

Industries

Industrial activities are divided in three sectors

Primary sector

Secondary sector

Tertiary sector

Secondary activities are those activities which change raw materials into products of more value to people.

Industry refers to an economic activity that is concerned with production of goods, extraction of minerals or the provision of services.

All the products available for use in the market are finished products and are the result of some industry.

Classification of Industries

Industries are divided on the basis of

Raw Material

Raw material is the basic material used in any industry. Any material that we get from our natural surroundings to be used by an industry is called raw material.

Industries under this may be

Agro based industry

uses animal and plant based products as raw material

Cotton textile, dairy products, food processing and leather industries are examples of agro-based industries.

Mineral based industry

is primary industry that use mineral ores as raw material

Iron made from iron ore is the product of mineral based industry.

Manufacturing of products such as heavy machinery and building use iron as raw material.

Marine based industry

uses products from the sea and oceans as raw material

Examples are industries that process sea food or manufacture fish oil

Forest based industry

utilises forest produce as raw material

Examples are industries associated with forests like pulp and paper, pharmaceuticals, furniture, buildings and equipment.

Size of Industries

Size refers to the amount of capital invested, number of people employed and the volume of production.

Industries based on size may be

Small Scale Industries

Small scale industries manufacture products by hand and include cottage and household industry. These industries use lesser amount of capital and technology.

For example, Basket-weaving, pottery and other handicraft industries.

In India small scale industry gives employment to around 35% population.

Small scale industries mostly exist in developing and under developed world.

Large Scale Industries

Large scale industries produce large volumes of products. The investment of capital is higher and technology is superior.

For example, production of automobiles and heavy machinery.

has automated production, and is capital- and manpower-intensive, requires heavy investment in plant and machinery.

After independence India gave emphasis to this sector for development.

Most developed nations shows existence of large scale industries

Ownership

On the basis of ownership, industries can be classified into

Private sector

Privately owned industry means it is owned by an individual or a group.

Examples are Birla group, Reliance Industries Limited and ITC Ltd.

Public sector or state owned

State-owned or public sector industry means it is owned and operated by the government.

Examples are Bharat Heavy Electricals Limited (BHEL), Hindustan Aeronautics Limited and Steel Authority of India Limited.

Joint sector

A partnership between the state and an individual or a group is called the joint sector.

Examples are Maharashtra Scooters Limited, Maruti Udyog and Gujarat State Fertilizers.

Cooperative sector

This sector was formed for the advancement of agriculture and related industries.

In this sector, the industry is owned and operated by the producers or suppliers of raw materials, workers or both and the state facilitates them.

Examples are Amul Dairy, Anand Milk Union Limited and Sudha Dairy.

Factors Affecting Location of Industries

The availability of raw material, land, water, labour, power, capital, transport and market are the factors and market are the factor affecting the location of industries.

Industrialization leads to development and growth of towns and cities.

Before setting up of any industry proper assessment is done by authorities and then it is permitted.

Industries are usually located near sea ports and coal mines or in temperate areas.

Incentives like subsidised power, low transport cost and infrastructure are provided by government to industries located in the backward regions of the country.

When many industries are located close by, the place becomes an industrial region.

Industrial System

An industrial system comprises of input, process and output.

The input includes raw materials, labour, land, transport, power and other infrastructure.

The process includes a wide range of activities, like ginning, spinning, weaving, dyeing and printing, that convert the raw materials into finished products.

The output includes the end products which are sold to buyers.

Industrial set ups also depends on the political will.

Industrial Regions:

Industrial regions are formed when a number of industries are located close to each other and share the benefits of their closeness.

Major industrial regions are located in the temperate areas, near sea ports and near coal-fields.

Major industrial regions of the world are

Eastern North America

Western and Central Europe

Eastern Europe

Eastern Asia

In India the industrial regions are the following

Mumbai-Pune cluster

Bangalore-Tamil Nadu cluster

Hugli region

Ahmadabad-Baroda region

Chhota Nagpur industrial region

Vishakhapatnam–Guntur belt

Kollam–Thiruvananthapuram industrial belt

Industrial regions depend on technological advancement of a country too.

Industrial corridors are also being set up now by countries to utilise maximum potential. China-India economic corridor is one such example.

Industrial Disaster

Industrial workers are sometimes required to work in a dangerous environment.

Technical failure due to any lapse in the regular maintenance of technical equipment or irresponsible handling of hazardous materials may lead to accidents.

There are some risk reduction measures which if followed can prevent large-scale disasters

Industrial areas should be located far from residential areas.

People living near the industrial areas should be aware of the hazardous materials handled in these industries and their effects on humans in case of an accident.

Improving the fire warning systems and firefighting systems

Improving pollution dispersion qualities and limiting toxic storage capacity within the industries

Distribution of Major Industries

The iron and steel industry, the textile industry and the information technology industry are world's major industries.

Iron and steel industries are located in Germany, USA, China, Japan and Russia.

In India Iron and Steel industry base is found at Chota Nagpur Plateau which is rich in mineral resources.

Textile industries are located in India, Hong Kong, South Korea, Japan and Taiwan.

