

# Executive Summary



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### ***About the Report***

Jharkhand is endowed with abundant mineral resources but there has been a declining trend in revenue contributions from the mineral sector to the State. Issues relating to irregularities in grant of mineral concessions, unscientific and unsustainable mining practices by lease holders *etc.*, have prominently featured in both print and electronic media.

Therefore, there was a need to assess the State Government's efficacy in enforcing provisions of applicable Acts and Rules framed thereunder by the Central and the State Government to tackle such lapses. Further, considering the significant impact of mining activities on the revenues and development of the State, a Performance Audit on the Management of Minor Minerals in Jharkhand (2017-22), was conducted during November 2022 to October 2023.

The objectives of the Performance Audit were to assess whether appropriate systems were being adopted to facilitate sustainable and scientific mining, mining leases/licenses were granted, renewed or cancelled in accordance with the applicable provisions; management of mines and minor minerals in the State was adequate and effective *etc.*

As part of the Performance Audit, six district mining offices were selected for detailed examination, besides audit of the Jharkhand State Mineral Development Corporation Limited (JSMDCL). This Performance Audit aimed to identify areas that require corrections and improvement in the management of minor minerals in the State.

### ***Main Audit Conclusions***

Significant audit observations that emerged with regard to management of minor minerals are as follows:

#### **Grant and management of leases**

- The Department could not institute a check and balance mechanism to ensure that the Deputy Commissioners (DCs) do not grant leases for the mining area beyond their authority. Mining lease over an area of three Ha. and above was required to be put to e-auction. However, in one case, DC, Sahibganj granted the mining lease (4.74 Ha. on *raiyyati* land) over the area beyond his authority. In another case, DMO, Sahibganj not only entertained the application for mining lease over an area of 3.136 Ha. but also issued LoI by arbitrarily reducing the area to 2.833 Ha. without any request from the applicant for reduction of the lease area.
- In DMOs, Chatra and Palamu, eight leases of stone were granted based on the reports of Circle Officer wherein nature of land was described as

*Gair-Mazarua Parti Kadim, patthar pahar, tand-II, purani parati and dhanhar-II*. Audit observed that these leases were granted on the land which were *Jungle Jhar*, as per revenue records and fell under the category of forest land under the provisions of the Forest Conservation Act, 1980.

- The Department had no system in place to identify defaulters during grant of new leases and to detect nature of land use, resulting in grant of mining leases on forest land. These cases eventually resulted in irregular grant or renewal or extension of mining leases in the State.
- Further, though the lessees had discontinued mining operations over a mineralised area of 276.99 acre in two test-checked districts for a continuous period of more than one year during 2017-23, these leases were neither declared lapsed nor cancelled. As a result, these inoperative leases remained idle, leading to blockage of State revenue and affecting mineral development.

**(Paragraphs 2.1.1, 2.1.2, 2.2.1, 2.2.3 and 2.3)**

### **Delay in auction process**

- Progress of auction of mineral blocks was very slow with only 3.77 *per cent* (11 out of 292 blocks) auction completed during 2018-23. It was due to lack of monitoring by the Department and deficiencies in planning, which restricted effective conduct of auctions in a phased and time bound manner. As a result, minor mineral blocks with potential resources remained idle, leading to blockage of revenue.

**(Paragraph 2.4.1)**

### **Trend of Revenue**

- Revenue receipts from minor minerals declined significantly, from ₹1,082.44 crore in 2017–18 to ₹697.73 crore in 2021–22. Furthermore, the share of minor mineral receipts in the State's total revenue also saw a decline, dropping from 5.36 *per cent* in 2017–18 to 2.23 *per cent* in 2021–22.

**(Paragraph 3.1)**

### **Deficiencies in Automation**

- An IT based mineral administration system, the Jharkhand Integrated Mines and Minerals Management System (JIMMS), was introduced (May 2015) with the objective of simplifying complex mining processes. Despite lapse of more than seven years, automation of records was found to be incomplete during audit, due to unavailability of crucial records and consequently, the goal of encapsulating all crucial data/information in one platform, remained unachieved. For instance,

JIMMS has the provision to generate lease maps on Google Application using coordinates, which could assist the Department in monitoring the mining operation through generated maps. However, in 47 cases, coordinates required were not filled while in 15 cases, coordinates filled were insufficient, preventing the generation of satellite images and hindering monitoring of mining activities.

