



MANUFACTURING INDUSTRIES

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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

QUESTIONS CAN BE ASKED

- The economic strength of a country is measured by the development of manufacturing industries. Explain

OR

- Why do we consider manufacturing sector as the backbone of development in general and economic development .

OR

- What manufacturing industries are important?

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

Explain why agriculture and industry are complementary to each other?

Or

Agriculture and industry are not exclusive of each other. Explain or

Explain how agriculture and industry are interdependent on each other.

1. The agro-industries in India have given a major boost to agriculture by raising its productivity. More industry ,more raw material and this will increase the production of agriculture.
2. They depend on the latter for raw materials and sell their products such as irrigation pumps, fertilisers, insecticides, pesticides, plastic and PVC pipes, machines and tools, etc. to the farmers.
3. Thus, development and competitiveness of manufacturing industry has not only assisted agriculturists in increasing their production but also made the production processes very efficient

Classification of Industries

Classification on the basis of source of raw materials used:

- **Agro based:** cotton, woollen, jute, silk textile, rubber and sugar, tea, coffee, edible oil.
- **Mineral based:** iron and steel, cement, aluminium, machine tools, petrochemicals.

Classification according to their main role:

- **Basic or key industries which supply their products or raw materials to**
manufacture other goods e.g. iron and steel and copper smelting, aluminum smelting.
- **Consumer industries that produce goods for direct use by consumers –** sugar, toothpaste, paper, sewing machines, fans etc.

Classification on the basis of capital investment:



A small scale industry is defined with reference to the maximum investment allowed on the assets of a unit. At present the maximum investment allowed is rupees one crore. If investment is more than one crore on any industry then it is known as a large scale industry.

On the basis of ownership:

- **Public sector, owned and operated by government agencies – BHEL, SAIL etc.**
- **Private sector industries owned and operated by individuals or a group of**
individuals –Reliance, TATA, Bajaj Auto Ltd., Dabur Industries.
- **Joint sector industries which are jointly run by the state and individuals or a**
group of individuals. Oil India Ltd. (OIL) is jointly owned by public and private sector.
- **Cooperative sector industries are owned and operated by the producers or**
suppliers of raw materials, workers or both. They pool in the resources and share the
profits or losses proportionately such as the sugar industry in Maharashtra, the coir
industry in Kerala. Example: Amul, Lijjat Papd.

Based on the bulk and weight of raw material and finished goods:

- **Heavy industries** such as iron and steel
- **Light industries** that use light raw materials and produce light goods such as electrical industries.

Textile Industry:

Contribution to industrial production (14 %).

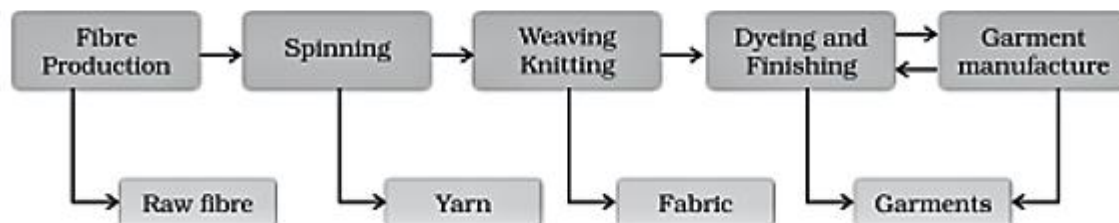
Employment: 3.5 crore people.

Foreign Exchange earnings: 24.6% approx.

Contribution to GDP: 4%

Question can be asked :

- Give any three reasons as to why does cotton textile industry occupies unique position in the Indian economy.
- The textile industry occupies unique position in the Indian economy, because it contributes significantly to industrial production (14 per cent), employment generation (35 million persons directly – the second largest after agriculture) and
- foreign exchange earnings (about 24.6 per cent). It contributes 4 per cent towards GDP.
- It is the only industry in the country, which is self-reliant and complete in the value chain i.e., from raw material to the highest value added products.



Cotton Textiles

In ancient India – hand spinning & weaving.

