2.1 CONCEPT AND ORIGIN OF INDUSTRIAL ESTATES

Concept of Industrial Estates

The term industrial estate originated in United Kingdom in the late 19th century. Industrial Estate is the combination of two words – first, Industrial which means consisting and pertaining similar types of industries or it also concerns to those employed in labor, especially in manual labor, and their wages, duties, and rights, and second, estate which means a landed property usually of considerable size to be used and developed for specific purpose. Thus, industrial estate means an area specially designed and developed for the establishment of manufacturing units with all necessary facilities.

Industrial Estates are a tract of land at a distance from city center that is designed for a cluster of businesses and factories. Some area which is entirely dedicated for the industries is popularly known as Industrial Estate. The establishment of many industries at a particular area is known as Industrial Area / Parks / Estates. Industrial parks are usually located outside the main residential areas of a city and normally provide good access all types of transportation mainly road and rail.

The Industrial Estates offer industrial, residential and commercial areas with developed plots/ pre-built factories, power, telecom, water, sanitation and other civic amenities such as hospital, sewerage and drainage facilities, security etc. The main targets of Industrial Estates are the high value adding small and medium scale industries, which do not have the wherewithal to invest in developing their own basic infrastructure facilities, but have the capacity to pay for the services provided to them. Industrial estate development hopes to provide the opportunity for community-based development with the goal of enhancing the living conditions of the people through employment generation.

Industrial estate, also known as trading estate, is a purpose built and facility equipped area of industrial units in a large number. Industrial estates are developed by the government to promote localization of industries by creating all essential infrastructural requisites at their door step. For the overall economic development of a country, a rapid industrielisation is must, and for rapid industrialization new and highly effective techniques are to be developed. Several institutional techniques have been developed and applied successfully to achieve the basic objectives of initiating and sustaining industrial growth. Undoubtedly, the medium and small scale industries play an important role in the industrial development of any country. Hence, again institutional techniques are to be developed in such a form that the same can give ample scope for the growth of this sector too. Of the new technique adopted, the techniques of industrial estates occupied an outstanding place in promoting and guiding industrialization both in industrially advanced countries and newly industrialized countries. Now the industrial estates are regarded as an institutional technique potentially useful to any major industrialization programme. Rather, it may be asserted that any programme of rapid industrialization will prove insufficient in case the institutional technique of industrial estates is left untouched and undeveloped.

Industrial estates have been recognized both in developed and developing countries as one of the means to generate employment and tools to improve social and economic condition of the population. The definition of an industrial estate, as defined by United
Nations Publications, is as follows – “An area of land allocated for factory buildings, which are sold or leased for manufacturing purposes. The land is developed in accordance with a comprehensive master plan, which includes roads, utilities and services and site preparation undertaken in advance of building works. Factory buildings are erected as standard buildings or customized buildings. Industrial estates are areas of controlled development in accordance to town planning norms and by using zoning, restrictive covenants and other devices. Their form and growth is regulated for the benefit of both the occupants within the industrial parks and the community at large.”

Industrial estate is “a tract of land which is sub-divided and developed according to a comprehensive plan for the use of a community of industrial enterprises.” It means that it is that place where all necessary facilities should be available for the manufacturers. The establishment of industrial estates has been a major strategy in locating industrial activities in one location to satisfy the demands for manufacturing facilities as well as orderly planning and environmental reasons.

The United Nations Industrial Development Organisation (UNIDO) defines an industrial estate as “a planned clustering of industrial enterprises offering standard buildings erected in advance of demand and variety of services and facilities to the occupants.” It means that it is such an area where the similar types of manufacturers expect necessary and sufficient space and allied and ancillary benefits for their units.

In the views of P.C. Alexander, “industrial is a group of factories constructed on economic scale in a suitable site with facilities of water, transport, electricity, steam, bank, post office, canteen, watch and ward, and first aid. It is provided with special arrangement for technical guidance and common service facilities. The estate combines in itself some of the important schemes of assistance to small industries and provides a total outlay for integrated development.” Industrial area or sometimes called industries estate is an area or place of concentration of manufacturing activities which are equipped with infrastructure and facilities such as land and strategic location as well as other supporting faculties, such as electricity, water, telephone, roads, waste disposal sites, which have been provided by the industrial area management company.

Industrial estate have been treated as preliminary base for small scale and medium scale industries for the success of detailed planning of widespread industrialization and upliftment of society. The small scale industries and medium scale industries were treated as one of the important sectors in the government planning.

The programme of industrial estates primarily rests upon two major advantages – economics of scale and economies of agglomeration. Considerable economies of scale may be released by the estates by providing by the infrastructure facilities to industrial occupants. Up to certain limit, it may expect that costs of estate development and administration decline per unit of each facility, with the increasing size of the estate. The entire argument of the economies of scale for the industrial estate is based on the localization of medium or small scale industries offering similar economies to those found within a single large plant. Economies of scale are said to arise because an estate sheltering a large number of small enterprises, with the advantage of overheads take character of a single firm. The industrial estate constitutes a strong inducement to invest because it can capture the otherwise volatile external economies of agglomeration. An Industrial estate
where a number of enterprises clustered together would become a complex of interdependent and interrelated industries. Such a complex is expected to have advantages of agglomeration and external economies which are necessary for the growth of individual industrial units. The external economies can be said to accrue from the environmental faculties in the form of improved services, both human and materials. Broadly external economies are derived from the availability of trained workers, availability of raw materials, access to improved production, equipments and tools, markets and access to superior transportation facilities. For an industrial entrepreneur, an industrial estate can save a great deal of efforts, tensions, trouble and expenses in erecting a factory. The selection of a well located industrial site, the formalities of acquiring a suitable land, getting the building plan approved from the local authorities, securing other facilities like water, gas, electricity, etc require a considerable time of the entrepreneur. The speed with which an industrialist starts its production is usually a significant element and is also vital for the country. Through industrial estates, the industrial entrepreneurs can obtain building or land on rent or lease, which strengthen the cash position of the industrialists. By acquiring a building or land on rent or lease, the capital cost can be converted into operation expenditure and it can release resources for other things like machinery, plants, as working capital, etc.

