Revision Notes

Class 10 Social Science (Geography)

Chapter 6 - Manufacturing Industries

Importance of Manufacturing

Manufacturing is seen as a backbone of development for the following reasons:
- It helps the nation prosper by stimulating the economy.
- It is instrumental in eradicating unemployment and poverty.
- The export of manufactured products increases trade and commerce and provides much needed foreign currency.
- Manufacturing industries contribute to the modernization of agriculture through the creation of jobs in the secondary and tertiary sectors.

Industrial contribution to the national economy.

The trend in the growth rate of the manufacturing sector over the past decade has been around 7 percent annually.

Industrial Location

Industrial sites are inherently complex. They are affected by the availability of raw materials, labor, capital, power and market, etc. It is not often possible to find all of these available factors in the same location. As a result, manufacturing activity tends to be at the most appropriate location where all industrial location factors are available or can be arranged more cheaply.Cities provide markets and services such as banks, insurance, transportation, labour, consultants and financial advisory services, etc. to the industry. Many industries tend to join forces to take advantage of the advantages offered by urban centres called agglomeration economies. Progressively, a major industrial agglomeration is taking place. In the period prior to independence, most manufacturing units were located in places from the standpoint of foreign trade such as Mumbai, Kolkata, Chennai, etc. As a result, pockets of industrially developed urban centres, surrounded by an immense agricultural rural back country, have emerged.

Agro-based Industries

Cotton, jute, silk, woollen textiles, sugar and edible oil, etc. Industries are based upon agricultural commodities. Let's hear it one by one.

Textile Industry
It's the only industry in India that is autonomous and comprehensive in the value chain, i.e. from raw materials into higher value-added products. It contributes to industrial production, employment creation and foreign exchange income.

Cotton Textiles
This industry is closely associated with agriculture and provides a livelihood for farmers, cotton boll pickers and workers engaged in ginning, spinning, weaving, dyeing, design, packaging, and sewing. It supports numerous other industries, such as chemicals and stains, packaging materials and engineering structures.

Jute Textiles
India is the leading producer of raw jute and jute produce. Most of the mills are situated in West Bengal, mostly along the banks of the Hugli River.

Sugar Industry
India ranks second as a global sugar producer, but is the largest producer of Gur and Khandsari. This industry is seasonally based.

Mineral-based Industries
Industries which use minerals and metals as raw materials are referred to as industries of mineral origin. Let's talk about some of the industries that fit into that category.

Iron and Steel Industry
The steel industry is the backbone industry like any other industry – heavy, medium and light, depending on it for their machinery. It is considered a heavy industry because all raw materials, as well as finished goods, are heavy and bulky, resulting in high transport costs.

India is a major iron and steel producer in the world, but we are not in a position to realize our full potential largely because of:
- Expensive and limited availability of coking coal.
- Decrease in labor productivity.
- Inconsistent supply of energy.
- Poor infrastructure.

Aluminium Smelting

The aluminum smelter is the second largest metallurgy industry in India. It is used in the manufacture of airplanes, utensils and wires. Bauxite is the raw product used in foundries.

The aluminum smelter has gained popularity as an alternative to steel, copper, zinc and lead in a number of industries. The following properties can be found:

- Lightweight when weighed.
- It is corrosion resistant.
- A good heat conductive.
- Malleable
- Gets tough when mixed with other metals.

Chemical Industries

The chemical industry consists of large and small scale manufacturing plants. Rapid growth was observed in the inorganic and organic sectors.

Inorganic chemicals include sulphuric acid, nitric acid, alkalies, soda ash and caustic soda.

Organic chemicals include petrochemical products, which are used in the manufacture of synthetic fibers, synthetic rubber, plastics, dyes, medicines and pharmaceutical products.

Fertilizer Industry

The fertilizer industry is centred around the production of nitrogenous fertilizers (mainly urea), phosphatic fertilizers and ammonium phosphate (DAP) and complex fertilizers which have a combination of nitrogen (N), phosphate (P), and potash (K). The third, i.e. potash is entirely imported as the country does not have any reserves of commercially usable potash or potassium compounds in any form. Gujarat, Tamil Nadu, Uttar Pradesh, Punjab and Kerala account for half of the fertilizer output.

Cement Industry

Cement is critical to the construction of homes, plants, bridges, roads, airports, dams and other commercial facilities. This industry depends on bulky and heavy raw materials such as limestone, silica and gypsum.

Automobile Industry

It is responsible for the manufacture of trucks, buses, automobiles, motorcycles, scooters, three-wheeled vehicles and commercial vehicles. They are found around Delhi, Gurugram, Mumbai, Pune, Chennai, Kolkata, Lucknow, Indore, Hyderabad, Jamshedpur and Bengaluru.

Information Technology and Electronics Industry
The electronic industry covers a broad range of products from transistors to television, telephones, cellular telecommunications, telephone exchanges, radar, computers, and numerous other equipment required by the telecommunications industry. It has brought jobs to India. Bengaluru is well known as India's electronics capital.

Industrial Pollution and Environmental Degradation
Industries are involved in four types of pollution:
1. **Air**
2. **Water**
3. **Land**
4. **Noise**

Air pollution: It is caused by the presence of high proportion of undesirable gases, such as sulphur dioxide and carbon monoxide. Particles suspended in the air contain solid and liquid particles such as dust, fog and smoke.

Water pollution: It is caused by organic and inorganic industrial waste and tributaries discharged to rivers. The main culprits in this regard are paper, pulp, chemical, textile and dyeing, petroleum refineries, tanneries and electroplating industries that let out dyes, detergents, acids, salts and heavy metals like lead and mercury pesticides, fertilisers, synthetic chemicals with carbon, plastics and rubber, etc. into the water bodies.

Thermal pollution: It occurs when warm water from plants and thermal power plants is drained into rivers and ponds before cooling.

Noise pollution: It is not only results in irritation and anger, it can also cause hearing impairment, increased heart rate and blood pressure among other physiological effects. Unwanted sounds are irritating and create stress.

Control of Environmental Degradation

The following are some means by which industrial pollution can be reduced:

1. Minimize water usage through reuse and recycling.
2. Collection of rain water to meet water requirements.
3. Treatment of warm water and effluent prior to release to rivers and ponds.
4. Airborne particles can be reduced by installing smoke stacks in plants with electrostatic dust collectors, fabric filters, scrubbers and inertial separators.
5. You can reduce the smoke by using oil and gas instead of coal in the plants.
6. Machines can be redesigned to make them more energy efficient and reduce noise.