After 18th century – power looms.

Set – back during colonial rule due to non-competitiveness with mill made cloth, from England.



- The first successful textile mill was established in Mumbai in 1854.

Cotton textile industry was concentrated in the cotton growing belt of Maharashtra and Gujarat

- Availability of raw cotton,
- Market,
- Transport including accessible port facilities,
- Labour,
- Moist climate, etc. contributed towards its localisation.

Exports



Yarn: to Japan.



Cotton goods: USA, UK,
Russia, France, East
European countries, Nepal,
Singapore, Sri Lanka, &
African Countries.

Problems

Use of poor quality yarn in our mills.

Tough competition in the world market.

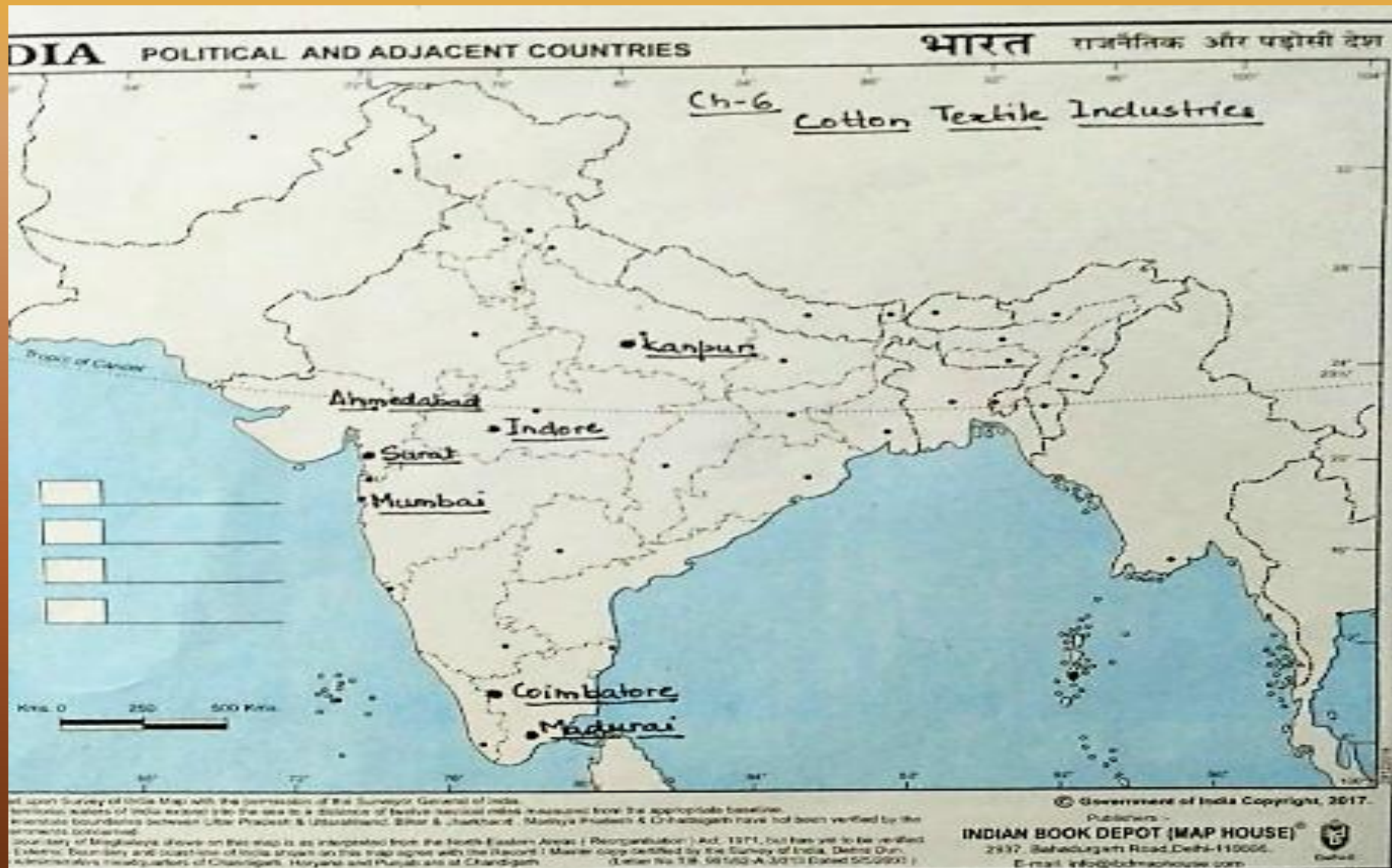
Good quality yarn is for export.