Industrial estate may be expected to develop a community of interest among the people and promote the spirit of cooperation and joint effort by bringing people (entrepreneurs) doing similar types of economic activities, dealing with common problems aiming at common objectives. They can provide a better division of labour by securing information, which could not pay for one industrial unit but to pay for a cluster of industrial units. They can also organize housing, transportation and social amenities for workers, which no single industrial unit can do effectively.

Almost all the countries have assumed industrial estates as an important technique for the rapid industrialization. Industrial estates were an important step for the small scale industries, which were treated as necessary at the initial stage of industrialization. The industrial estates programmes has been said a means of creating new opportunities, generation of employment, increase in productivity, improvement in quality of management, etc. Many developed countries have encouraged industrial estates programmes to reduce and shift urban population where developing countries have taken it as a means to encourage small scale industries. The industrial estates programme also plays an important role in reducing regional imbalance.

**Difference between Industrial Estate, Industrial Zone and Industrial Area**


**Industrial Estate** – It can be defined as a tract of land and subdivided into plots according to a comprehensive plan with the provision of roads, transport and public utilities with or without built-up (advance) factories, sometimes with common facilities and sometimes without them, for the use of group of industrialization.

**Industrial Zone** – It is merely an area of raw land set aside for industry. In general, it is created by municipal by-law and is part of an urban renewal or development programme. Any promotional effect it may is dependent on its location in relation to transport and distribution facilities, and the price of land within the zone.
Industrial Area – It is a parcel of improved land subdivided into plots for the accommodation of industrial establishments and offered for sale or for lease. Its size may allow to be taken of economies of scale in providing the infrastructure, which may be passed on to the occupants. An attraction for the prospective occupier is the time saved in finding a site and in preparing the land. The industrial area is essentially a piece of real estate promotion. An industrial area may approximate industrial estate, but the essential differences are that in the former there is no unified and continuous management and that, beyond land and utilities, it provides no additional incentives to the industries.

**Origin of Industrial Estates**

Some of the developing countries have established industrial estates as a major part of their industrial development. United States of America and Great Britain, by introducing industrial estates, have achieved tremendous progress towards industrialization of those respective countries. It is now clearly observed that the success of industrial estates in England has encouraged establishment of industrial estates in some common wealth countries. At present, this technique has got a universal recognition and is being adopted by most the developing countries.

The world's full-fledged industrial estate was set up in 1896 as a private commercial venture at Trafford Park in Manchester, England. This Trafford Park Estates Limited has been known as the “Mother of Industrial Estates” What is generally regarded as first one in the United States, the Clearing Industrial District in Chicago, Illinois, began operations in 1899.

The First World War (during 1914-1919) caused economic disturbances to various countries. The ever-rising prices during the war and post-war periods caused boom in the economy. Speculative activities increased tremendously. This was the turning point i.e. ‘crisis’ of business cycles. In the year 1929, the world faced great depression. It continued from 1929 to 1933 and thereafter this was the second turning point of the business cycle i.e. ‘revival’ took place. The great depression proved that the old economic theories were unrealistic and needed drastic changes. New economic thoughts were emerged. Various new economic steps were proposed and adopted to the economy away from the clutches of the depression. The level of the employment was the lowest and major part of the total population had to struggle for bread and butter. The Government of Great Britain took initiation and encouraged the establishment of industrial estates to combat the severe problem of unemployment in the economy. Various countries followed the suit and were moved towards the path of prosperity. Again the World War Second began in the year 1939. The techniques of industrial estates got considerable impetus only after the World War Second in Great Britain. Immediately after the end of war in the year 1945, Great Britain included in its national policy the element of industrial location with the prime object of industrialization. In America also, a tremendous progress in the establishment of industrial districts has been achieved. This tool has been adopted by America with the main object of providing factory accommodation to industries under planning scheme. The ideas of industrial zones received special attention after the Second World War, when the Italian Government embarked on an economic development programme of all regions. An industrial zone (Third zone in the world) was established by the municipality of Naples in Italy in 1904 by a special law of city. However, only as modest numbers were established prior to the late 1940s.
In the next thirty to forty years, only a few private groups in the United Kingdom and United States of America and a few municipalities in Italy followed suit. All these estates were private profit motivated and commercially operated real estate ventures. The United States took the lead and by 1940 they had thirty three industrial parks. Another count showed fourteen planned industrial districts in 1945. Between 1940 and 1949, 74 additional industrial districts were developed. Italy is also one the countries where this technique has been applied on an experimental basis with the object of rapid industrialisation. A programme of establishment of industrial estates was initiated by the Government of Italy in the year 1957 as a policy of economic development of Southern Region.

The programme of industrial estates could really gain momentum only after 1950, when there was a very rapid growth of industrial estates all over the world. Hereafter, a good number of developing countries have shown their growing interest in the programme of industrial estates by recognizing them as a significant tool for the rapid industrialization. Growth became explosive in the 1950s and 1960s. By 1959 United States had 452 planned industrial districts and, by one estimate, as many as 1,000 industrial parks. These numbers grew to 1,117 industrial districts in 1965 and 2,400 industrial parks by 1970.

United Kingdom used the technique of industrial estates as an important tool for the regional development. By comparison, United Kingdom had only fifty five industrial estates by 1959. “A majority of more than 100 industrial estates and areas were established during the last twenty year as against seven industrial estates in 1950, all established in northern part of the country.” The historical development of industrial estates programme in United Kingdom reflects the significant role of industrial estates in undertaking the programme of employment oriented economic development.

The technique of industrial estate, in Canada, was adopted in 1950 and two industrial parks were established in 1952 viz. the Ajax Trading Company, London, and the Annacis Industrial Estate in Vancouver. These estates provided factory accommodation on rental basis, and also constructed factory buildings for new enterprises according to their needs. Canada had 21 industrial districts by 1965. France had 230 industrial estates in 1963.

