



Mission Purvodaya: Accelerated Development of Steel Sector

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Why in News

A workshop on “**Enabling Procedures for Increase of Steel Usage for the Growth of Economy**” was organised by the **Ministry of Steel** in partnership with the **Government of Japan** and **Confederation of Indian Industries (CII)**.

Key Points

- The Eastern belt has the potential to add more than 75% of the country’s incremental steel capacity. In India’s march towards a **\$5 trillion economy**, the eastern states can play a major role where the steel sector can become the catalyst.
- It is expected that out of the 300 MT capacity by 2030-31, over 200 MT can come from this region alone, driven by **Industry 4.0**.
- Earlier, Japan and India have also launched the India Japan Steel Dialogue to ensure sustainable growth of the steel sector. Iron ore exports from India, particularly Odisha, helped Japan in becoming a leading economic power.

Mission Purvodaya

- It was launched in 2020 for the accelerated development of eastern India through the establishment of an integrated steel hub in Kolkata, West Bengal.
- The focus will be on eastern states of India (Odisha, Jharkhand, Chhattisgarh, West Bengal) and northern part of Andhra Pradesh which collectively hold **~80% of the country’s iron ore, ~100% of coking coal** and significant portion of **chromite, bauxite and dolomite** reserves.

- The Integrated Steel Hub would focus on 3 key elements:
 - Capacity addition through easing the setup of Greenfield steel plants.
 - Development of steel clusters near integrated steel plants as well as demand centres.
 - Transformation of logistics and utilities infrastructure which would change the socio-economic landscape in the East.
- The objective of this hub would be to enable swift capacity addition and improve overall competitiveness of steel producers both in terms of cost and quality.

Iron & Steel Industry

- Steel is an **alloy of iron and carbon in which the carbon content ranges up to 2%**. Iron ore, coking coal and limestone are required in the ratio of approximately 4 : 2 : 1. Some quantities of manganese are also required to harden the steel.
- The iron and steel industry is the **basic industry** since all the other industries — heavy, medium and light, depend on it for their machinery. Iron and steel is a heavy industry because all the raw materials as well as finished goods are heavy and bulky entailing heavy transportation costs.
- India is currently the **2nd largest producer of crude steel** in the world.
- **Production and consumption of steel** is often regarded as the **index of a country's development**. Per capita finished steel consumption in 2018 was 224.5 kg for the world and 590.1 kg for China . The same for India was 74.1 kg in 2018.
- The Government has launched the **National Steel Policy 2017** that aims to increase the **per capita steel consumption to 160 kgs by 2030-31**.
- Odisha is the highest steel producing state in the country. The ores of Odisha are rich in haematites.
- Growth of steel industry would lead to:
 - Employment opportunities across the entire value chain.
 - Socio-economic growth of Eastern India.
 - Reduced disparity between the East and other regions of the country.

Iron Ores

- Hematite and magnetite are the most important iron ores in India.
- **Hematite**
 - Hematite refers to a ferric oxide containing no crystal water, and its chemical formula is **Fe₂O₃ (iron oxide)**.
 - The pure hematite theoretical iron content is 70%.
 - Its appearance is from red to light gray, sometimes black, and the stripes are dark red. Commonly known as “red mine.”
 - Hematite is abundant in nature, but pure hematite is less, often co-existing with magnetite and limonite.

- **Magnetite**

- The main iron-bearing mineral of magnetite is tri iron tetroxide, and its chemical formula is **Fe₃O₄**.
- The theoretical iron content is around 72%.
- The appearance color is usually carbon black or slightly light blue black, metallic luster, streaks (color appearing on the board when the surface is uneven on the white porcelain plate) black. Commonly known as the green mine.
- The most prominent feature of this ore is its **magnetic nature**.
- Magnetite is generally very hard, dense in structure and poor in reducing performance.

Source: PIB