

Industry

Meaning of Industrialisation

Industrialisation is a process which involves the substitution of machine-power with man-power. It refers to the growing mechanisation in the production process in the industrial sector. In the industrial sector, if more capital is used per unit of the output in the growing mechanisation of the production process, then it is known as the process of capital deepening. On the other hand, if there is growth in the stock of physical capital such as an increase in the stock of machinery and factory buildings with an expansion of the industrial sector over a period of time, then it is known as capital widening.



Importance of Industries in India

Industrialisation has a major role to play in the economic development of India with large manpower and resources. The importance of industries in India can be discussed on the following grounds:

- **Increase in national income:** Rapid industrialisation contributes to a substantial increase in national and per capita output of India. As the value of industrial goods is relatively more than agricultural goods, rapid growth in Industrial output would also mean fast growth in the national and per capita income. This growth is regarded as an indicator of the economic growth of India.
- **Proper exploitation of natural resources:** The proper use of natural resources is possible through rapid industrialisation. Hence, minerals, water and forest resources could be properly used through the expansion of industries which use these natural resources as their input.
- **Improvement of factor productivity:** Rapid industrialisation is required to improve the productivity of factors such as land, labour, capital and entrepreneurs. Labour productivity can be increased by the introduction of new implements with which workers can produce more within a given period time.
- **Reduction in regional imbalances:** When more industries can be established in industrially backward regions, the regional imbalances in industrial growth can be reduced to a great extent. Hence, the establishment of industries in backward regions stimulates the growth of ancillaries and activates the development process in the surrounding areas.

Interdependence of Agriculture and Industry

Contribution of Agriculture to Industry

Improvement in agricultural productivity is a pre-condition for promoting rapid industrialisation in our economy. Agriculture complements the process of industrialisation in the following ways:

- Supply of wage goods to the industrial sector: Industrial sectors consume various wage goods for the production of industrial goods from the agricultural sector. This helps in production activities in industries. Professor Simon Kuznets called this aspect as the product contribution of agriculture.
- Supply of raw materials to agro-based industries: Indian agriculture also supplies necessary raw materials to many of the agro-based industries. Insufficient supply of raw materials would mean stunted growth of these industries. Professor Simon Kuznets has called this aspect as the factor contribution of agriculture.
- Supply of labour force to the industrial sector: To a great extent, industrial workers hail from the agricultural sector as there remains an excess supply of labour. It is also the source of cheap labour for the industrial sector.
- Creation of market for industrial goods: Indian agriculture provides a large market for a variety of industrial goods. Professor Kuznets has called this aspect as the market contribution of agriculture.
- Source of domestic capital for industrial development: Income of the rural people is very low. However, if their savings are mobilised properly, it can be a source of capital for industrial development.

Contribution of Industry to Agriculture

Agricultural development cannot move very far unless industrial development provides the agricultural sector with modernised equipment and technical services. The process of industrialisation complements agricultural development in the following ways:

- Supply of inputs for the advancement of cultivation techniques: Advancement in cultivation techniques and the productivity of land and agricultural labour depend to a large extent on the adoption of pump sets, power-tillers, tractors and chemical fertilisers which are supplied by the industrial sector.
- To provide employment opportunities to the rural people: Expansion of various small-, medium- and large-scale industries and village and cottage industries creates sufficient employment and income opportunities among the rural people.

Features of Present Industrial Structure in India

- Coexistence of large and small industries: In India, there are huge industries in the organised sector such as iron and steel, sugar, cement and heavy chemicals. On the other hand, there are innumerable small-scale and cottage industries.
- Regional disparities: Industries are concentrated in a few regions of India. Cotton textile industries are located in Mumbai, Ahmedabad and Sholapur. Hence, the government has taken certain measures to reduce regional disparities.
- Diversification of industries: The Indian industrial structure is diversified. India is not confined to consumer goods industries such as cotton, sugar and cement. There are other basic and heavy industries such as iron and steel, heavy chemicals and electronics.

- Coexistence of private, public and joint sectors: Before Independence, India's industrial structure consisted mainly of the private sector. After Independence, there are many industries under the ownership and control of the government.

Limitations of Industrial Development in India

- Disparity between targets and achievements: Over the planning periods, the achievements of the entire industrial growth were much below the targets, except in the 1980s.
- Under performance of the public sector: During the first four decades of the planning period, the growth of the public sector was very high as the government had emphasised more on its development. Even though the public sector incurred huge losses, the aim was to maximise the social welfare of the nation.
- Regional imbalances: Industrial growth in India is not even in nature. Industries are concentrated in only few states and the remaining states are lagging in their performance.

Development Strategy since 1991

Liberalisation implies a liberal attitude of the government with respect to its industrial policy, industrial licensing policy and trade policy. It aims at minimising state intervention in economic activities.

Globalisation is the integration of the domestic economy with the global economy. It refers to the interaction of the economy relating to production and trading with other countries. It includes not only the movement of capital but also the movement of labourers from one country to another country.

Privatisation of public sector undertakings by selling off part of their equity to the public is known as disinvestment.