Power supply erratic.

Machinery to be got upgraded.

Low output of labour.

COTTON TEXTILE INDUSTRY MAP



Jute Industry:

Largest producer of raw jute & jute goods.

2nd largest exporter of jute goods after Bangladesh.

70 jute mills in India.



JUTE INDUSTRY

- The first jute mill was set up near Kolkata in 1859 at Rishra.
- After Partition in 1947, the jute mills remained in India but three-fourth of the jute producing area went to Bangladesh (erstwhile East Pakistan).

Factors responsible for their location in the Hugli basin are:

- Proximity of the jute producing areas,
- Inexpensive water transport,
- Supported by a good network of railways, roadways and waterways to facilitate movement of raw material to the mills,
- Abundant water for processing raw jute,
- Cheap labour from West Bengal and adjoining states of Bihar, Orissa and Uttar Pradesh.
- Kolkata as a large urban centre provides banking, insurance and port facilities for export of jute goods.

National Jute Policy in 2005.

To increase demand

To increase
productivity

To improve quality

To ensure good prices

To enhance yield per
hectare

Sugar Industry

2nd place in the world on production of sugar.

1st place in gur & khandasari.

460 sugar mills in the production areas of sugar cane due to sucrose content reduction in haulage.

SUGAR INDUSTRY



In recent years, there is a tendency for the mills to shift and concentrate in the southern and western states, especially in Maharashtra

- This is because the cane produced here has a higher sucrose content.
- The cooler climate also ensures a longer crushing season.
- The cooperatives are more successful in these states.

PROBLEMS /CHALLENGES FACED BY SUGAR INDUSTRY

- Major challenges include
- The seasonal nature of the industry,
- Old and inefficient methods of production,
- Transport delay in reaching cane to factories
- Need to maximise the use of baggase.

Iron & Steel Industry

Basic

Production & consumption – index of development.

Heavy & bulky

9th place with 32.8 million tons of steel annually.

Largest producer of sponge iron.

Per capita consumption: 32 kg per annum.

