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1. Rat-hole mining: why the practice continues in spite of its hazards**Introduction**

An oral question from the Supreme Court to the Union government continues to remain unanswered even as rescue workers recover bodies of workers who died trapped in a flood rat-hole coal mine at Dima Hasao district in Assam. On January 11, 2019, the top court had asked whether rat-hole mines could possibly operate in the northeast hills without the "connivance" of officials. "Lives are lost due to illegal mining. What about the officials who allowed this to happen?" the court had asked the government.

**What is rat-hole mining?**

Rat-hole mining, of two types, is so named as it involves digging tunnels 3-4 feet deep, barely allowing workers to crawl in and out. They have to squat while extracting coal with pickaxes. The side-cutting type of mining is usually done on hill slopes by following a coal seam — dark brown or black-banded coal deposited within layers of rock— visible from the outside. The second type called box-cutting entails digging a circular or squarish pit at least 5 sq. metre in

width up to a depth of 400 feet. Miners who drop down in makeshift cranes or using rope-and-bamboo ladders dig horizontally after finding the coal seam. The tunnels are dug in every direction from the edge of the pit, resembling the tentacles of an octopus. Some workers from Assam lost their lives in the coal mines of Meghalaya, dug using this crude method, before and after the National Green Tribunal (NGT) banned it in April 2014.

Why is such mining banned?

The government has little control over the land in Meghalaya, a Sixth Schedule State where the Coal Mines Nationalisation Act of 1973 does not apply. The landowners are thus also the owners of the minerals beneath. Coal mining boomed after Meghalaya attained statehood in January 1972. However, the terrain and expenses involved discouraged mine owners from employing advanced drilling machines. So, labourers mainly from Assam, Nepal, and adjoining Bangladesh risked the hazards of rat-hole mining — asphyxiation because of poor ventilation, collapse of mines due to lack of structural support, and flooding — to earn thrice or four times as much as working in farms or construction sites.

Apart from issues of safety and health, unregulated mining led to land degradation, deforestation, and water with high concentrations of sulphates, iron, and toxic heavy metals, low dissolved oxygen, and high biochemical oxygen demand. At least two rivers, Lukha and Myntdu, became too acidic to sustain aquatic life. These factors led to the NGT banning rat-hole mining in Meghalaya in 2014 while observing: "...there is umpteen number of cases where, by virtue of rat-hole mining, during the rainy season, water flooded into the mining areas resulting in the death of many..." Illegal mining and transportation of coal, as mentioned in the interim reports of a one-man committee appointed by the High Court of Meghalaya, has continued despite the ban and the loss of lives. At least 17 miners were drowned in an illegal mine in the East Jaintia Hills district's Ksan in December 2018 after water gushed in from a river.

What led to the NGT ban?

Environmentalists and human rights activists began flagging the hazards of rat-hole mining in Meghalaya two decades ago. The campaign intensified after Impulse, a Meghalaya-based NGO, began addressing the issue of human trafficking and child labour in such mines.

Three reports prepared by the NGO, first with the Nepal-based Esther Benjamin Trust in May 2010, the second with Aide et Action in December 2010, and the last with Human Rights Now in July 2011, estimated that about 70,000 children mostly from Bangladesh and Nepal were employed in these mines because they were the right size to work in them. The State's Department of Mining and Geology refuted the claim but, under pressure from the National Human Rights Commission, admitted in June 2013 that 222 children were employed in rat-hole mines, specifically in the East Jaintia Hills district. The NGT ban came a year later.

What is the way forward?

Unlike in Chhattisgarh and Jharkhand, coal seams in Meghalaya are very thin. This, miners say, makes rat-hole mining more economically viable than opencast mining.

The State has an estimated reserve of 576.48 million tonnes of low-ash, high-sulphur coal belonging to the Eocene age (33-56 million years ago). The stakes for a section of locals have

been so high that the State government has been under pressure to facilitate the resumption of mining legally.

In May 2023, Meghalaya Chief Minister Conrad K. Sangma said the Coal Ministry approved mining leases for four of the 17 prospective licence applicants. This would lead to the commencement of 'scientific' mining ensuring minimal environmental impact through sustainable and legally compliant extraction procedures. Anti-mining activists, who are assaulted by miners off and on, said that 'scientific' would eventually be a fancy tag in a State where profit has driven coal mining.

Relevance: GS Prelims & Mains Paper III; Disaster Management

Source: The Hindu

2. Mahakumbh First Amrit Snan explained: What is it, why is it held on Makar Sankranti

Mahakumbh 2025 First Shahi Snan



January 14 was the first amrit snan or shahi snan at the Mahakumbh underway in Prayagraj. While the Kumbh Mela started on January 13, January 14 was the first of the ritual baths, in which sadhu akhadas take the first dip after an elaborate procession to the river.

Shri Panchayati Akhara Mahanirvani and Shri Shambhu Panchayati Atal Akhara were the first ones to take the amrit snan, PTI reported. Thirteen akhadas are participating in the Maha Kumbh.

After the sadhus, or holy men, thousands of devotees took the dip in the sangam (confluence of Ganga, Yamuna and the mythical Saraswati) at Prayagraj.

