

Chapter 6

Manufacturing Industries

❖ Importance of Manufacturing

- Helps in modernizing agriculture.
- Provides employment opportunities to millions of people.
- Increases the country's income by exporting manufactured goods.
- Improves the country's infrastructure.

❖ Share of manufacturing sector in India's GDP: 17%

❖ Growth rate of manufacturing sector: 11% per annum

❖ Industrial Location

Location of an industry depends on various factors such as

- Availability of raw material
- Availability of cheap labour
- Availability of power and other infrastructure
- Proximity to markets
- Availability of adequate and swift means of transportation



Classification of Industries		
Basis	Classification	Industries
Source of raw material	Agro-based	Cotton, wool, jute, silk, rubber, sugar, tea, coffee
	Mineral-based	Iron, steel, cement, aluminium, petrochemicals
Role	Basic industries	Iron and steel, copper smelting, aluminium smelting
	Consumer industries	Sugar, cosmetics, paper, machines etc.
Capital	Small scale (investment up to Rs 1 crore)	Match-making, handicrafts, toys, plastic containers and other goods
	Large scale (investment above Rs 1 crore)	Cosmetics, drugs, electronic items
Ownership	Public sector	BHEL, SAIL, NTPC
	Private sector	TISCO, BAJAJ, BPL
	Joint sector	OIL
	Cooperatives	Sugar industry (Maharashtra), coir industry

		(Kerala)
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❖ Agro-Based Industries

• Textile Industry

- Second largest employer after agriculture.
- Contributes about 4% to the GDP.
- Only industry that is self-reliant.
- **Cotton textiles:** Produced with hand-spinning, power looms, handlooms and mills.
Concentrated in Maharashtra and Gujarat
Maximum production by power looms.
- India has the second largest installed capacity of spindles after China.
- India accounts for 1/4th of the total world trade in cotton yarn.
- **Jute textiles:** India is the largest producer of raw jute.
Second largest exporter after Bangladesh
Located in West Bengal

• Sugar Industry

- India is the second largest producer of sugar after Brazil.
- India is the largest producer of *gur* and *khandsari*.
- Sugar mills are located in U.P., Bihar, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh and Gujarat.
- Most mills are in the cooperative sector.

❖ Mineral-Based Industries

- These industries use minerals and metals as raw materials.

• Iron and Steel Industry

- Basic Industry i.e., it is the basis for all other industries.
- Steel = Iron ore + Cooking Coal + Limestone in the ratio of **4:2:1**
- India is the ninth largest steel producer.
- India is the largest producer of sponge iron.
- There are 10 primary steel plants in India.
E.g., Bokaro, Raurkela, Burnpur, Bhilai, Durgapur etc.
- SAIL (Steel Authority of India Limited) is the nodal marketing agency of steel produced by public sector undertakings.
- Located mostly in the Chotanagpur Plateau region.

• Aluminium

- Light, corrosion free and good conductor of heat.
- Used in aircraft, utensils and wire industry.
- 8 aluminium smelting plants in India.
E.g., NALCO and BALCO in Orissa.

❖ Chemical Industries

- Contribute 3% to the GDP.
- Third largest in Asia.
- **Inorganic Chemicals:** Sulphuric acid, plastics, adhesive and paints.
- **Organic Chemicals:** Petrochemicals, dyes and drugs.

❖ Fertilizer Industry

- This industry manufactures nitrogenous fertilizers (Urea), phosphoric fertilizers, ammonium phosphate (DAP) and complex fertilizers.
- India is the third largest producer of nitrogenous fertilizers.
- Located in Gujarat, U.P., Tamil Nadu, Punjab and Kerala.

❖ Cement Industry

- Cement is manufactured from limestone, silica, aluminium and gypsum.
- Located mainly in Gujarat.
- First cement plant: Chennai in 1904
- Exported to the Gulf countries, Africa and South Asia.

❖ Automobile Industry

- Manufactures cars, scooters, motorcycles, trucks, buses, three-wheelers etc.
- Located in Delhi, Gurgaon, Mumbai, Pune, Chennai, Kolkata, Lucknow, Hyderabad, Jamshedpur and Bangalore.

❖ Information Technology and Electronics Industry

- Includes transistors, television, telephones, computers and radars.
- Bangalore is the electronic capital of India.
- This industry has given a boost to employment generation in India.

❖ Industrial Pollution and Environmental Degradation

- Industries cause four types of pollution
 - **Land:** Land gets polluted and the quality of soil gets degraded when huge quantities of industrial wastes are dumped, rendering the soil infertile.
 - **Air:** The emission of toxic gases such as carbon monoxide, sulphur dioxide and other harmful gases from industries and vehicles causes irreparable damage to the atmosphere. The smoke emitted by factories contains small dust particles which are inhaled by human beings and can cause various pulmonary and other diseases.
 - **Water:** The industrial wastes and chemical effluents discharged into water bodies contaminate the water and make it unfit for human use.
 - **Noise:** The blaring horns of automobiles, noise of machinery in the factories and large scale construction activity creates noise pollution which causes irritation and can also lead to deafness.

❖ Controlling Environmental Degradation

- Minimising the use of water.

- Reusing used water by purifying it.
- Rainwater harvesting for conserving water.
- Treating industrial and chemical effluents before discharging them into rivers.
- Minimising the use of fuels that produce harmful gases and adopting clever fuels such as biogas and natural gas.
- Establishing waste treatment and sewage treatment plants for preventing land and water pollution.

❖ **NTPC**

- National Thermal Power Corporation
- A public sector undertaking (PSU)
- Established in 1975
- Has an ISO 14001 certification for EMS (Environment Management System)

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