

The process in which man can change the natural resources into usable conditions according to his intellectual, cultural and economic capacity is called “Industry”. In India, the industrial traditions are found since Indus Valley civilization. At that time, India used to prepare cotton textile, clay utensils, bronze items and beads. Upto eighteenth century, India was ahead in ship building industry. India was also ahead in handicraft and in cottage industries. There was a heavy demand of Indian cotton cloth, muslin cloth, metallised utensils and ornaments.

With the beginning of Industrial revolution in England, the Britishers used to take away raw material, especially raw cotton. They used to follow the policy of selling the goods manufactured in England at a higher price in India so the Indian market would collapse. This damaged the textile industry and the Indian craftsman of India heavily.

Importance of Industries

Today, the existence of nations depends only on the development of industries. Economic development without the industrial progress will be impossible. Those countries which have developed more industrially have strengthened their economy equally. Countries like United States of America, Russia, Japan, South Korea are prosperous and developed nations on the basis of their industrial development. Those countries, where industries are either not developed or are less developed, are not capable to harness the natural resources as industrial raw material. They have to sell their natural resources at a cheaper price and purchase the things made of the same raw material from foreigners at a higher price. Manufacturing industries contribute about 29% of the national production of India.

The administrative policy of British rule broke the backbone of Indian industrial structure. During slavery period industries with modern methods could not be started in India. In 1853, the first industrial complex of iron furnace based on charcoal was founded, but it failed. First successful attempt was made in 1854 in cotton textile industry. Thereafter a jute mill was established in 1855 at Risra near Kolkata. In 1874, a factory was founded at Kulti for making iron ore which was closed after few years. It was restarted in 1881. In 1907, a new dimension was provided with the founding of Tata Iron and Steel Company at Jamshedpur.

Classification of Industries

Industries are divided on the basis of human labour, ownership and the sources of raw material. On the basis of human labour, the industries can be divided as “small scale” and “large scale” industries. Those industries where more employment is available is known as large scale industry, e.g. cotton textile industry. When an industry is under the direction of an individual’s ownership and the number of labourers is also less, it is called small scale industry, e.g. sugar (khandsari) industry. Besides these, industries can be classified as private, public, collaborative and cooperative groups. So industries can be classified in many ways. On the basis of the source of the raw material, the industries can be classified into agro based industries and mineral based industries.

Agro based Industries

Cotton textile, jute, silk, woollen textile, sugar, paper etc. are industries based on the raw material obtained from activity based on agriculture.

Cotton Textile Industry

Garment industry has an important place in the industrial economy of India. This industry

provides employment to about 3.5 crore people. Textile Industry is the industry which provides maximum employment in the country. India holds second rank after China in the export of cotton textiles. It is the main industry from production and employment points of view.

First cotton mill was established in Mumbai. Thereafter, Shahpur Mills and Calico mills were established in Ahmedabad in Gujarat. In the initial years, the cotton textile mills were established in Mumbai and Ahmedabad. These mills were established due to cheap cotton, availability of labour, transport facilities, ports for export and favourable markets. Today, cotton textile mills are located in about 100 cities of the country. Main traditional and important centres at present are Mumbai, Ahmedabad, Bhivandi, Solapur, Kolhapur, Nagpur, Indore and Ujjain.

There are more mills in Mumbai in Maharashtra, hence it is also called as Cottonopolis of India. The industry is also established at Pune, Kolhapur, Aurangabad, Jalgaon cities. In Gujarat, Ahmedabad is called as “Manchester of the East” or “Denim city of India”. Besides, cities like Vadodara, Kalol, Bharuch, Surat, Porbandar, Bhavnagar, Rajkot etc. are also included. Coimbatore is the main centre of Tamil Nadu. Chennai and Madurai cities are also included. Main centres in Uttar Pradesh are Kanpur, Itawah, Agra, Lucknow etc. Indore, Gwalior, Ujjain and Devas are main centres of this industries in Madhya Pradesh. In West Bengal Kolkata, Howrah, Murshidabad are major centres. Cotton Textile industry was setup also in Rajasthan, Punjab and Haryana. Extensive market centres, transportation, banks and electricity have contributed considerably in decentralization of this industry.

Today, cotton textile industry is facing a tough competition due to the factors like inadequate supply of best variety of cotton, use of old machinery, irregular electric supply, competition from artificial fibre cloth in the market and keen competition in global markets.