The first developing economy to make systematic use of publicly funded industrial estates was Puerto Rico. Between 1947 and 1963, Puerto Rican authorities built 480 factories for rent, with suitable infrastructure, to help lure American manufacturing firms. Most were clustered in what amounted to over 30 industrial parks. The methods of promotion developed in Puerto Rico under the leadership of Teodoro Moscoso have had a great influence on EPZs in the Caribbean and East Asia, and on industrial estates from Mexico to Singapore.

The first public industrial estate in developing Asia was opened in Singapore in 1951. Malaysia’s first industrial estate dates from 1954; by mid-1990 Malaysia has 139. India’s first industrial estate started operations in 1955; by early 1966 India had completed 283 industrial estates and by 1979 the number reached 705. Starting around 1960 the United Nations began to publish studies and hold conferences on industrial estates as an instrument of development.
The concept of the industrial estate emerged in industrialized countries towards the end of the 19th century as a means to promote, plan and manage industrial development. The first estates were established early in the 20th century in the United Kingdom and USA. The industrial estate has formed part of the economic development strategies of many countries since 1945, but it was after 1970 that the most rapid growth occurred. According to a 1996 survey by the International Development Research Council (UNEP), there were more than 12,000 estates in 90 countries. There are certainly many more today, with some estimates putting the figure at over 20,000.

The government in all these years has been taking numerous steps for the development of industries especially small scale industries. Various committees and organization are formed for the revision and implementation of various programmes of the government to make them more effective. But unfortunately even after providing such care, protection and facilities are not free from problems.

Promotion of industrial parks was given a boost by the Government of India towards the end of 1st five-year plan (1951-56) and 2nd five-year plan (1956-61) when the ‘Industrial Estates Development Program’ was initiated. The first industrial policy was to encourage cottage and small scale industries for which Cottage Industries Board (1949) and National Small Scale Industrial Development Corporation (1948) was established.

The role of the Central Government in the establishment and upkeep of Industrial Estates in India has been mainly that of laying down the guidelines for the State Governments. The responsibility for the selection of sites, development of areas, construction of infrastructure facilities etc., has been the mandate of the State Governments. Subsequently, State Governments created undertakings like the State Industrial Development Corporation (SIDC) to execute this mandate. The industrial park scheme was introduced in India in 1997 to give impetus to the infrastructure sector. The scheme was revised in 2002 which was valid up to March 2006. A draft industrial park scheme was prepared and introduced in 2006.

There was a need for a specialised agency at the State level to lay down guidelines and operating parameters. This specialized agency established in Chhattisgarh was Chhattisgarh State Industrial Development Corporation (CSIDC) which was given full powers of all the departments for the industrial estates (either by statute or through amendments in relevant acts).

Criteria for Selection of Industrial Estates
The main criteria for selection of Industrial Parks are the following:

- Proximity to National Highways / State Highways / Railway Station / Airport / Sea Port.
- Proximity to a city/town.
- Proximity to adequate and dependable source of water.
- Proximity to source of power.
- Entrepreneurial qualities and resources of the people in and around the location.
- Availability of skilled labour.
- Access to telecommunication facilities.
- Availability of reasonable social infrastructure like, Schools, Colleges, Polytechnics, Hospitals, Hostels and the like.
- Nearness to market.
- Nearness to sources of raw materials.

Availability of fallow lands not suitable for agricultural activities.

**Types of Industrial Estates**

Industrial estates vary according to the needs, land, location, industries, etc. There are different types of industrial estates to cater different types of requirements. The designs of industrial estate differ from place to place. Some of them are as under –

Industrial Estate for general purpose

As the name suggests, these industrial estates contain several types of industries. They are started to provide standard building, basic infrastructure facilities and common service facilities to industries without consideration.\(^{15}\)

Ancillary Industrial Estates

Some strategic industries need the services of many small industries which are producing some component parts of the final product of the former industry. So, nearby areas of large scale industries industrial estates were started to provide accommodation to many ancillary units. Locations of such ancillary units help the large industries to monitor the productive function of these small ancillary units. They also provide technical and financial supervision and assistance.\(^{16}\)

Single Trade Industrial Estates

Some industrial estates provide factory accommodation to industrial units belonging to same trade. The important advantage of such industrial estates is that the technical common service facilities can be planned according to the needs and put to efficient and effective use by the units’ tenants. These units can also enjoy economies of large scale purchase and collective marketing of products. Such industrial estates are useful where raw materials like wood, rubber, leather, grains, etc are abundantly available and where their utilization is made possible with the provision of technical services and facilities.\(^{17}\)

Functional Industrial Estates

In these industrial estates the functions required for an industrial product are divided and units in the estates are allocated specific functions. For example in the cotton textile industry the total function can be divided i. Ginning, ii. Carding, iii. Spinning, iv. Weaving, and dyeing and bleaching. These small functions are performed by the small units within the estate. The entire unit in the estate functions according to a coordinate manufacturing programme. The main advantage of functional industrial estate is that it can provide to small scale units the economies and efficiencies of specialisation and large scale production.\(^{18}\)

Industrial Estates based on Metropolitan Cities, Small Towns, Rural Areas

Metropolitan cities have the advantage of ‘external economies’ making the environment viable for the small industries to grow and prosper. In such area there will be excellent facilities for enjoying all the infrastructure facilities. In addition to above, these areas have advantage of getting well trained labourers and good market for their products. The estates in the big cities are most advantageously set up when the main objectives of public agencies are to induce the growth of small industries at low investment expenditure in developing infrastructural facilities.

Congestions and overcrowding will increase the cost. Similarly, it will invite over pollution. Under such circumstance, the government may be forced to change its industrial policy and may take steps for the dispersal of industries from big cities to small towns and rural areas. One of the preconditions for the establishment of industrial estate in small town is that they should possess a certain minimum development of infrastructure such as water,
power, communication, road, rail, and the like. Small towns would favour the location of industries which is space oriented or which require special infrastructure facilities like effluent disposal. Industries based on local resources may also be profitably encouraged there.