- Royalty leviable on stone boulders was determined by their intended uses. However, modules in the system lacked capability to identify the specific uses. Rules mandate annual assessment of royalty payable by lessees, but JIMMS lacked necessary tools for this purpose. Due to these constraints, JIMMS could not be comprehensively used for assessment and collection of revenue by the Department.

(Paragraph 3.2.1)

### Leakage of Revenue

- There was leakage of revenue due to short levy of royalty including District Mineral Foundation Trust funds of ₹ 7.53 crore in 30 cases during the period October 2019 to January 2022 and non realisation of dead rent of ₹ 2.23 crore in 15 cases during the period March 2016 to March 2022. Further, between April 2014 and July 2023, 26 lessees in four districts extracted 33.21 lakh m<sup>3</sup> of minor minerals beyond the permissible limits. Although these lessees were liable to pay penalty amounting to ₹ 205.21 crore for unauthorised extraction of minerals, District Mining Offices of respective districts did not impose and collect the penalty.

(Paragraphs 3.2.2, 3.2.3 and 3.3)

### Management of Sand *ghats*

- The State Government notified (August 2017) the Jharkhand State Sand Mining Policy, 2017 for effective guidance and management of sand mining in the State, in an environmentally sustainable and socially responsible manner. According to the Policy, the management of sand *ghats* of Category-2 in the State was handed over to the Jharkhand State Mining Development Corporation (JSMDC) for a period of five years *w.e.f* 16 August 2017, which was later extended for three years from August 2022.
- The Directorate of Mines provided (November 2017) JSMDC with a list of Category-2 sand *ghats* numbering a total of 177 *ghats* in 19 districts, which was later updated (March 2022) to 608 *ghats* in 23 districts. JSMDC initiated the process to operationalise 389 sand *ghats* but it could operate only 21 *ghats*. The reasons for this included not ensuring timely preparation of Mining Plans (MP), and delay in submission of

proposals to the State Environment Impact Assessment Authority (SEIAA) for grant of Environmental Clearance (EC). Due to 368 non-operative *ghats*, the State Government suffered potential losses of ₹ 70.92 crore from these *ghats* having an area of 9,782.55 acres.

- Since all Category-2 sand *ghats* in the State have been exclusively operated by the JSMDCL from October 2018, the royalty received from the sand as reported by the Department should have matched the figures reported by the JSMDCL. However, significant discrepancies were observed in the royalty amounts for the period 2019–2022, with differences ranging from ₹ 82.55 lakh to ₹ 7.61 crore, for which no justification was provided to audit.

**(Paragraphs 3.4.1, 3.4.3 and 3.4.4.1)**

### **Approval and implementation of Mining Plan/ Progressive Mine Closure Plan**

- The Mining Plan (MP) serves as the basis for scientific and sustainable mining practices. In 64 of 74 test-checked cases of fresh lease, granted during February 2009 to March 2022, only the approved MPs and conditional approval letters were provided to Audit without supporting evidence of site inspections or dates of submission of MPs by applicants. This lack of documentation raises concerns about the thoroughness and transparency of the review and approval process.
- Out of 138 Mining Plans for 74 test checked stone leases, 120 plans were produced before Audit. Audit observed that 54 *per cent* (65 out of 120) of test checked Mining Plans were approved by non-designated authorities. According to the JMMC Rules, approval of the MP should be given after thorough investigation but in nine cases these were either approved on the same day or on the very next day of submission, indicating lack of thorough investigation. Further, the approved MPs contained unreliable information *viz.*, incorrect surface plans, incorrect coordinates of boundary pillars, overlapping lease areas, incorrect estimation of mineable and non-mineable reserves, incorrect estimation of ground water tables.
- The lease area is categorised into two parts: Mining Pit Area, containing mineable reserves for excavation and non-mineable resources in form of benches; and Safety Barrier of 7.5 meter zone around the pit area that holds only non-mineable resources, which is not available for mining. The audit calculated that a total of 83.87 lakh tonnes of non-mineable resources in 14 out of 25 cases should have been blocked within safety barriers, against which only 53.21 lakh tonnes were earmarked in the Mining Plans, leading to an overstatement of mineable resources to an

extent of 30.66 lakh tonnes. This resulted in irregular accounting of mineable reserves worth ₹ 34.96 crore within the mining pit area.