India exports cotton textile cloth to Russia, United Kingdom, United States of America, Sudan, Nepal, Australia, France and South African countries.

Jute Textile Industry

Jute is second ranked major industry of India. India holds first place in the production of jute and goods made from jute. India is at second place after Bangladesh in the export of Jute. Of the total jute production of the country, West Bengal produces about 80%, Andhra Pradesh about 10% and the rest is produced by Bihar, Uttar Pradesh, Madhya Pradesh, Odisha, Assam and Tripura.

Much water is needed to purify jute. So most the mills are located on the bank of Hoogli river. This industry is concentrated in West Bengal due to cheap labour force, banks and insurance coverage, port for export facility etc.

Today, the demand for jute has decreased because of other options in packing material for goods. Jute industry is facing such problems like more cost of production and decreasing demand of jute in international markets.

Silk Textile Industry

Silk production has a long tradition. After China, India ranks second in the world in silk production. In India, four types of silk are produced. These are mulberry, eri, tasar and muga.

Today there are about 300 silk weaving mills in India. Major states producing silk are Karnataka, Madhya Pradesh, West Bengal, Tamil Nadu, Punjab and Jammu-Kashmir. Silken clothes are exported to Europe, Africa and Gulf countries. Besides, these are also exported to Germany, Singapore, U.S.A., Kuwait, Malaysia and Russia. In international market, Indian silk is facing a tough competition from China.



13.1 Centres of Cotton, Woollen and Silk Textile

Woollen Textiles Industry

As a cottage industry, the history of woollen textile industry is very old. Maximum woollen textile mills are in Punjab. Next comes Maharashtra. There are woollen textile mills in Uttar Pradesh also. Ahmedabad and Jamnagar in Gujarat are centres of woollen clothes. Other major centres are Bikaner and Jaipur, in Rajasthan, Srinagar in Jammu-Kashmir and Bengaluru in Karnataka. India also produced woollen carpets. Woollen cloth is exported to America, Canada, Germany, France, Russia etc.

Synthetic Textiles Industry

The cloth made from synthetic fibre made by man is strong, durable and does not retain wrinkles, hence this industry has developed very much. The cotton fibres are mixed with synthetic fibres to get mixed variety of cloth. Main Producer of this industry are Kerala, Gujarat, Uttar Pradesh, West Bengal, Tamil Nadu etc. Other centres are Surat, Kanpur, Mumbai, Ahmedabad, Kolkata, Chennai, Modinagar etc.

Sugar Industry

Making Jaggery from the sugarcane juice is very old industry in India. Sugar industry stands second after textiles in agrarian industries in India. After reaping the crop of sugarcane, it has to be squeezed within twenty four hours so that the amount of water is not reduced, otherwise its sugar contents will decrease. That is why the sugar factories are located near sugarcane growing centres. Sugar factories are located in Maharashtra, Uttar Pradesh, Tamil Nadu, Karnataka, Andhra Pradesh, Gujarat etc. This industry is developed in Gujarat at Bardoli, Gandevi, Surat, Navsari, Vyara, Bharuch, Bharuch, Kodinar and Talala Gir.

Paper Industry

Paper is made out of soft wood, bamboo, grass, molasses etc. It is produced in Andhra Pradesh, Maharashtra, West Bengal, Odisha, Karnataka, Gujarat, Madhya Pradesh, Chhattisgarh, Tamil Nadu, Haryana etc.

Mineral Based Industries

Those industries wherein minerals are used as raw material are known as mineral based industries. Industries such as iron and steel industry, aluminium industry, copper, chemical, fertilizers, cement, means of transportation and electrical goods are mineral based industries.

Iron and Steel Industry

Iron and Steel Industry is the axis of modern industrial and the economic development. It is considered to be the base industry. Machines and other constructions are produced from its productions. This can be also considered to be a key industry.