For balanced regional development rural areas should be developed. Moreover, these areas provide so many natural resources and agricultural products which can be profitably used for industrial purpose. In some places industrial estates were setup in rural areas for supporting traditional craft of skill by providing such assistance as may be necessary.  

**Government, Private and Private Assisted Industrial Estates**

For achieving regional balanced industrial development through industrialization, it is the duty of the Government to provide facilities particularly in industrially backward area. One of the best of providing such facilities for small scale industries is the organisation of industrial estates. So, industrial estates started by the Government for achieving the above objects are called Government Industrial Estates. The estates can be proved useful in the developing countries. It is so because the picture of weak enterprise and absence of capital resources can be counteracted in such countries only by the intervention of Government agencies and organizations.

A private estate is promoted by the private agency or by an industrialist who may own an estate. The entrepreneurs in such estates are tenants. The owner performs the managerial and proprietary function in most cases. In few cases, it may become possible for the individual tenants to purchase the plots and work shed under the hire purchase arrangements.

A privately assisted industrial estate is operated by Private Corporation. In certain cases, the government encourages the private entrepreneurs to have their own industrial estates. The most common form which the private corporation takes is the establishment of a cooperative society or a joint stock company. The idea is that the cooperative societies of small entrepreneurs known as cooperative industrial estates join hands to provide themselves the developed industrial plots, factory sheds, basic facilities such as water, drainage, roads, and electricity etc. The assistance to the society is made available by the Government on a participatory basis.

**Mini and Major Industrial Estates**

As the name suggest that mini industrial estates provide only minimum facilities to the industrial entrepreneurs. Mini industrial estates usually work within the area of one acre. Whereas in major industrial estates have an area of ten acres. The shed in such major industrial estate is divided into shed A, B and C. Such classification is not found in the mini industrial estates.

**Generic Industrial Parks/Estates**

Industrial Estates are planned industrial estates where the industrial use is the primary activity and supported by juxtaposition of the various supporting land uses into a self-contained and sustainable working community. The master planning of an industrial
estate will provide an opportunity to create positive factors that will allow the industries to operate more efficiently and conveniently than if located in isolated pockets.\textsuperscript{22}

**High Technology Parks**

The gradual shift in the industrial sector to the high-end spectrum of industries and to satisfy the needs of these new high-tech industrial niches saw industrial estates transforming into high environmental quality industrial parks to attract such tenants. New concepts of industrial planning were introduced to match the expectations of these image-conscious and high value-added industries. Modern industries saw a shift from the dirty and noisy factories of the past to air-conditioned ‘office-like’ environment set in park-like setting catering to such high-technology industries.\textsuperscript{23}

**Science, Research & Development and IT Parks**

With the maturing and upgrading of the manufacturing sector, there will be a need to undertake research and development activities to stay competitive. Science Park is essentially a business park devoted for research and development. Its aim is to enhance research and technology by creating a conductive environment and providing economic incentives to attract top scientists and engineers to work there. The setting of such park is seen as the fastest way of introducing and promoting science-based and new technology companies to it.

Science parks are location-specific and are most suitably located near to institutions of higher learning and particularly premier IT and engineering universities of the country. This is to foster interaction and pooling of the brains between the researchers in the universities and industries, resulting in the transfer and exchange of ideas as well as to allow for more joint research and development programs. It is differentiated from the ordinary industrial estates by the nature of the activities of the tenants within the park as well as the physical environment. The desired activities within the science parks should be activities in the areas of research and development, product design, software engineering, high-tech and light proto-type manufacturing, etc. The new generation of information based industries or services will find existing infrastructure in ordinary industrial estates inadequate in addressing their needs of the following:\textsuperscript{24}

- High requirements for skilled human resources;
- High speed broad-band communications; and
- High environmental quality for software and R&D industries.

**Specialized Industrial Parks**

Industries are not homogenous and some industries may have severe impact on others such as chemical plants and food factories. It is therefore prudent to cluster similar industries within an industrial estate so that similar industries with their specific infrastructure requirements or waste management can be tailor made to suit. Specialized Industrial Parks offer a planned approach to meet the needs of a target industrial segment. The special infrastructure needs of these industrial clusters would be tailor made from day one and specially designed to support it. This may include treatment of specialized
hazardous waste, close monitoring of environmental pollution to dedicated pipelines and facilities to support these industries.

Clustering of similar industries with specialized industrial parks will enable the integration of the whole manufacturing cycle with various components of a manufacturing chain. By sitting them in close proximity to one another companies can take advantage of the complementary functions of each stage of the manufacturing process and allow the synergistic integration of upstream and downstream processes.\textsuperscript{25}

**Eco-Industrial Parks**

Eco-Industrial Parks are one of the strategies to implement the concept of industrial ecology by inter-company collaboration. The idea of Eco-Industrial Parks has been first described during a presentation at the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro 1992, and has become well-known from 1993 on in the USA through the introduction of Indigo Development to the US-EPA.\textsuperscript{26}

The concept of Eco-Industrial Parks "...a community of manufacturing and service businesses seeking enhanced environmental and economic performance through collaboration in managing environmental and resource issues including energy, water, and materials. By working together, the community of businesses seeks a collective benefit that is greater than the sum of individual benefits each company would realise if it optimised its individual performance only". Use of the term Eco-Industrial Park usually encompasses geographic co-location of the collaborating companies.\textsuperscript{27}

**Cooperative Industrial Estate**

The objectives of promoting establishment of Industrial Estates in the Cooperative sector are to develop industrial clusters, particularly in rural areas near to the dwellings, of local artisans / entrepreneurs by providing necessary infrastructure thereby arresting migration of rural entrepreneurs to urban areas resulting into imbalance in the economic development of the rural areas of the State. This would also provide the necessary infrastructure at very reasonable cost and large scale employment opportunities in rural areas. The Scheme was originally introduced in IIInd Five Year Plan.

