

MINERAL RESOURCES

- On the basis of chemical and physical properties, minerals are grouped as –
 - **Metallic** minerals and
 - **Non-metallic** minerals.
- Major examples of metallic minerals are iron ore, copper, gold, etc.
- Metallic minerals are further sub-divided as **ferrous** and **non-ferrous** metallic minerals.
- The minerals containing iron is known as ferrous and without iron is known as non-ferrous (copper, bauxite, etc.).
- Depending upon the origination, non-metallic minerals are either **organic** (such as fossil fuels also known as mineral fuels, which are derived from the buried animal and plant, e.g., such as coal and petroleum), or **inorganic** minerals, such as mica, limestone, graphite, etc.

Distribution of Minerals

- Minerals are unevenly distributed on the earth's surface.
- All minerals are exhaustible in nature, i.e., will exhaust after a certain time.
- However, these minerals take long time to form, but they cannot be replenished immediately at the time of need.
- More than 97% of **coal** reserves occur in the valleys of Damodar, Sone, Mahanadi, and Godavari rivers.
- **Petroleum** reserves in India are located in the sedimentary basins of Assam, Gujarat, and Mumbai High (i.e., off-shore region in the Arabian Sea).
- Some new petroleum reserves are also found in the Krishna-Godavari and Kaveri basins.

Mineral Belts in India

Further, there are **three major mineral belts** in India namely –

- The North-Eastern Plateau Region,
- The South-Western Plateau Region, and
- The North-Western Region.

North-Eastern Plateau Region

- The major areas of north-eastern plateau region are Chhotanagpur (Jharkhand), Odisha, West Bengal, and parts of Chhattisgarh.
- Iron ore, coal, manganese, bauxite, and mica are the major minerals of the north-eastern plateau region.

South-Western Plateau Region

- The south-western plateau region covers major parts of Karnataka, Goa, and contiguous Tamil Nadu uplands and Kerala.
- Major mineral resources of south-western plateau region are iron ore, manganese, and limestone.
- Kerala has deposits of monazite and thorium, and bauxite clay and Goa has deposits of iron ore.

North-Western Region

- The north-western region covers the areas of Aravalli in Rajasthan and parts of Gujarat.
- Major minerals of north-western regions are copper and zinc; other significant minerals include sandstone, granite, and marble, along with Gypsum and Fuller's earth deposits.
- In addition, Gujarat and Rajasthan, both have rich sources of salt.
- The **Himalayan belt** is also an important mineral belt, as it has rich deposits of copper, lead, zinc, cobalt, and tungsten.

Major Minerals

Following are the major mineral resources found in India –

Iron

- About 95% of total reserves of iron ore is found in the States of Odisha, Jharkhand, Chhattisgarh, Karnataka, Goa, Telangana, Andhra Pradesh, and Tamil Nadu.
- Sundergarh, Mayurbhanj, and Jhar are the major iron ore regions in Odisha and the important mines are Gurumahisani, Sulaipet, Badampahar (Mayurbhuj), Kiruburu (Kendujhar), and Bonai (Sundergarh).
- Noamundi (Poorbi Singhbhum) and Gua (Pashchimi Singhbhum) are important mines in Jharkhand.
- Dalli and Rajhara in Durg district are the important mines of Chhattisgarh.
- Sandur-Hospet area of Ballari district, Baba Budan hills, and Kudremukh in Chikkamagaluru district, and parts of Shivamogga are the important iron ore regions in Karnataka.
- The districts of Chandrapur, Bhandara, and Ratnagiri are the iron regions in Maharashtra.
- Other iron ore regions in India are Karimnagar and Warangal district of Telangana, Kurnool, Cuddapah, and Anantapur districts of Andhra Pradesh, and Salem and Nilgiris districts of Tamil Nadu.

Manganese

- Odisha is the leading producer of **Manganese**.
- Bonai, Kendujhar, Sundergarh, Gangpur, Koraput, Kalahandi, and Bolangir are the major manganese regions in Odisha.
- Dharwar, Ballari, Belagavi, North Canara, Shivamogga, Chitradurg, Tumkur, and Chikkamagaluru are major manganese regions in Karnataka.
- Nagpur, Bhandara, and Ratnagiri districts are the major regions of manganese in Maharashtra.
- Balaghat-Chhindwara-Nimar-Mandla, and Jhabua districts are the important manganese regions of Madhya Pradesh.

Bauxite

- Odisha is the largest producer of Bauxite in India.
- Kalahandi, Sambalpur, Bolangir, and Koraput are the leading producers of bauxite in Odisha.
- Lohardaga (Jharkhand) is rich in bauxite deposits.
- Amarkantak plateau has rich deposits of bauxite in Chhattisgarh.

- Katni-Jabalpur area and Balaghat are the major regions of bauxite in Madhya Pradesh.
- Kolaba, Thane, Ratnagiri, Satara, Pune, and Kolhapur in Maharashtra are important bauxite producers.

Copper

- Copper deposits are largely concentrated in Singhbhum district of Jharkhand, Balaghat district of Madhya Pradesh, and Jhunjhunu and Alwar districts of Rajasthan.

Mica

- Hazaribagh plateau of Jharkhand and Nellore district of Andhra Pradesh have deposits of high grade mica.
- Jaipur to Bhilwara and areas around Udaipur are the major mica-bearing regions of Rajasthan.
- Other mica-bearing regions are Mysore and Hasan districts of Karnataka; Coimbatore, Tiruchirapalli, Madurai, and Kanniyakumari of Tamil Nadu; Alleppey of Kerala; Ratnagiri of Maharashtra; Purulia and Bankura of West Bengal.

Top Mineral Producing States in India

| Name of the Minerals | Top producing State |
|----------------------|---------------------|
| Chromite | Orissa |
| Uranium | Kerala |
| Lead | Rajasthan |
| Iron ore | Odisha |
| Nickel | Orissa |
| Lignite | Tamil Nadu |
| Diamond | Madhya Pradesh |
| Copper | Madhya Pradesh |
| Natural Gas | Assam |
| Coal | Jharkhand |
| Manganese | Odisha |
| Bauxite | Odisha |
| Mica | Andhra Pradesh |
| Gold | Karnataka |
| Lime stone | Andhra Pradesh |
| Barytes | Andhra Pradesh |

Minerals and Their Leading Producing Countries

| Minerals | Largest Producers | Second Largest Producers |
|-------------|-------------------|--------------------------|
| Coal | China | United States |
| Fluorite | China | Mexico |
| Aluminium | China | Russia |
| Bismuth | China | Mexico |
| Gold | China | Australia |
| Iron Ore | China | Australia |
| Tin | China | Indonesia |
| Zinc | China | Australia |
| Natural Gas | United States | Russia |
| Petroleum | United States | Saudi Arabia |
| Uranium | Kazakhstan | Canada |
| Diamond | Russia | Botswana |
| Palladium | Russia | South Africa |
| Bauxite | Australia | China |
| Lithium | Australia | Chile |
| Titanium | Australia | South Africa |
| Manganese | South Africa | China |
| Platinum | South Africa | Russia |
| Silver | Mexico | China |
| Nickel | Philippines | Russia |