The process of making iron is very old in India. Iron was imported from India to make swords in Damascus. The first factory in India to produce iron was established at Portonova in Tamil Nadu. It was closed due to some reasons. A successful production of raw iron was made at Kulti. In 1907, the factory established at Jamshedpur started producing iron-steel on very a large scale. Factories were established at Berhampur in West Bengal and at Bhadravati in Karnataka. Iron and steel factories were also established in Bhilai, Rourkela and at Durgapur. Other large scale factories

were founded at Bokaro, Vishakapatnam and Salem. Iron ore, coal, lime stone and manganese are used as raw material for producing iron-steel. A mini steel plant has been found near Hajira in Gujarat. The administration of all iron-steel factories except Tata is handed over to “Steel Authority of India Limited [S.A.I.L.]. India ranks fifth in the world in iron and steel production.



13.2 Centres of Iron and Steel Industry in India

Aluminium Refining Industry

After iron and steel industry, aluminium refining is another important industry. This mineral is light in weight, strong, malleable, smooth conductor of electricity and rustproof. Bauxite is the aluminium ore. Other minerals are mixed with aluminium which is useful in making cars, railway, aeroplanes and machines. About 40 to 50% of expenses is incurred in electricity. So this Industry is founded where hydro-electricity and bauxite are available easily.

Factories producing aluminium are established in Odisha, West Bengal, Kerala, Uttar Pradesh, Chhattisgarh, Maharashtra and Tamil Nadu.

Copper Refining

The usage of copper has increased due its properties such as easy conductor of electricity and it can be mixed with other minerals easily. Copper is useful in electricity industry, in making of refrigerator, air-conditioner, automobiles, radiators, domestic utensils etc. First Copper refining unit of India was founded by Indian Copper Corporation (ICC) at Ghatshila in Jharkhand. In 1972, ICC was handed over to Hindustan Copper Limited (HCL). Besides HCL today, copper is produced by private sector also. Yet, the domestic production is not enough so it has to be imported.

Chemical Industry

The position of chemical industry in india is important. Chemicals are of two types : organic and inorganic chemicals. Petrochemicals is the main organic chemical industry. It is used in artificial fibers, artificial rubber, plastic goods, colour, chemicals and in medicines. Organic chemical industry is founded near oil refineries and petro-chemical centres. Inorganic Chemicals are used in phosphoric acid, nitric acid, salts, soda ash, caustic soda and chlorine etc. India has an important position in the world in the insecticide industry. Gujarat leads in the country in chemical industry. Ahmedabad, Vadodara, Ankleshwar, Bharuch etc. are major centres of chemical industry.

Chemical Fertilizer Industry

First chemical fertilizer factory of India was established in 1906 at Ranipat in Tamil Nadu. The development of this industry started when fertilizer corporation of India started its factory at Sindari. This industry is centred in Gujarat, Tamil Nadu, Uttar Pradesh, Punjab and Kerala. In Gujarat, the factories producing chemical fertilizers are located at Kalol, Kandla, Hajira, Bharuch, Vadodara etc.

Plastic Industry

Plastic industry is also known as 'Sunrise Industry'. There has been a constant increase in the demand of raw material for plastic. Because it is water proof and can fit into any mould, it is used in packing chemicals, textiles, building construction, vehicle manufacturing, electronics etc. Important centres producing plastic are Delhi, Mumbai, Kolkata, Bengaluru, Vadodara, Vapi, Kanpur, Coimbatore and Chennai.

Cement Industry

Cement is inevitable in the construction of, roads, dams etc. India ranks second after China in cement production. It produces about 6% of the world production. Lime stone, coal, gypsum, bauxite, clay etc. are the raw material for cement industry. The raw materials and the products have

more weight, so the cement factories are located where the raw material is available in abundance. There is a fairly good development of this Industry in Gujarat.

Transport Equipment Industry

You might have seen many types of vehicles for travel. Earlier, there were animal driven vehicles which were very slow. Today in modern age, vehicles with faster speed along with the development of roads have come in usage. The industry which produces such vehicles is known as transport industry.

Railway

Railway services deserve appreciation of travelling in India. Railways manufacture the equipment of its own requirement by itself, such as railway engines, passenger coaches, goods coaches etc. These are also produced privately. There are three types of railway engines : steam, diesel, electric. The steam engines are now used only for the Heritage Trains which are run only for tourism purposes. Diesel and electric engines are produced at Mihijam in Chittaranjan Locomotives Works in West Bengal, Diesel Locomotives Works at Varanasi and The Tata locomotive works at Jamshedpur. Passenger coaches are manufactured at Perambur, Bengaluru, Kapurthala and Kolkata.