**Industrial Estate Development**

Industrial estates are specific areas zoned for industrial activity where infrastructure (such as roads, power and other utility services) is provided to facilitate the growth of industries and to minimize the impacts on the environment. Industrial estates may include effluent treatment; solid and toxic waste collection, treatment, and disposal; air pollution and effluent monitoring; technical services on pollution prevention; quality management (quality assurance and control); and laboratory services. There should be appropriate emergency preparedness and prevention plans and liaison with local fire and emergency services.

Selection of sites for industrial estates should take into account social and environmental issues as well as economic considerations. An Industrial Estate Development Plan which would cover issues such as: details of location; mix of industries on the site (for example, avoid the contamination or fouling of food products by making sure that adjacent and nearby units are compatible); layout and design; transportation
services; fuel storage; air quality management; water quality management including the provision of common effluent treatment facilities as acquired; solid waste management including recycling; hazardous materials and hazardous waste management; noise control; occupational health and safety; and hazard and emergency planning and response. Note: Industrial estates should maintain safe distances (such as 100 meters for small industries with minimal environmental hazard and at least 1 kilometer for very polluting industries) from residential areas. Definition of institutional responsibilities is also an essential component of a Development Plan. The key environmental issues to be addressed in the Development Plan should be identified through an environmental assessment process.  

The Preparatory Phase of an Industrial Estate


Pre-project Survey – Before a proposal to establish an estate can be submitted for financing, a pre-project survey must be conducted which provides detailed answers to various questions. The main elements of survey are related to what it is hoped that the establishment of the estate will achieve; they concern the determination of the optimum combination of location, size and type of industrial estate and selection of industries.

A. Location – The area, whether urban, semi-urban or rural, will already be determined by the objectives of the national policies on industrial, regional and urban development. The aim of the survey is to select the best location within the framework of these policies. This involves an analysis of:

i. Population and availability of labour – An industrial estate cannot be successfully established unless it is in, or close to, a centre of population. The number of unemployed in the area is an indicator of availability of labour. Not all, however, may be accustomed to employment in industry. The local labour office or the municipality may be able to provide information on the labour situation. Most industrial enterprise, except those concerned with certain types of agricultural processing, need a workforce on a year-round basis, irrespective of seasonal variations in demand for their products.

The availability of skilled workers and the nature of their skills is important. A location without a cadre of skilled workers normally should not be regarded as suitable for an industrial estate. If it meets other criteria, setting up a training programme prior to the establishment of the estate should be contemplated.

ii. Number and nature of enterprises – An industrial estate is intended to cater to existing as well as to new enterprises. It is necessary to know with respect to existing establishments:

a. The number in each broad industrial group like woodworking, food processing, metal working, textiles, etc.;

b. The sources of raw and intermediate materials;

c. Market for output;

d. Type of premises occupied;
e. The most common size, in terms of number of workers, in each industrial group;

iii. **Level of entrepreneurship** – A sufficient number of dynamic entrepreneurs is essential. This is unlikely to be a problem if the main purpose of the estate is to relocate existing establishments. A dearth of entrepreneurs is most likely in a rural centre. It is not an easy matter to assess entrepreneurship. An indication can be obtained from the level and diversity of industrial activity in the area; diversity is probably the better indicator, a high degree of diversity in production is being associated with a greater quantum of entrepreneurship.

iv. **Local Resources** – Expanding existing and introducing new industry in a semi-urban or rural area will depend largely on making greater use of the natural resources of the area, either by the further development of those currently exploited, by the explosion of new resources, or by more advanced technology. An industrial estate cannot be expected to initiate the first two of these; there must be contingent development plans. It is, however, a suitable venue for the introduction for improved technical procedures such as the further processing of agricultural crops.

v. **Markets** – Many enterprises nowadays operate in global markets. For small-scale enterprises the size of local and regional market is often vitally important. To some extent this depends on per capita income and population, but a seriously skewed distribution may limit the size of local market, as the small-scale sector mainly serves the lower income brackets. An estimate of the market also requires investigating competing goods. In case of competing locations, the one best able to serve the markets of the region and/or international markets should be chosen.

vi. **Utilities and transport** – A well-developed highway system is essential, especially, if large and medium scale establishments are to be accommodated. For certain industries, the proximity of an airport or a harbor for sea-going ships may be essential. Otherwise, the transport costs involved may render their product uncompetitive in the external market. If there are plans to develop transport network, these should be taken into account, particularly in relation to their timing and that of the estate. **Utilities** – water, electric power, sewage disposal – must be adequate for their existing and new enterprises to be accommodated on the estate. The water supply must be adequate to cover domestic, fire-fighting and industrial needs. If this amount is not obtainable from the town supply, the possibility of drilling artesian wells should be investigated. Large consumers of water, such as paper-making, wool-scouring or leather-tanning establishments, may need to be excluded if sufficient supplies are not available.

vii. **Telecommunication, Banking and Postal services** – An entrepreneur should not be greatly inconvenienced by having to travel few kilometers to his bank or to pick up his mail, but he must be able to make and receive telephone calls at any time during working hours. Direct international dialing should be available for firms operating in the world markets.

viii. **Social infrastructure** – Hospitals, schools, housing, public transport and even recreational facilities can be placed under increased pressure by the establishment of an industrial estate. It will be necessary to consult the local authority to discover how far these services and housing can accommodate any additional load, and, if not, what
development plans could be proposed to solve the problem. A locality that the capacity to provide these social overheads obviously has much in its favour.

ix. **Site and environmental issues** – Outside any consideration of the size of industrial estate, the site must be chosen in conformity with the plan for land usage of the local authority, and it must possess appropriate topographical features. An environmental impact assessment should be part of the pre-project survey. The types of industries to be expected and their likely environmentally impact should be identified.

B. **Selecting the Estate type** – The choice of estate will depend on the level and composition on industry in the neighbourhood and, perhaps, on the type of materials available. The pre-project report should reveal the type of industries that the estate may accommodate. In the long term, it can be beneficial to accept only enterprises that are complimentary to one another, creating linkages on the estates. This may mean that the estate will be only partially occupied for a considerable period; on the other hand, a cooperative estate could conceivably established precisely for this purpose, by a group of industries which stand to benefit from intensive interaction.

a. **Nursery Estate** – A nursery estate would be indicated if artisan were the only feature of the industrial scene. It could provide all the physical feature to transform artisan into small scale industrialists. Support in form of common production facilities and advice, technical and managerial would be essential.