**(Paragraphs 4.1.1, 4.1.2 and 4.1.3)**

- Mining in non-mineable area of the lease is an irregular practice. Audit observed that 55 (87 *per cent*) out of 63 leases had side walls with steep slopes, instead of the recommended gentle slope. This resulted in irregular excavation of non-mineable resources without creating benches and safety barriers. Lessees also excavated beyond the allowable depth, vertically infringing on non-mineable resources, with pit depths exceeding permissible limits by 2.5 to 50 meters (*i.e.*, 11 to 494 *per cent*).
- Besides, in 14 out of 22 cases, lessees extracted minerals from 15.44 hectares (Ha.) that was outside the lease area. Excavation beyond lease area could have been monitored through satellite images of lease area generated through kml files, updating coordinates of each boundary pillar in JIMMS portal. These were not ensured in 63 test checked stone leases.
- Audit estimated extraction volumes by measuring excavated areas in Google Earth and multiplying them with depths observed during joint physical verification, adjusting for trapped volumes in slopes and haul roads. It is observed that lessees had underreported stone excavation by 93.53 lakh m<sup>3</sup> in 13 leases out of 63 test checked leases. This was validated by Birsa Institute of Technology (BIT) Sindri, which was engaged by audit for volume calculation of excavated minerals in stone quarries for these 13 mines. BIT, Sindri used AutoCAD Civil 3D software for calculating the total extraction and reported excess extraction (after deduction the production quantities during the period) at 95.51 m<sup>3</sup> *i.e.*, 2.12 *per cent* more than the quantity estimated by Audit. The potential financial implication of underreporting of mineral extraction (93.53 lakh m<sup>3</sup>) was estimated at ₹ 292.75 crore.
- In deviation of applicable provisions, against yearly requirement of 20 *per cent*, Department of Mines and Geology, Government of Jharkhand conducted yearly sectional measurements of only 0.68 to 3.17 *per cent* of the existing minor mineral leases in six test checked districts during the period 2017-22.
- In 46 out of 63 cases, either the boundary pillars were entirely absent (30) or was only partially present (16). Furthermore, in 62 out of 63 leases across the sampled districts, the mandated 7.5-meter safety barrier was reduced, with actual widths ranging from 0 to 7 meters.

**(Paragraph 4.1.4.1)**

- To mitigate the adverse impact of mining on the environment, plantations were to be placed on the safety barriers of mining leases. Accordingly, lessees were required to plant the recommended quantity of trees in grid pattern on safety barriers. Audit found that in 61 out of 63 test-checked leases across sampled districts, only 2,225 trees were planted against the proposed 74,676, resulting in a shortage of tree plantation ranging from 20 to 100 *per cent*. Further, air, water, and noise monitoring stations were not found established within the lease area to monitor the levels of pollution.

**(Paragraph 4.1.4.2)**

- Every mine is required to have a Mine Closure Plan which is of two types: Progressive mine closure plan for the purpose of providing protective, reclamation and rehabilitation measures in a mine or part thereof; and Final mine closure plan for the purpose of decommissioning, reclamation and rehabilitation of a mine or part thereof after cessation of mining and mineral processing operations. Audit observed that in 61 out of 63 test checked stone leases (in two cases MPs not produced), though the progressive mine closure plans were submitted along with the MP, the same were not complied with. Further, the final mine closure plans were not submitted in 12 of 63 test-checked cases, where lease period had expired during the period from May 2019 to July 2023.

**(Paragraph 4.1.5)**

## **Environmental Clearance**

- Absence of any system to cross-verify the documents submitted by the applicant on Parivesh Portal enabled applicants to obtain ECs from SEIAA under B2 (0-5 Ha.) category based on fake contiguous certificates instead of ECs under B2 (5 to 25 Ha.) category. After obtaining leases on these fake certificates, lessees had excavated 6.35 lakh m<sup>3</sup> of stone (as of March 2024) valuing ₹ 19.88 crore unauthorisedly during 2022-23 and 2023-24.