Road Vehicles

Before independence, we used to manufacture cars by assembling its imported parts. Now the factories manufacturing truck, bus, car, motor-cycle, scooter and cycle are established in our country. The road vehicles are manufactured mostly by private sector. India ranks fifth in the world in the production of commercial vehicles. Today, the vehicles and their spare parts manufactured in India are exported to foreign countries. Tractors and cycles are produced in very large scale and we export them overseas.

Ship Building Industry

This is an ancient industry in India. In recent times, there are centres to build ships of modern style. These are : Vishakhapatnam, Kolkata, Kochi, Mumbai and Marmagao which are in public sector. Kochi and Vishakhapatnam build ships of larger size. Private dockyards fulfill local needs.

We have also started producing helicopters. Air craft building units are established at Bengaluru, Koraput, Nasik, Hyderabad and Lucknow. The building of air crafts for passenger travels has still not started in India.

Electronic Industry

Radio set and telephone industry was established in India in 1905. This can be said to be the beginning of electronic industry in India. Bharat Electronics Limited (BEL) was established in 1956 in Bengaluru with the motive to manufacture equipment for Akashwani and weather department. Today it produces various electronic equipment in collaboration with Indian Space Research Organization (ISRO).

This industry has brought a lot of changes in the normal life of the people, their life style and the national economy. Bengaluru has become capital of this industry. It is also called “Silicon valley of India”. Software park, science park and technological park are established for the development of this industry. The future of this industry in India is very optimistic.

Industrial Pollution and Environmental Degradation

Industrial production has a noteworthy contribution in the economic development of the nation. Industries have increased pollution and the environment has degraded. When the environmental conditions deteriorate due to natural or man induced reasons, the quality of environment is reduced which is called environmental degradation. Mainly four types of pollutions are created due to industries : air pollution, water pollution, land pollution and noise pollution.

Industries have polluted air and water to a great extent in the present age of competition. The air has become polluted due to very harmful gases like carbon monoxide and sulphur dioxide. Water pollution has increased due to industrial effluents. Today, many factories, release their industrial waste in the rivers ignoring the laws. Water today is heavily polluted than before.

Noise pollution is one of the reasons for deafness in human life. Due to old machinery in industries and means of transportation, the noise pollution has increased. Man experiences mental tension due to too much of noise.

Remedies to Curb Environmental Degradation

The country should make progress, but the progress should be made in such a way that the environment is not degraded. The amount of pollution can be reduced with proper planning for industrial development. Pollution can be reduced also by selection of the quality equipment and fuel. The air pollution can be curbed through filter, scrubber, precipitators etc. The water pollution can be prevented by releasing industrial effluents after proper treatment. Industrial water can be purified after due treatment.

Exercise

1. Answer the following questions in details :

- (1) Where are the sugarcane factories located? Why ?
- (2) Write short note on the iron and steel industry of India.
- (3) Write short note on the importance of industries.
- (4) Write short note on the Cotton Textile Industry.

2. Write to-the-point answer of the following questions :

- (1) Mention the steps to curb environmental degradation.
- (2) Describe the classification of industries.

3. Write answer to the following questions in brief :

- (1) How many ship building centres are there in India ? Which are they ?
- (2) Which raw material is needed for manufacturing cement ?
- (3) Where are the centres of chemical industry located in Gujarat ?
- (4) State four centres of paper industry in Gujarat.

4. Select the correct option from the options given for each question and write answer :

- (1) Which of the following cities is called cottonopolis of India for cotton textiles ?
(A) Indore (B) Mumbai (C) Ahmedabad (D) Nagpur
- (2) Which place does India hold in the export of Jute in the world ?
(A) Seond (B) First (C) Third (D) None
- (3) Which Indian city is well-known as “Silicon Valley” of India ?
(A) Delhi (B) Bengaluru (C) Jaipur (D) Nagpur
- (4) Where is the mini steel plant located in Gujarat ?
(A) Kandla (B) Okha (C) Dwarka (D) Hajira
- (5) Which of the following pairs is false ?
(A) Bengal-Kulti (B) Jharkhand-Jamshedpur
(C) Karnataka-Bhadravati (D) Andhra Pradesh-Burnpur

Activity

- Visit a nearby industrial place along with your teacher.
- Mark different industries on the map of India and prepare an atlas.
- Gather information about different industries by visiting different websites.