A nursery estate usually consists of one or more sheds, built on developed land, so constructed that each may be subdivided the varied need for floor space, and to accommodate limited expansion of individual enterprises. It is customary to provide electric power to connections to each module, and for water supply and sanitation arrangements to be communal. They appear to be useful only where most of the artisans are engaged in the same trade.

b. **Functional Estate** – A functional estate may be considered if there is sufficient number of establishments engaged in the manufacture of the same or allied products. It would be a probable choice for an area either where local materials are worked extensively or where special skills have developed. The making of pottery, furniture, clocks and sports equipment is often found on estates of this kind. The estate may contain either standard or custom-built work-places. The size of the former may be determined by the number of workers per unit in the establishments. Common production facilities, bulk purchasing and quality control arrangements can be more effective on this type of estate than on any other. Experience shows that these services should preferably be managed by the entrepreneurs as a group.

c. **Ancillary Estate** – An ancillary estate might be a feasible proposition in the vicinity of a large establishment, provided a considerable proportion of its intermediate inputs could be produced by small scale enterprises. Such an estate can be established only if the management of the large firm is prepared to give full support. There are number of examples of such estate in India. There is a danger that the industrial development of the area may become too dependent on the success of the parent company; if it fails, so do all the small establishments
associated with it. The needs of the parent establishment which an ancillary is intended to serve will determine its composition and size. Because an estate this kind will bring work to the area that hitherto had gone elsewhere, it may be expedient to waive the lower limit of size. Indeed the estate will be able to take advantage of the infrastructure created by the parent enterprise.

d. Composite or General Purpose Estate – Most frequently the circumstances will call for setting up a composite estate to accommodate a variety of industries. Such an estate may be designed to cater the needs of small establishments or for mixed sizes of light industry. The requirements of heavy industry cannot economically be provided by an industrial estate. There are financial and technical advantages to estates accommodating a mixture of small, medium-sized or large enterprises. This type of estate is by far the most common. It can be designed to accommodate virtually all sizes and types of enterprises, with the exception of those engaged in heavy industries.

e. Property Issues – An estate may provide advance standard and custom-built work spaces or only service plots. Some estates make all three available. There is a trend away from the erection of work-place in advance of demand; such construction was at one time considered to be the main function of an industrial estate. Current opinion favours the provision of serviced plots and long term loans to enable industrialists to build their own premises. This arrangement has much to recommend it in case of medium-scale and upper range of small scale sectors.

Accommodation can be leased or sold. From the point of view of the sponsors of the estate, the main advantage of selling is that it allows them to recover their investment more rapidly. This means, however, that they will not benefit from increases in property values by progressively increasing rents. To the entrepreneur a leased work-place releases capital that otherwise would be immobilized. The advantage to him of an owned work-place is its value as collateral for any loan which he may wish to raise. Probably the best method is to provide work-places on lease or for sale. An option to acquire the premises, by hire-purchase or other arrangement, can be written into the lease.

C. Common Production Facilities – It may be considered as falling into two categories:

i. Separate units to provide special services to estate tenants;

ii. Equipment provided for use by estate tenants.

The reasons for providing these facilities are:

a. To improve the quantity, or reduce the cost of production of a group of entrepreneurs by making available equipment that would be too expensive for the resources of, and be underutilized by, any one of them;

b. To conserve the capital of the small scale industrialists.

D. Common Service Facilities - Common service facilities and the amenities found on the industrial estates are list below. Some are essential and are present on all estates; other may be desirable; and some are necessary only in special circumstances. Sometimes training and technical and managerial advisory services are included under this heading, but these are usually available to all enterprises in a branch or sector
under a national industrial development programme. Their connection with an estate tends to be incidental. Fire protection, Security, Collection and disposal of estate waste, provision of medical care, Warehouses, Banks and a Post office, Weighbridge, showroom or exhibition hall, a Central repair workshop are the common service facilities.

E. Amenities – A communal canteen is a feature on many estates. The premises are provided by the estate administration and the catering by a contractor. There is no need to provide shops on an industrial estate; very few, if any, estates have them. A crèche, bus terminal, meeting hall, workers housing, etc amenities should be available in the estate.

F. Financing the Project – To implement the industrial estate programme, or even to construct a single estate, involves a large investment. The funds raised, or allocated, for the establishment of an industrial estate have to meet the costs of physically creating the estate and of providing and maintaining the various services; the latter at least, until such time they as they become self-financing. There are thus capital and recurring expenditure.

Capital, whether supplied by the government or raised by the sponsors of a private organization, it is used to acquire and improve the site and install the utilities – roads, water, electric power and drainage. In exceptional circumstances it may go so far as to cover the cost of buildings and services. Usually, however, funds are borrowed on the security of the improved land for the items mentioned in the preceding sentences.

Working capital is used to meet all the charges incurred in the running of the estate – salaries, street lighting, taxes, conservancy, maintenance and operation of services. In general, all of these would be recouped, with the possible exception of services of a promotional character, by the inclusion of a component in the rent of the structure to cover them, but they may not be recovered in full in partially occupied estate. If it is necessary the working capital, funds are usually borrowed from a commercial bank.

The different types of estates from the point of view of financial sponsorship – government, government-assisted and private estates are discussed below. Sponsorship by bilateral or multilateral aid organizations, which was quite common until the 1980s, has become unusual. International donors nowadays tend to concentrate on advisory services and financial support to general infrastructure improvements.

Government Estate – For government estates the executing agency may be a government department, a parastatal government corporation or a municipality. When a government department is the executing agency, all funds for the establishment of an estate come from government sources, or through the government if foreign aid is involved. In developing country this may be the only means of starting an industrial estate programme. The disadvantage of a department as an executing agency lies in the lack of person with suitable commercial or managerial experience for executing the programme and managing the estates, and in fact that, until the estate is able to meet its recurring costs, annual deficits must be met by the government.
A parastatal government corporation differs from a government department in that frequently there are non-government representatives on the board of directors, and it has borrowing powers.

