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Meghalaya Rat-Hole Mining Tragedy — Regulatory Failure, Tribal Rights, and the Price of Illegal Coal

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SUBJECTS COVERED**ENVIRONMENT****POLITY****SOCIAL ISSUES****CURATED & WRITTEN BY****Bharat Choudhary**

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WHY IN NEWS

An explosion at an illegal rat-hole coal mine in Thangkso area, East Jaintia Hills district, Meghalaya killed at least 27 workers — the worst mining tragedy in Meghalaya since the December 2018 disaster — exposing the decade-long failure to enforce the National Green Tribunal's 2014 ban on rat-hole mining.

WHAT IS RAT-HOLE MINING?

Rat-hole mining is a method of coal extraction in which narrow tunnels — typically 3 to 4 feet in diameter (hence the “rat-hole” analogy) — are dug horizontally into hillsides or vertically into the ground to extract coal seams by hand. Two variants:

Side-cutting (horizontal): Horizontal tunnels dug into the escarpment of a hill, following the coal seam

Box-cutting (vertical): A rectangular pit is sunk into the ground, from which horizontal tunnels radiate in search of coal seams

The method is economically attractive because it requires minimal capital equipment — no heavy machinery, no formal infrastructure. Workers enter the narrow tunnels with a headlamp, a pickaxe, and a basket. The coal is carried out manually.

Why it is deadly:

No structural support: The tunnels are narrow and unsupported, collapsing without warning

Flooding: Meghalaya's hills have high water tables and underground streams; sudden flooding (which killed miners in the 2018 tragedy) is a major risk

Explosive gases: Coal seams contain methane and other combustible gases; the February 2026 explosion was triggered by a gas ignition

No ventilation: Inadequate air circulation causes oxygen depletion and accumulation of toxic gases

No emergency exits: Miners have no alternative exit route if the primary tunnel collapses or floods

THE LEGAL CONTEXT — NGT'S 2014 BAN

The **National Green Tribunal (NGT)** issued a comprehensive ban on rat-hole mining in Meghalaya in **2014**, in the case *All Dimasa Students Union vs. State of Meghalaya*. The NGT found that:

Rat-hole mining caused severe environmental degradation: acidification of soil and water bodies, contamination of rivers with iron and sulphur compounds

Unregulated coal transportation led to destruction of road infrastructure

Mining violated provisions of the **Mines and Minerals (Development and Regulation) Act, 1957** and the **Mines Act, 1952**, which require formal lease and safety approvals

The NGT ordered:

Immediate cessation of all rat-hole mining

No fresh mining leases

States to ensure compliance

NLCIL (National Lignite Corporation) and Central Mine Planning and Design Institute (CMPDI) to assess the coal reserves for possible formal mining

Why has the ban failed for a decade? Multiple overlapping reasons:

1. Sixth Schedule and State Government Jurisdiction

Meghalaya is a **Sixth Schedule area** (Schedule to Article 244). Under the Sixth Schedule:

Tribal areas in Meghalaya (Khasi Hills, Jaintia Hills, Garo Hills) are governed by **Autonomous District Councils (ADCs)**

ADCs have powers to make regulations on land, forests, and mining of non-major minerals

The **MMDR Act, 1957** governs major minerals but the ADC/state interface for coal (a major mineral in some classifications but mined informally in Meghalaya) has created regulatory ambiguity

The tribal landowners (coal is found under private/community land in Meghalaya, unlike most Indian states where coal belongs to the state) argue that the NGT's ban deprives them of income from their property.

2. Political Economy of Coal

The Jaintia and Khasi Hills' coal belt generates significant informal economic activity — for landowners, contractors, and migrant labourers. The political economy of this coal creates pressure on state governments not to enforce bans rigorously. Local politicians have historically been reluctant to enforce closures.

3. Migrant Labour Vulnerability

Workers in rat-hole mines are overwhelmingly **inter-state migrant labourers from Assam, West Bengal, Bihar, and Jharkhand** — the most economically vulnerable segment of the workforce. They are:

Not registered under any formal employment framework

Not covered by the **Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979**

Without any recourse to compensation schemes under the **Employees' Compensation Act, 1923**

The February 2026 blast victims were predominantly from Assam, consistent with the historical pattern.

THE DECEMBER 2018 DISASTER — WHAT CHANGED AND WHAT DIDN'T

In **December 2018**, 15 miners were trapped in a flooded rat-hole mine in **Ksan village, East Jaintia Hills** after an illegal mine was flooded by a nearby river. The rescue operation:

Lasted **months** (survivors found: none)

Involved Navy, NDRF, ISRO (for satellite imaging of underground water flow), and private divers

National Human Rights Commission (NHRC) took suo motu cognisance

The disaster triggered renewed NGT scrutiny and state government commitments to enforcement

What followed:

The Meghalaya government appealed the NGT ban in the Supreme Court; the SC upheld the NGT order but allowed “transportation” of already-mined coal

The Supreme Court later issued guidelines on coal disposal; the “coal-in-transit” exemption was allegedly misused to continue mining

No systematic enforcement mechanism was created; no additional CRPF/police deployment for mining area surveillance

The February 2026 explosion killed **27** — more than any single event in the 2018 disaster — suggesting that not only did enforcement fail, but the scale of illegal mining actually increased.