The Silicon Valley of Central California and Bengaluru region of India are the major hubs of information technology industry.

Emerging industries are also known as 'Sunrise Industries' and include Information technology, Wellness, Hospitality and Knowledge.

Iron and Steel Industry

Iron and steel industry comprises various inputs, processes and outputs and it is a mineral-based industry.

Inputs in this industry include raw materials such as iron ore, coal and limestone, labour, capital and other infrastructure.

In processing iron ore is converted into steel by undergoing different stages like smelting and refining.

The process through which metals are extracted from their ores by heating beyond their melting point is known as smelting.

An output result obtained is the steel.

Steel is the backbone of modern industry and is used as raw material for almost all industries.

Availability of raw materials, cheap labour, transport and market were a few advantages that helped the iron and steel industry to develop in India.

The important steel producing centres in India are

Burnpur and Durgapur in West Bengal

Bokaro and Jamshedpur in Jharkhand

Bhilai in Chhattisgarh

Rourkela in Orissa

'Tata Iron and Steel Company Limited' (TISCO) was the first major steel producing company set up in 1907 in Jamshedpur, India.

Major steel industries are located in Germany, the USA, China, Japan and Russia.

India's steel production increased from one million tonne in 1947 to 30 million tonnes in 2002.

Pittsburgh in the USA is an important steel city and also has many other factories that use steel as raw material.

Cotton Industry

The word 'textile' is derived from a Latin word 'texere' meaning 'to weave'.

Fibres are the raw material of the textile industry and can be natural or man-made.

Natural fibres are obtained from wool, silk, cotton, linen and jute while man-made fibres include nylon, polyester, acrylic and rayon.

Before industrial revolution cotton cloth was made with the help of spinning wheels and looms using hand spinning techniques.

The Industrial Revolution started with the mechanization of the textile industry and cotton gin, one of the key inventions of the Industrial Revolution, came in the late 18th A cotton gin is a machine that quickly and easily separates cotton fibers from their seeds hence increasing productivity.

Great Britain was the first country to have a power loom.

The major textile industries are present in India, Hong Kong and South Korea.

In India,

the first textile mill was set up in 1818 at Fort Gloster near Kolkata but was unsuccessful and had to be closed down

the first successful modern textile mill was established in Mumbai in 1854

Mumbai in Maharashtra is the largest textile city of India followed by Ahmadabad in Gujarat.

about 1/3rd of the total production of textile industry is exported

The biggest importer of Indian textile is the USA.

Initially the cotton mills were concentrated in the states of Maharashtra and Gujarat due to the favourable climate but now the industry has spread to other parts of India like Coimbatore, Kanpur, Chennai, Kolkata, Ludhiana, Puducherry and Panipat.

Easy availability of raw material, suitable climate, flat terrain and easy access to skilled and semi-skilled labour from the densely populated states of Gujarat and the neighbouring state of Maharashtra resulted in a rapid expansion of the industry in the region.

Ahmadabad is also known as 'Manchester of India'.

The port city of Osaka, known as 'Manchester of Japan', is the hub of the textile industry in Japan.

Information Technology (IT)

Information Technology is the study, design and implementation of computer-based information systems.

It deals with the use of technology, i.e. the hardware and the software, to manage and process information. It enables the conversion, transmission, storage and retrieval of data.

Silicon chips consist of silicon, which is a semiconductor, and are used in an integrated circuit.

The major hubs of the IT industry are the Silicon Valley in California and Bengaluru in India.

Bengaluru is also known as 'Silicon Plateau'.

IT hubs in metropolitan centres of India are Mumbai, New Delhi, Hyderabad and Chennai.

IT sector provides jobs to maximum population in service sector.

Indian IT engineers and technology is considered to be best among the world.

The first state government in India to announce an IT Policy was Karnataka in 1992.

Manufacturing: Manufacturing refers to changing raw materials to a usable form, which can be more valuable to people.

Product: A product is something obtained from raw materials by certain processes so that it is something usable and of importance.

Industry: Industry refers to economic activity that is concerned with the production of goods, extraction of minerals or provision of services.

Agro-based Industries: These are industries that use plant and animal-based products as raw material.

Mineral-based Industries: These are industries that use mineral ores as their raw material.

Marine-based Industries: These are industries that use sea and ocean products as their raw material.

Forest-based Industries: These are industries that use forest produce as raw material.

Small-Scale Industries: These are industries that run on little capital and infrastructure.

Large-Scale industries: These are industries that run on a large amount of capital and have a big infrastructure.

Private-Sector Industries: These are industries owned and run by an individual or group of individuals.

Public-Sector Industries: These are industries owned and run by the government.

Joint-Sector Industries: These are industries owned and run by the state as well as individuals.

Cooperative Sector Industries: These are industries owned and operated by producers or suppliers of raw materials.

Smelting: Smelting is the process of extracting the minerals from their ores by heating beyond their melting point.

Refining: Refining is the process of yielding the highest possible purity of metal obtained from mineral.

Steel: Steel is an alloy of iron obtained from the iron ore.

Information Technology Industry: The IT industry deals in the storage, processing and distribution of information.