While municipalities frequently function as executing agencies in the developed market economies, they are still comparatively rare in economies in transition and developing countries. In most cases, local government lacked sufficient decision-making powers to initiate such projects and the skills to execute them, at least until recently. Finally, the municipalities by itself in many cases not have access to adequate sources.

Government-assisted Estate – The principal difference between a government-assisted and private estate is that the former is eligible for government grants and foreign investments. Both may be in receipts of loans from the government, but, normally, loans to assisted estates are to be concessionary rates and for longer times. Often, government-assisted estates are the result of pressure on local entrepreneurs by the municipality to move from the urban areas. The industrialists or the municipality, sometimes jointly, form a body to implement the project.

Private Estate – Although private estate have become common, information on the financing modes of these estates is hard to find. Private sponsorship is likely to ensure that an estate is efficient and profitable. However, the necessity to provide a return to the private shareholders may defeat, one of the boarders, long-term objective of development policy in many countries; that of stimulating small-scale enterprise by providing workplaces at sub-economic rents, often in locations outside economic core regions. Cooperative estates can be a solution to this dilemma.

Thus, Industrial Estate Programme in India is perhaps the biggest undertaken by any developing country. The programme started in 1952 when the first such estate was established at Hadapsar in Maharashtra. The main objective of the programme is to encourage and support the creation, expansion and modernisation of SSI through provision of factory accommodation, common service facilities and assistance and servicing throughout, all stages of establishment and operation and developing sub-contracting relationships within the small scale and large scale industries and specialised manufacturing activities. Subsequently, the programme has also assumed the role of regional development through provision of built-in factory accommodation with the requisite facilities and services in semi-urban, rural and backward areas.

Industries show a tendency to gather near one another because of their many requirements like infrastructural facilities, skilled labour, supply of raw materials, repair and maintenance services, tools, parts and components from trade are helped by inter industry counseling and sales, banking, telecommunication, marketing, transport freight, etc. The programme of industrial estate was initiated to utilize and reap these advantages and consecutive benefits, to ensure artificial concentration of enterprises. Thus, industrial estate programme in India has its own significance role in the development of economy like concept of industrial estates, their role in the development of small scale industries, their broader importance in the economic growth, regulation pertaining to industrial growth, various industrial infrastructural facilities provided inside these industrial estates and areas. The industrial estate programme can be treated as a partial solution to many
problems of developing Indian economy like poverty, unemployment, low investment, low saving, slow industrialization, obsolescence of traditional skills, self-reliance issues, etc.

However, increasing congregation of industries at one place gives rise to social and environment problems therefore they have forced the regulatory authorities to shift industries from congregated places to those places where there is necessity of industrialization and its advantages.
2.2 ROLE OF INDUSTRIAL ESTATES

The principal objective of the industrial estate programme is to provide factory accommodations to small scale industries at suitable site with the facilities of water, electricity, steam, transport, banks, post offices, canteens, watch and ward, first aid, etc. and thus create a healthy atmosphere for the development of industries. The industrial estates bring a number of industrial units together and facilitate establishment of common facilities centres, introduction of modern techniques, and collective purchase of raw materials and sale of finished goods, besides fostering a cooperation spirit of interdependence between them.

Since the early 1970s, it has been realized that rapid economic development in developing countries leads to an acute inequality in income distribution. To prevent massive dissatisfaction among their citizens, developing countries were urged to achieve economic growth (particularly industrial growth) with distribution of income as their development goal. A good way of promoting growth and dispersal of industrial activities is the establishment of industrial estates in the locations where such activities are desired. This paper formulates the problem of optimal development of industrial estates, with the incorporation of specified minimum levels of development in poverty (priority) sites as distributive targets, as encountered by a Malaysian state government. The linear programming problem so formulated is then shown to be equivalent to a transportation problem, enabling it to be solved and parametrically analyzed efficiently. Computational results, obtained using real-life data, show that the subsidy incurred in fulfilling the distributive targets is small compared to the total revenue generated. This justifies the imposition of the distributive targets on the development process. Further, the optimal policy was found to involve decisions to be taken in the initial years of the planning horizon that are fairly insensitive to variation in demand and cost parameters, thereby demonstrating the relative `goodness' of the optimal policy for industrial estate development in the state. ²⁹

The objective of industrial estate varies from place to place. Each industrial estate is established with its own objectives which differ from other industrial estate. Following are various objectives of industrial estates with which they are established –

- Accelerate the industrial growth;
- To promote Industries based on local resources;
- Promotion of small scale industries by providing facilities, assistance and guidance in establishing, operating and managing their units;
- Reducing regional imbalance;
- Makes it easy for industrial activities, such as location, licensing, facilities and infrastructure;
- Skilled manpower resources;
- Attracting and promoting public/private sector involvement and investments;
- Generating employment;
• Decentralisation of industries from big cities, urban areas and highly industrialized centres to other places;
• Development of industries and backward regions;
• Providing all types of facilities at one place for the smooth functioning of industries;
• Provision of built-up factory accommodation to the industrial entrepreneurs so as to make them ready to start their industries without any delay and inconvenience.
• Rapid industrialization of the country;
• Savings and capital formation in industrial sectors;
• Development of entrepreneurial skills among people belonging to different social groups and communities.
• To foster the development of industry as well as entrepreneurs by providing economics and incentives;
• To achieve decentralized development in small towns and villages;
• To attract investments;
• To generate employment;
• To leverage on raw material sources, skilled manpower resources, proximity to end-use markets, etc.
• To add to improve social infrastructure in terms of healthcare and educational facilities;
• Industrial development compatible to social, environmental and economic needs;
• Improved economic performance of industries and investment safety;
• Harmonious development around the estate;
• Leveraging on raw material sources;
• Proximity to end-use markets;
• Leads to the development of large urban regions;
• Setting up infrastructure facilities to promote industrial growth;
• Identifying and promoting industrial projects;
• To ensure the economic viability for industries;
• Getting rid of health hazards and damages of buildings caused by accidents of industries;
• Reducing noise pollution caused by factories and workshops;
• It enables the responsible authorities to better supervise industries;
• It encourages local investors and foreign companies to invest in this country;
• To address problems of sickness and incipient sickness in Industry;

Thus, industrial estates can positively influence the socio-economic development and industrialization of the regions.

