause irreversible damage to the environment.

The Court further observed that natural resources are valuable assets of society and should be managed through sustainable and long-term planning. It also held that mining operations should be allowed only to the extent necessary for economic and societal interest and must adhere to environmental safeguards.

In State of Assam v. Om Prakash Mohta (State of Assam v. Om Prakash Mohta, 1973), the Supreme Court held that the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act) and the Mineral Concession Rules, 1960 cover a comprehensive legal framework governing the confers renewal of mining leases and prospecting licences on both public and private lands.

Similarly, in Quarry Owners' Association v. State of Bihar (Quarry Owners Association v. State of Bihar, 2000) The Court observed that both the Central and State Governments possess delegated powers under the MMDR Act and must perform their functions within the scope prescribed by parliament.

The judiciary through its intervention in M.C. Mehta v. Union of India (M.C. Mehta v. Union of India, 2006) also strengthened environmental safeguards. And further following this decision, the Environmental Impact Assessment framework was amended on 28 October 2004, requiring mining projects

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exceeding 5 hectares to obtain environmental clearance before renewal or continuation of operations.

A significant policy reform occurred with the amendment to the MMDR Act, 2015, which came into force on 12 February 2015. Guided by judicial pronouncements, the revised legislation implemented an auction-based system for the allocation of mineral concessions, substituting discretionary methods of allocation.

Apart from these judicial decisions the National Green Tribunal has played a significant role in addressing illegal and environmentally harmful mining practices across India. The NGT through various decisions emphasized environmental clearance, ecological conservation, and strict regulatory oversight. National Green Tribunal Bar Association v. Ministry of Environment & Forests (2013)

CHALLENGES IN REGULATION

India's mining sector has changed from a basic regulatory system to a sophisticated legal framework. Some rich mineral reserves play a vital role in the country's economy. From Independence excessive mineral extraction led to the enactment of the Mines and Minerals (Development and Regulation) Act, 1957, which regulates mining activities and the grant of mineral concessions. Over time, the Act has been revised to respond to emerging challenges in the sector.

The constitutional provisions for mining regulation are mentioned in Entry 54 of the Union List which is in Seventh Schedule, it empowers parliament to regulate mines and mineral development in the public interest. This provision gives the Union Government substantial authority over mining governance and promotes uniform national policies.

Further Court decisions have reinforced parliament's dominance in mining regulation. In State of Orissa v. M.A. Tulloch & Co., the Supreme Court held that central legislation persists over conflicting state laws. Similarly, in Hingir-Rampur Coal Co. Ltd v. State of Orissa the court recognised mineral development as a matter of national economic importance, justifying central oversight.

Irrespective of this framework, mining governance faces several challenges such as ecological imbalance, environmental degradation, displacement of tribal communities, Regulatory lapses, procedural delays.

5. LIMITATIONS

The nature of this study is primarily doctrinal and based on secondary sources, journal articles, judicial decisions, government reports, and statutes. This research does not include field surveys or does not collected data directly from mining region, and affected communities. Also, due to the absence of an extensive national database on illegal mining, to provide statistics for all states was challenging.

SUGGESTIONS AND REFORMS:

Here the author discussed such reforms that should prioritize environmental justice, ecological sustainability, and stronger accountability mechanisms. In this context, the following recommendations are proposed to enhance the effectiveness of regulatory institutions and promote sustainable management of natural resources while reducing the incidence of illegal mining in India.

1. The government should strengthen monitoring and enforcement mechanisms for surveillance of mining activities through GIS mapping, satellite imagery, and tracking systems to detect illegal extraction and transportation of minerals.
2. There must be made stringent penalties for illegal mining to create an effective deterrent.
3. Effective coordination among environmental authorities, police agencies, and local administrations is essential for combating organized illegal mining networks.
4. Environmental impact assessments should be conducted rigorously and independently.
5. Environmental harm should recognize environmental harm as a form of crime against ecosystem, biodiversity.

6. CONCLUSION

Illegal mining has arisen as one of the most significant environmental crimes in India, causing substantial ecological degradation and socio- economic harm. Viewed through the paradigm of green criminology, the issue exceeds violations of mining laws and represents a wider form of environmental injustice having a negative ecosystem, and our future generations.

Although India has a comprehensive legal framework governing mining and environmental protection. The continuing existence of illegal mining reflects weak enforcement, monitoring mechanisms, and regulatory compliance. Corruption, administrative deficiencies, and the involvement of organised crime syndicates further impair the implementation and effectiveness of current legislation.

REFERENCES

1. United Nations Office on Drugs and Crime. Crimes that affect the environment. United Nations; 2025. Available from: https://www.unodc.org/unodc/en/data-and-analysis/forest-and-minerals-crime.html
2. Ghosalkar ACP, Chaudhary LMS. Illegal sand mining in India: a study of green crime and organized criminal networks. Int J Multidiscip Res. 2016;8(2): Article 74630.
3. Van Uhm D. Green criminology and biodiversity loss: crimes and harms against flora and fauna. In: Oxford Research Encyclopedia of Criminology and Criminal Justice. Oxford University Press; 2024. Available from: https://research-portal.uu.nl/ws/files/260825641/2024_DP_van_Uhm_-_Green_Criminology_and_Biodiversity_Loss.pdf

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4. Government of India. Open Government Data (OGD) Platform India. Data.gov.in; 2026. Available from: https://www.data.gov.in/
5. Oxfam Australia. Resource wealth, poverty, and environmental impact in mining. 2025 Jul 1. Available from: https://www.oxfam.org.au/blog/resource-wealth-poverty-and-environmental-impact-in-mining/
6. Witchalls S. The environmental problems caused by mining. Earth.Org; 2022 Apr 3. Available from: https://earth.org/environmental-problems-caused-by-mining/
7. Whiting K, North M. Sand mining is close to being an environmental crisis. Here's why—and what can be done about it. World Economic Forum; 2023 Sep 21. Available from: https://www.weforum.org/stories/2023/09/global-sand-mining-demand-impacting-environment/
8. Wikipedia contributors. Sand mining [Internet]. Wikipedia. Available from: https://en.wikipedia.org/wiki/Sand_mining
9. United Nations Environment Programme. Our use of sand brings us "up against the wall", says UNEP report. 2022 Apr 26. Available from: https://www.unep.org/zh-hans/node/31708
10. Vajiram Content Team. Illegal sand mining: reason, legal framework, cases in India. Vajiram & Ravi Institute for IAS Examination; 2026 Apr 18. Available from: https://vajiramandravi.com/current-affairs/illegal-sand-mining/
11. Arora S. An analytical study of laws relating to illegal mining with special reference to effect on health and environment in Rajasthan. Bhopal: Bhopal Nobles University; 2022. Available from: https://shodhganga.inflibnet.ac.in/handle/10603/618371
12. Legal Partners and Associates. Laws regulating mining [Internet]. Available from: https://www.ourlegalpartners.com/laws-regulating-mining
13. Ministry of Mines, Government of India. Note on illegal mining. 2023. Available from: https://mines.gov.in/admin/storage/app/uploads/64355379aee481681216377.pdf
14. Centre for Science and Environment. Mining in India: CSE media briefing. New Delhi: Centre for Science and Environment; 2012.
15. Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh. AIR 1987 SC 359.
16. State of Assam v. Om Prakash Mohta. AIR 1973 SC 678.
17. The Quarry Owners Association v. State of Bihar. (2000) 8 SCC 655.
18. M.C. Mehta v. Union of India. (2004) 12 SCC 118.

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