THE LEGAL FRAMEWORK GAP

India's mining safety regime has multiple overlapping laws:

Law	Regulator	Coverage
Mines Act, 1952	DGMS (Directorate General of Mines Safety)	All mines over 2 metres depth; mandates safety officers, rescue equipment
MMDR Act, 1957	MoM (Ministry of Mines)	Licensing and lease of mineral rights
NGT Act, 2010	NGT	Environmental enforcement; can ban mining
Mines and Minerals Development Regulation Amendment Act, 2015	MoM	Revised auction, allocation framework
District Mineral Foundation (DMF)	State governments	Revenue sharing with affected communities

The **DMF** (created under MMDR Act amendment, 2015) collects a levy from formally licensed mines and distributes funds to affected communities for education, health, and infrastructure. Illegal rat-hole mines pay no DMF levy — communities get nothing while bearing all the environmental costs.

THE TRIBAL RIGHTS DIMENSION

The coal in Meghalaya’s Jaintia Hills lies under **privately owned tribal land** — a unique situation in India where coal ownership effectively rests with the landowner, not the state (in most of India, all minerals below ground belong to the state under the Mines and Minerals Act). Tribal landowners argue that:

Their property rights to coal cannot be extinguished by a regulatory ban without compensation

The ban disproportionately affects tribal communities in areas with few alternative livelihoods

Formal coal mining by PSUs (NLCIL) would destroy community land ownership

This creates a genuine constitutional tension: between the **environmental protection mandate** and the **tribal property rights** under customary law and the Sixth Schedule.

The Supreme Court’s eventual approach has been to allow **auction-based formal mining** of Meghalaya’s coal reserves to government entities — but implementation has been slow.

UPSC RELEVANCE

*Rat-hole mining ban: NGT **2014** (All Dimasas Students Union case); Meghalaya Sixth Schedule; Autonomous District Councils (ADC); Mines Act 1952 (DGMS); MMDR Act 1957; NGT Act 2010; District Mineral Foundation (DMF, created 2015 amendment); East Jaintia Hills coal belt; Inter-State Migrant Workmen Act 1979; December 2018 tragedy (15 miners, Ksan village, East Jaintia Hills); 2026 blast (27 dead, Thangkso area, East Jaintia Hills); NDRF (National Disaster Response Force); Employees' Compensation Act 1923.*

*Rat-hole mining — regulatory failure; interplay of NGT orders, SC appeals, and state non-enforcement; environmental degradation from coal mining; informal mining and worker safety. **GS-2:** Sixth Schedule and tribal rights; ADCs vs. national regulation; inter-state migrant labour policy; DMF as community development instrument. **GS-1:** Tribal communities of Northeast India; customary land rights.*

★ FACTS CORNER — KNOWLEDGEPEDIA

MEGHALAYA RAT-HOLE MINING TRAGEDIES:

2018 tragedy: **December 2018; 15 miners trapped**, Ksan village, East Jaintia Hills; flooded mine; months-long rescue; no survivors found

2026 tragedy: **Feb 5, 2026; 27 dead**; Thangkso area, East Jaintia Hills; gas explosion

Victims: Mostly **inter-state migrant labourers from Assam**

NGT BAN:

Order: **2014**; National Green Tribunal; *All Dimasa Students Union vs. State of Meghalaya*

Basis: Environmental degradation + MMDR Act violations + Mines Act violations

Enforcement: Failed for 10+ years despite ban

MEGHALAYA'S CONSTITUTIONAL STATUS:

Sixth Schedule Area (under **Article 244**): Khasi Hills, Jaintia Hills, Garo Hills

Autonomous District Councils (ADCs): Powers over land, forests, non-major minerals

Unique coal ownership: Coal under tribal privately-owned land (unlike rest of India where minerals belong to the state)

MINING GOVERNANCE FRAMEWORK:

Mines Act, **1952**: Regulator = **DGMS** (Directorate General of Mines Safety)

MMDR Act, **1957**: Ministry of Mines; mineral leases and licensing

NGT Act, **2010**: Environmental enforcement; can ban activities

DMF (District Mineral Foundation): Created 2015 amendment; levy from legal mines → community development

INTER-STATE MIGRANT LABOUR:

Governing law: **Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979**

Key provisions: Mandatory registration of contractors; displacement allowance; journey allowance; equal wages

Enforcement gap: Most rat-hole mining workers unregistered, outside this Act's coverage

Compensation framework: **Employees' Compensation Act, 1923** (covers injury/death in employment)

OTHER RELEVANT FACTS:

Meghalaya coal type: Sub-bituminous (low-grade) coal; acidic drainage when exposed to oxygen + water → sulphuric acid contamination of rivers

River Lukha, Jaintia Hills: Turned bright blue from acid mine drainage — an iconic indicator of rat-hole mining pollution

NDRF (National Disaster Response Force): Constituted under Disaster Management Act 2005; reports to Ministry of Home Affairs; 16 battalions

National Human Rights Commission (NHRC): Took suo motu cognisance of 2018 Meghalaya mining tragedy

ISRO contribution (2018): Provided satellite imagery and GPR (Ground Penetrating Radar) data to map underground water channels during rescue

Sources: Down to Earth, Al Jazeera, Insights on India

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