



## Issues Related to Illegal Mining of Ores

**For Prelims:** [Illegal mining](#), [IBM](#), [Coal](#), [Petroleum](#), [Atomic Minerals](#), [Human rights violations](#), [National Mineral Policy](#), [PMKKY](#).

**For Mains:** Issues of Illegal mining and ways to Combat it.

### Why in News?

Recently, the **Indian Bureau of Mines (IBM)** has flagged massive corruption of illegal mining and transportation of Manganese in Odisha.

- IBM is a multi-disciplinary government organization **under the Ministry of Mines**, engaged in promotion of conservation, scientific development of mineral resources and protection of the environment in mines other than [coal](#), [petroleum & natural gas](#), [atomic minerals](#) and minor minerals.

### What are IBM's Concerns?

- Odisha is a **mineral-rich State having 96.12% of the country's chrome ore, 51.15% bauxite reserve of India**, 33.61% of hematite iron ore and 43.64% of manganese.
- Mining lease holders in Odisha **were dispatching manganese ore as low-grade from their mines to the traders** operating from West Bengal, who subsequently sold it as high-grade without any processing.
- Some mining companies in Odisha are involved in under-reporting the quantity of minerals mined and transported, as well as not paying the **appropriate royalties and taxes**.
  - Such issues can have serious consequences for the environment, the economy, and the livelihoods of people who depend on natural resources for their sustenance.
- The issue of manganese ore grade reduction is significant as it may affect the **quality and value of the ore, resulting in a loss of revenue** for the state government.
- The state government should **take action against the companies involved in illegal mining and transportation of minerals**, and also called for stricter enforcement of mining laws and regulations.
  - As per **Section 23C of Mines & Minerals (Development and Regulation) (MMDR) Act**, State Governments are empowered to make rules for preventing illegal mining, transportation and storage of minerals.

### What is Illegal Mining?

- **About:**
  - Illegal mining is the extraction of minerals, ores, or other valuable resources from land or water bodies **without the necessary permits, licenses, or regulatory approvals** from government authorities.
  - It can also involve the violation of environmental, labor, and safety standards.
- **Issues:**

- **Environmental Degradation:**
  - It can lead to deforestation, soil erosion, and water pollution and can result in the **destruction of habitats for wildlife**, which can have serious ecological consequences.
- **Hazards:**
  - Illegal mining often involves the **use of hazardous chemicals such as mercury and cyanide**, which can pose serious **health risks to miners** and nearby communities.
- **Loss of Revenue:**
  - It can lead to a **loss of revenue for governments** as miners may not pay appropriate taxes and royalties.
  - This can have significant economic impacts, particularly in countries where natural resources are a major source of revenue.
- **Human Rights Violations:**
  - Illegal mining can also result in [human rights violations](#), including forced labor, child labor, and exploitation of vulnerable populations.

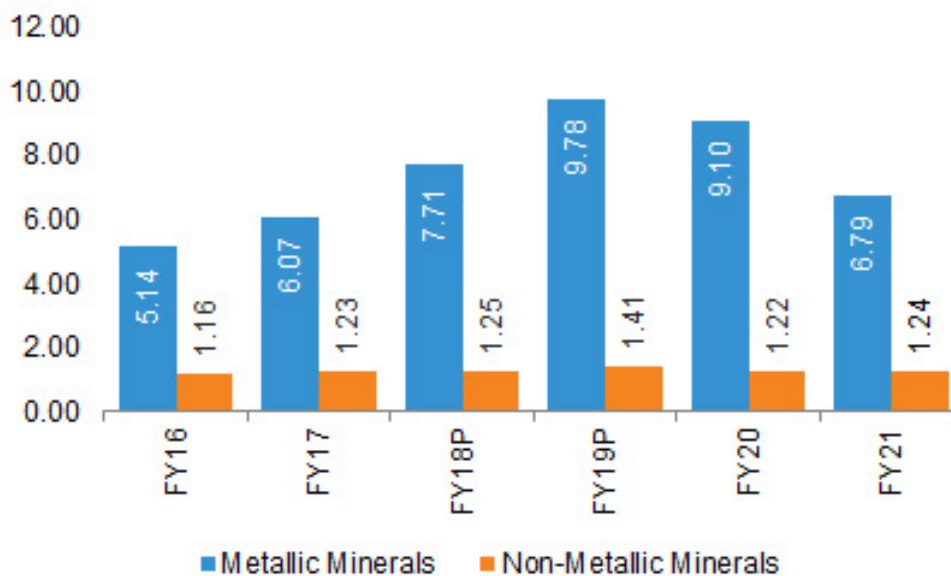
## What are the Laws Related to Mining in India?

