



## RAT HOLE MINING - GS III MAINS

**Q.** Rat-hole mining is a technique primarily used for extracting coal from narrow, horizontal seams. Critically analyse the impacts of rat hole mining on the environment and humans. (10 marks, 150 words)

**News:** *'No one will remember us': India's hero 'rat hole miners' who helped rescue 41 men from the Himalayan tunnel*

### What's in the news?

- In the context of the Uttarakhand tunnel collapse and the rescue operation, the term "rat-hole mining" seems to be used metaphorically or as an analogy to describe a method of manually digging through the remaining debris obstructing the tunnel exit where workers are trapped.

### Key takeaways:

- Most coal mining in India takes place in northeastern Meghalaya state, home to some of the country's largest coal deposits, amounting to more than 576 million metric tons.
- Rat hole mining was banned in the state by the National Green Tribunal (NGT) in 2014 due to health and environmental risks, but it's still carried out illegally in secluded pockets of the region.

### Rat Hole Mining:

- Rat-hole mining is a technique primarily used for extracting coal from narrow, horizontal seams.
- However, it's essential to highlight that the term "rat hole" mining typically refers to the unregulated and hazardous coal mining method prevalent in the northeastern state of Meghalaya in India.

### Characteristics of Rat-hole Mining

#### 1. Narrow, Horizontal Seams:

- Rat-hole mining involves extracting coal from thin, horizontal seams, which are prevalent in Meghalaya.
- These seams are often less than 2 meters in thickness.

#### 2. Primitive Extraction Techniques:

- Miners typically create narrow pits (referred to as "rat holes") into the ground, allowing only one person at a time to descend and extract coal using basic tools such as pickaxes, shovels, and baskets.



## Two Main Types of Rat-hole Mining:

### 1. Side-cutting Procedure:

- Miners dig narrow tunnels on hill slopes until they reach the coal seam due to the thin nature of the seam.

### 2. Box-cutting Procedure:

- Involves creating a larger rectangular opening, followed by digging a vertical pit through which miners access the coal seam by creating rat-hole-sized tunnels horizontally.

## Environmental and Safety Concerns:

### 1. Lack of Regulation:

- Rat-hole mining operations are typically unregulated and lack safety measures, including proper ventilation, structural support, and safety gear for workers.

### 2. Environmental Damage:

- This mining method leads to land degradation, deforestation, and water pollution, impacting the surrounding environment significantly.

### 3. Safety Hazards:

- Hazardous working conditions often lead to accidents, injuries, and fatalities among miners.

### 4. Legal Status:

- **Banning of Practice:** The National Green Tribunal (NGT) banned rat-hole mining in 2014 and reaffirmed the ban in 2015 due to safety concerns and environmental degradation associated with the practice.
- **Resistance and Legal Challenges:** Despite the ban, the practice persisted in some areas, leading to legal challenges and appeals by state governments, notably in Meghalaya, where rat-hole mining was prevalent.

## WAY FORWARD:

- Mining has provided jobs to local people. Following the ban, there are demands for rehabilitation or alternative employment.
- Effective implementation of 6th schedule.
- Diversifying livelihood opportunities.
- Stringent implementation of the Mines and Minerals (Development and Regulation) Act which prohibits operation of illegal mining under state accountability.