What is amrit snan?

The Kumbh Mela is held after every 12 years at Prayagraj, Haridwar, Nashik-Trimbakeshwar, and Ujjain, at the banks of the sangam, the Ganga, the Godavari, and the Kshipra rivers respectively. It is believed that bathing in these rivers during the Kumbh washes away one's sins.

However, some dates during the Kumbh period are specially auspicious, depending on the alignment of planets, the Sun, and the Moon. The Kumbh Mela is attended by hundreds of sadhus, as part of their akhadaas or groups. Since this is a religious occasion, the sadhus are the "royalty" here, and thus they take the first dip. This ritual dip has traditionally been called the shahi snan or the royal bath. However, from this year, the bath is being called amrit snan. This is being seen as more in keeping with Hindu religious beliefs, as it is believed that Kumbh is celebrated at the four places where amrit, or the nectar of immortality, spilled after Samdura Manthan, or the churning of the ocean.

What is Makar Sankranti?

January 14 is Makar Sankranti, the day that the Sun moves into the Makar raashi or the zodiac Capricorn.

Whenever the Sun moves from one raashi to another, it is called a Sankranti, but Makar Sankranti is special. This is because this marks the movement of the Sun from the south to the north, heralding that the worst of winter is over and warmer, sunnier days lie ahead.

Makar Sankranti is also a harvest festival, similar to many celebrated in other parts of the country around this time. Taking a bath in a river on Makar Sankranti is believed to accrue spiritual merit, and if it coincides with the Kumbh, the benefits multiply manifold, it is believed.

What are the other important bathing dates in the Kumbh this time?

After Makar Sankranti on January 14 is Mauni Amavasya on January 29 and Vasant Panchami on February 3. Shiv Ratri, which falls on February 26, the last day of the Kumbh Mela, is also significant.

Relevance: GS Prelims; Miscellaneous

Source: Indian Express

3. India-Bangladesh Border Fencing Dispute

Recent Developments

- India Summons Bangladeshi Envoy: On January 13, New Delhi summoned Bangladesh's Acting High Commissioner, Nural Islam, regarding "security measures" at the border, including fencing activities.
- Bangladesh's Concerns: Dhaka expressed "deep concern" over recent actions by India's Border Security Force (BSF), alleging violations of a bilateral agreement.

Incidents at Malda and Mekhliganj

- Malda: Construction of a single-row fence (SRF) in Kaliachak No. 3 block prompted objections from Border Guards Bangladesh (BGB). Despite the intervention, BSF continued with the project.

- Mekhliganj: Villagers, supported by the BSF, attempted to fence the Bangladeshi enclave of Dahagram-Angarpota, citing the need to prevent cattle intrusion. BGB opposed the fencing.



INDIA-BANGLADESH BORDER TENSIONS: BARBED WIRE FENCING SPARKS DIPLOMATIC DISPUTE

Border Fencing Guidelines

- 1975 Agreement: Prohibits the construction of defensive structures within 150 yards of the zero line.
- India's Interpretation: India does not classify wire fencing as a defensive structure, unlike Bangladesh and Pakistan.
- Practical Challenges: Geographic constraints, such as villages and rivers near the border, necessitate fencing closer to the boundary in some areas.

Reasons for Bangladesh's Objections

1. Violation of 1975 Guidelines: Fencing within the restricted zone is perceived as a breach.
2. Impact on Residents: Fencing disrupts daily life for people living along the border.
3. Surveillance Concerns: Bangladesh objects to "smart fencing" with CCTV and electronic monitoring, fearing it enables India to monitor Bangladeshi territory.

India's Justifications

- Curbing Crimes: BSF argues fencing is crucial to prevent trans-border crimes, including cattle smuggling.
- Negotiation Efforts: India coordinates with Bangladesh in specific cases where exceptions to the 1975 guidelines are necessary.

Conclusion

The India-Bangladesh border, shaped by historical complexities, remains a contentious issue. While India views fencing as essential for security and crime prevention, Bangladesh raises concerns about sovereignty and resident inconvenience, requiring continued dialogue to address the disagreements.

Status of fencing

According to India's Ministry of Home Affairs data, along the India-Bangladesh border, covering all eastern states including West Bengal, 3,141 kilometers have been fenced out of a total of 4,156 km.

In 2023, during the hearing of petitions challenging Section 6A of the Citizenship Act related to grant of Indian citizenship to illegal immigrants in Assam, the Centre had told the Supreme Court that the India-Bangladesh border fencing project had been hindered due to non-cooperation from West Bengal and pending land acquisition in the state. West Bengal shares a 2,216.7 km border with Bangladesh, on which 81.5 per cent fencing had been done as of 2023 at the time of the Supreme Court hearing.

There are small patches of unfenced land, which are pending due to objections from villagers, the terrain, or ongoing negotiations with Bangladesh. More than 900 km of the entire border along the five eastern states, including West Bengal, is riverine. Fencing is not possible on water, so these parts are guarded by BSF's water wing.

Relevance: GS Prelims & Mains Paper III; Internal Security

Source: The Hindu