Need for industrial growth in the present situation in India

- Requirement of changing needs of both local and global markets: In the prevailing market condition, the industries must choose a correct product mix to satisfy the preference patterns of both local and global markets.
- More investment for the upgradation of production technology: Indian industries need to produce quality products at a lower average cost, or else they cannot improve their competitive strength.
- Prospect before the IT industry: In the current scenario, many foreign companies get their business processes done by IT-enabled service companies in India. This is called business process outsourcing. India earned nearly US \$3.6 billion from the exports of IT-enabled services during 2003–04.
- Scope for the expansion of agro-based industries: According to the provisions of WTO, the developed countries will have to reduce agricultural subsidies. Therefore, some agro-based industries such as food processing and fruit processing will have sufficient scope to expand and venture into the export market.

Cotton and Small-scale Industries

Small-scale industries (SSI) and cottage industries (CI) can be established easily within a short span of time. They produce at a greater speed and consequently provide faster returns to their owners. Nearly 40% of the total industrial production is from these industries. The value of output from the SSI sector has increased from Rs 3,06,771 crore in 2002–03 to Rs 4,71,663 crore in 2006–07.

Small-scale Industries	Cottage Industries
SSI units are usually located in urban areas.	Production units of CI are located in rural areas.
They produce goods with the help of mechanised equipment.	Production in CI units is undertaken without any machines.

Significance of SSI and CI units in India

- **Employment generation:** Total employment generated by SSI units has increased from about 40 lakh in 1973–74 to nearly 295 lakh in 2005–06. With the addition of CI, employment opportunities would give a figure of about 60% of the total employment in manufacturing industries.
- **Investment:** According to a report of the Small Industries Development Organisation, investments in the registered SSI sector have grown significantly from about Rs 2,200 crore in 1972–73 to about Rs 91,792 crore in 2001–02.



Problems faced by the SSI and CI sectors in India

- **Finance and credit:** Finance and credit are limited to meet both fixed and working capital requirements and are supposed to be the main obstacles in the growth path of the SSI and CI sectors. These sectors avail credit at a high rate of interest from different non-institutional sources of credit.
- **Availability of raw materials:** Raw material requirements of majority of the SSI and CI units depend on the local sources. Local traders often fix a relatively higher price for their raw materials.
- **Under use of capacity:** The average cost of production would not come to its minimum if the production capacity is not fully used. On an average, about 50% of the actual capacity of SSI units could be used.

Steps taken by the government to promote CI and SSI in India

- **Creation of special boards:** The CI Board was set up in 1947 and has been split into three boards—All India Handloom Board, All India Handicrafts Board and All India Khadi and Village Industries Board. All these boards formulate different plans and programmes for the upliftment of CI units.
- **Creation of district industries centres:** The industrial policy statement of 1977 introduced the concept of district industries centre. These centres started assisting SSI units from 1979 onwards at the district level.

MSME Sector

The Micro, Small and Medium Enterprises Act (MSME) was passed in 2006. According to this act, enterprises are categorised as

- **Enterprises engaged in manufacturing:** In manufacturing industries, the investment limit is up to Rs 25 lakh for micro enterprises, from Rs 25 lakh to Rs 5 crore for small enterprises and from Rs 5 crore to Rs 10 crore for medium enterprises.
- **Engaged in providing services:** In the servicing industries, the investment limit is up to Rs 10 lakh for micro enterprises, from Rs 10 lakh to Rs 10 crore for small enterprises and from Rs 2 crore to Rs 5 crore for medium enterprises.

Impact of Industrial Practices on the Ecosystem

An ecosystem is a group of living and non-living things which are interdependent and are found in a particular type of environment.

The impacts of industrial activities on the environment and ecosystems are greater pressure on natural resources and problems of environmental pollution, air pollution, water pollution, soil pollution and noise pollution.



Urbanisation has led to the following impacts on the environment

- Air pollution: Factories and automobiles are an indication of urbanisation. Air pollution occurs because of the harmful emission of gases and smoke from vehicles and factories.
- Growing volume of municipal wastes: The quantum of waste generation varies across urban centres depending to some extent on the consumption pattern, population density and degree of industrialisation. The municipal wastes mainly contain paper, plastics and fibres, and metallic cans and containers.

Pollution

Pollution is an unfavourable change in the surroundings which occurs mainly because of human activities. It is of three types—air pollution, water pollution and soil pollution.

- Air pollution: The presence or accumulation of health hazard-causing substances in the atmosphere is called air pollution. Industries are dangerous sources of air pollution. Gases discharged by vehicles account for about 60% of the air pollution.
- Soil pollution: Soil pollution occurs from the disposal of solid and semi-solid wastes in agricultural and industrial practices. It causes several diseases in humans and animals.

Effects of pollution on human health

- Effect of air pollution: It causes diseases like asthma. Those with weak heart conditions or lung diseases may experience distress and health discomfort.
- Effect of water pollution: It causes infectious diseases by microorganisms and mosquitoes present in water and other water-borne diseases because of chemical toxicants which may be present in polluted water.
- Effect of noise pollution: It causes discomfort and may result in permanent damage to hearing. For example, auditory fatigue and deafness.