IRON & STEEL INDUSTRY

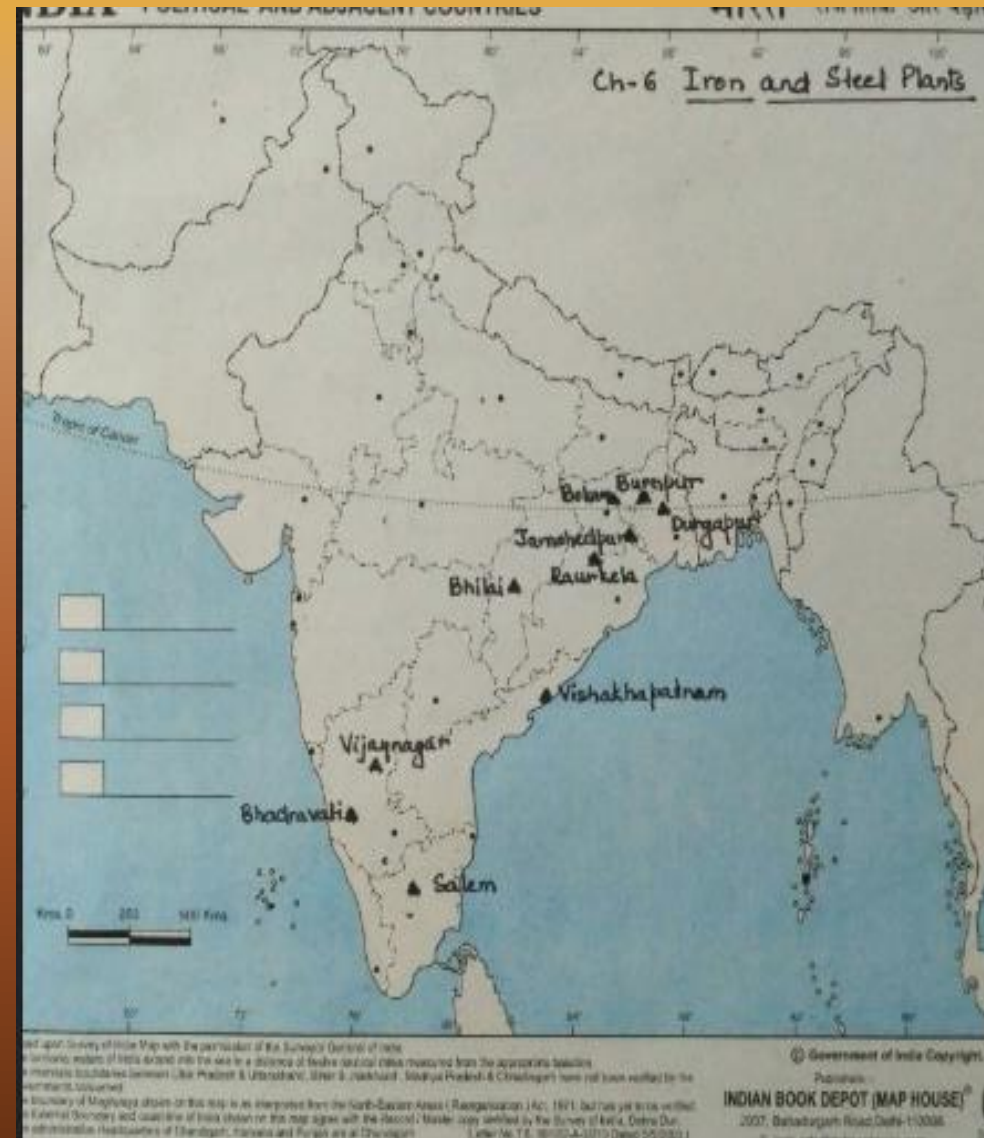


Iron and steel plants

- Mini steel plants are smaller, have electric furnaces, use steel scrap and sponge iron. They have re-rollers that use steel ingots as well. They produce mild and alloy steel of given specifications.
- An integrated steel plant is large, handles everything in one complex – from putting together raw material to steel making, rolling and shaping.

Chotanagpur plateau region has the maximum concentration of iron and steel industries

- Chotanagpur plateau region has the maximum concentration of iron and steel industries.
- It is largely, because of the relative advantages this region has for the development of this industry.
- Low cost of iron ore,
- High grade raw materials in proximity,
- Cheap labour and vast growth potential in the home market.



Aluminium Smelting

2nd most imp. Metallurgical industry.

Light In weight

Resistant to corrosion

Good conductor of heat

Malleable

Used for manufacturing of aircraft

ALUMINIUM SMELTING



Chemical Industry

Fast growing & diversifying industry.

Contribution: 3% to GDP.

Both largest & small units – growth in both organic & inorganic.

CHEMICAL INDUSTRY



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.

FERTILIZER INDUSTRY



Urea Plant of Indo Gulf at Jagdishpur (Sultanpur, U.P.).

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.

CEMENT INDUSTRY



Automobile Industry

- Manufactures cars, scooters, motorcycles, trucks, buses, three-wheelers etc.

- Located in Delhi, Gurgaon, Mumbai, Pune, Chennai, Kolkata, Lucknow, Hyderabad, Jamshedpur and Bangalore.

AUTOMOBILE INDUSTRY



Information Technology

- 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.

IT



Ch-6 Software Technology Parks



Pollution & Environment 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 unfertile.

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.



History



Chemistry



Laws &
Regulations



Human Health



Disposal



Ecosystems

Save Environment

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)