- The entry at serial **No. 23 of List II (State List) to the Constitution of India** mandates the **state government to own the minerals located within their boundaries**.
- The entry at serial **No. 54 of List I (Central List)** mandate the central government to own the minerals within the exclusive economic zone of India (EEZ).
  - In pursuance to this **Mines & Minerals (Development and Regulation) (MMDR) Act of 1957** was framed.
- **International Seabed Authority (ISA)** regulates mineral exploration and extraction of deep seabed minerals in the international seabed area that are beyond the limits of national jurisdiction.
  - It is guided by the **UN treaty and India being a party to the treaty has received an exclusive right to explore polymetallic nodules** over 75000 sq. km in **Central Indian Ocean Basin**.

## What is the Scenario of the Mining Sector in India?

- **About:**
  - India has a **rich mineral resource** base, with large deposits of iron ore, coal, bauxite, Manganese, copper, gold, zinc, lead, and other minerals.
  - The mining sector is a significant contributor to the Indian economy, accounting for **around 2.5% of India's GDP (Gross Domestic Product)** and providing employment to millions of people.
- **Statistics:**
  - **Coal production** in India stood at 777.31 million tonnes (MT) in FY 2021-22 with a **growth of 8.55%**.
    - India is the world's **2<sup>nd</sup> largest coal producer** as of 2021.
  - **Mineral Production** in India in FY22 is estimated to be Rs. 190,392 crore (USD 24.95 billion).
  - India ranks **4<sup>th</sup> globally in terms of iron ore production**. Production of iron ore in FY21 stood at 204.48 MT.
  - The combined production (primary and secondary) of aluminum in India stood at 4.1 MT per annum in FY21, making it the **world's 2<sup>nd</sup> producer of aluminum**.

## Production of metallic and non-metallic minerals (US\$ billion)



### Some Facts About Manganese

- It is a hard, silvery-grey metal that is commonly found in the Earth's crust, and it is the **twelfth most abundant element in the crust**.
- Manganese is an essential nutrient for humans, animals, and plants. It is required for the metabolism of carbohydrates, cholesterol, and amino acids.
- Manganese is used in a wide range of industrial applications, including the production of steel, aluminum alloys, and batteries.
- **Manganese** is an important **raw material** for **smelting iron ore** and also used for manufacturing **ferro alloys**. Manganese deposits are found in almost all geological formations. However, it is mainly associated with **Dharwar system**.
- Odisha is the leading producer of **Manganese**. Major mines in Odisha are located in the central part of the **iron ore belt of India**, particularly in **Bonai, Kendujhar, Sundergarh, Gangpur, Koraput, Kalahandi and Bolangir**.

### How can the Issues of Illegal Mining be Addressed?

- **Legal and Regulatory Framework:**
  - The legal and regulatory framework related to mining should be strengthened to make it **more effective in preventing illegal mining**.
  - It can be achieved by enacting **stronger laws, improving enforcement mechanisms, and increasing penalties** for illegal mining activities.
- **Monitoring and Surveillance:**
  - The use of modern technologies such as **satellite imagery, drones, and GPS can help in monitoring** and detecting illegal mining activities.
- **Collaboration between Stakeholders:**
  - Mining companies should work closely with local communities to address their concerns and ensure that their activities are sustainable.
- **Awareness and Education:**
  - Awareness and education campaigns can help in creating awareness about the harmful effects of illegal mining on the environment and society. This will encourage **people to report illegal mining activities** to the authorities.

- **Sustainable Mining Practices:**

- Promoting sustainable mining practices can help in **reducing the demand for illegal mining.**
- This includes encouraging mining companies to adopt sustainable practices such as responsible mineral sourcing, environmental conservation, and social responsibility.

## What are Government Initiatives Related to Mining?

- **National Mineral Policy 2019:** It aims to **increase mineral exploration and production, promote sustainable** mining practices, and streamline regulatory processes.
- **Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY):** It is a welfare scheme for mining-affected areas, and the Sagarmala project, which aims to develop port infrastructure to support the growth of the mining sector.

## Conclusion

- Addressing the issue of illegal mining requires a multi-pronged approach that involves strengthening the legal and regulatory framework, improving monitoring and surveillance, promoting sustainable mining practices, and creating awareness and education campaigns.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Mains

**Q.** Despite India being one of the countries of Gondwanaland, its mining industry contributes much less to its Gross Domestic Product (GDP) in percentage. Discuss. **(2021)**

**Q.** “In spite of adverse environmental impact, coal mining is still inevitable for development”. Discuss. **(2017)**

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