**(Paragraph 4.2.1)**

- While 29 *per cent* (171) of the participants of the beneficiaries' survey, conducted by Audit during November 2022 to October 2023 reported that mining activities provided them with employment, 68 *per cent* (407) expressed concerns that their quality of life had deteriorated due to environmental damage, destruction of agricultural field, depletion of the water table, damaged roads and the absence of any restoration works.

**(Paragraph 4.2.3)**



## Transportation of minerals

- The Department of Mines and Geology (DMG) registered 72,449 vehicles as of 28 March 2023, but none of these vehicles was equipped with Radio Frequency Identification/ Global Positioning System (RFID/GPS) or any other vehicle tracking system even after a lapse of five years. The Department relied on permits and challans system in the absence of comprehensive systems to detect unauthorized movements of vehicles, overloading, transportation on unregistered vehicles *etc.*

**(Paragraph 4.3.1)**

- The overall system for transportation of minerals did not provide an assurance that it could prevent illegal transportation of minerals. Audit test checked weighbridge report of seven dealers of stone chips and found that in 85 *per cent* of cases, transporting challans issued through JIMMS were unavailable.
- In case of 28 vehicles, 35 initial challans were followed by 50 additional challans that were issued before the expiry of the previous challans, due to lacunae in JIMMS, leading to risk of misutilisation of challans.

**(Paragraph 4.3.1.1)**

- Audit noticed instances of (i) misutilisation of transporting challans for transportation of stone extracted illegally from an area other than the area under lease, and (ii) transportation of closing stock of stone lying at quarry site of the expired leases.

**(Paragraph 4.3.1.2)**

## Audit Recommendations

In order to ensure sustainable and scientific mining of minor minerals and to boost the revenue of the State, *the Government/Department may:*

1. *implement a system of online application of mining lease and put in place a procedure for issuing/obtaining centralised royalty clearance certificates through JIMMS. The Department may also ensure integration of JIMMS with online land records;*
2. *take necessary steps to cancel leases granted on Jungle Jhar/ forest land and restore legal status of such land;*
3. *cancel inoperative leases and expedite auctioning process of mineral blocks for revenue augmentation and mineral development in the State;*
4. *fix responsibility on erring officers who violated provisions of the relevant Acts and Rules by misreporting the nature of land to be leased for mining;*

5. *assess reasons for decrease of sand reserves in inoperative sand ghats and take comprehensive measures to augment Government revenue from minor minerals by operationalizing sand ghats;*
6. *fix responsibility on erring officials who did not verify rates of royalty applicable to boulders dispatched to crushers for making chips and adhere to provisions of the Act/Rules for collection of correct royalty and penalty;*
7. *make concerted efforts to rectify shortcomings of JIMMS including formulating a mechanism for submission of Mining Plans through JIMMS for transparency and documentary evidence;*
8. *formulate a manual for appraisal of Mining Plans on minor minerals in line with the Indian Bureau of Mines (IBM) Manual on appraisal of Mining Plan (2014), to establish a standardized procedure for processing, examination and scrutiny of Mining Plans;*
9. *ensure submission of kml files of lease area created through Differential Global Positioning System (DGPS) survey alongwith the Mining Plans, ensure submission of these files to SEIAA, update repository of kml files thereon for monitoring through satellite imagery and enforce the progressive mine closure plan as proposed in the MPs. Also ensure that a final mine closure plan is submitted by lessees, and approved by the District Mining Officers (DMOs) for its implementation;*
10. *conduct detailed investigation to work out the exact volume of under-reported minerals extracted and make provisions in JMMC Rules, 2004 in line with Rule 34A of Mineral Conservation and Development Rules (MCDR), 2017 for carrying out drone survey of minor mineral leases throughout the State for checking instance of excess excavation by lessees and imposing penalties accordingly;*
11. *establish inter-departmental coordination among DMG, Ministry of Environment, Forest and Climate Change, State Environment Impact Assessment Authority, Central Ground Water Board and Jharkhand State Pollution Control Board for compliance of conditions of MPs and ECs;*
12. *implement system for periodic survey for identification and reconstruction/restoration of damaged assets due to mining activities;*

13. *implement a comprehensive system by integrating all aspects of transportation of minerals (weighing, tracking, monitoring etc.) to effectively monitor and plug illegal transportation of minerals; and*
14. *ensure installation of weighbridges in dealer/lease areas with facilities for authentically fetching weighment data for transporting challans on a real-time basis.*