Objectives of setting up Industrial Estates

The development of industrial estates in most developing countries is generally seen as a means to provide employment and raise the standard of living for its population, effect regional development and diversification of its economy. Some of the objectives identified by various governments in promoting industrialization and the setting up of industrial estates are as follows:

Economic and Regional Development -

i. Diversification of country’s economy;

ii. To channel development to the rural areas to reduce the regional imbalances;

iii. To provide employment opportunities;

iv. Attract foreign investment, FDI, into the country and thereby accelerate the pace of development;

v. Create spin-offs of other sectors, such as finance, commerce, logistics, transportation and the service industries to bring about better living standards within country; and

vi. Create skills and focuses on the education process.

Orderly Development and Environmental Reasons -

i. To cluster manufacturing plants into a defined area for ease of infrastructure provision and environmental control purposes;

ii. To achieve an orderly and systematic delineation of the various land uses to ensure land use compatibility;

iii. To segregate potentially harmful manufacturing uses from the urban residential areas;

iv. Concentration of industries in one location will lower infrastructure and utilities costs; and

v. Ease of environmental control and facilitate monitoring.
Other Objectives\textsuperscript{30} -

i. Greater synergy and multiplier effect to group similar industries together;

ii. To reduce rural-urban population migration by bringing jobs to the rural areas;

iii. To ensure optimal utilization of labour and utility resources of the country;

iv. To reduce costs through sharing of common or dedicated infrastructures, utilities, etc;

v. Taxation policies create government revenues and increase states’ earnings; and

vi. Exports generate influx of foreign currencies.

O.P. Mathur has classified the objectives of industrial estates in three inter-related but distinguishable groups as follows:

I. Industrial estates as sub-systems of industrial and regional development to promote industrialization, guide, urban and regional development on specific locations;

II. Industrial estates as catalysts for creating environment for growth of small scale industries in orderly conglomeration of small scale units through package facilities and services, risk absorption and demonstration effect;

III. Industrial estate as an instruments for serving specific purposes to develop specific type of industry, attract foreign investments, promote exports and perform nursery functions for industries.

Objectives of Industrial Estates for different countries

The objectives of industrial Estates differ from place to place and have been changing from time to time, according to the need and necessity of the country. In U.K. the early Industrial Estates operated on a commercial basis without any kind of Government aid or participation with the sole object of making profit by earning rents for the building and services provided by these Industrial Estates.

In USA, the Industrial Estates were established for area planning and for providing factory accommodation to industries, in order to reduce overcrowding and congestion in cities. The other objectives are as follows:

- Ensuring compatibility between the industrial operations of the district where the Industrial Parks are situated and the existing activities and character of the community.
- Decentralizing in the interest of national defence,
- Creating a strong incentive to locate, rapidly expanding branch plant and sub-plants on the Industrial Park.
- Achieving the benefit of cheap taxes and other concessions in development cost in the suburbs as well as to have the advantage of superior working and living conditions therein, and
- Providing research and development facilities.
In England, the private industrial estate operated mainly on commercial basis without government aid for making profit through rent from building and services provided by the estates. The success of these private industrial estates evoked attention that ultimately enthused the government to finance similar developments, and new industrial estates were opened by the government under various Acts with the objectives of facilitating rapid economic development of the weak and depressed areas of the country and tackling the acute employment problem in view of the economic depression of 1930’s, to attract new industrialists in the depressed areas. After the Second World War, there was a slight shift of emphasis on the objective of industrial estates in that the government pursued the policy of better geographical distribution and regional diversification of industry.

In Italy, the emphasis has been an area and regional development of backward Southern Italy and raising the economic standards of the people.

In Japan, the objectives in promoting Industrial Estates are to help small business to improve its productivity and operations by encouraging it, to move in groups to certain sites fit for factories, and located far from the established city areas. Small industry is thus spared the location difficulties mentioned above.

In Pakistan, the main objectives are the economic development of comparatively backward areas by encouraging the establishment of new industries by small investors and employment and training opportunities for the labour force in a healthy environment.

Attraction of industries from abroad is the main objective of Jamaica, Ireland and Taiwan; as against general economic development is that of Sri Lanka, Thailand and Singapore, while promotion of small and medium industries is that of Nigeria, Indonesia and Iran.

Among the developing countries, Puerto Rico has adopted the programme of industrial estates for removing backwardness, encouraging complementary/auxiliary industries to develop small industrial complexes, attaining regional development and also attracting foreign industries.

In India, the major objective, are the industrialization of economically backward and rural areas and the promotion and rapid development of small scale industries.

Analyzing the above mentioned aims and objectives pursued by various countries, it becomes clear that Industrial Estates are employed as a tool for industrialization and regional development for economic and social growth. As catalyst, industrial estates are used for generating demand for industry in predominantly agricultural communities and bridging the gap in supply of developed land for industrial purpose. They also meet the objectives of export promotion, attracting foreign enterprises, modernization artisan sector and developing special type of industry.
Factors to considered while establishing industrial estates in India

- Industrial estates must be planned with a view to developing them into a healthier industrial growth in an area rather than as a cluster of merely inward looking group of production units.
- While planning an industrial estate, due consideration should be given to ‘secondary growth’ in order to regulate any haphazard growth around the estates.
- While planning industrial estates in an area uniform pattern need not be followed. The organizational structure in the region or area may be adjusted taking into consideration factors such as, special requirement of area, economic development, availability of skills, talents and enterprise level of development of the region, etc.
- Industrial estates have to be properly co-ordinated with the broader development programmes. They have not to be an integral part of the industrial development programme but also of the overall economic development programme of the area or region.
- Homogeneity (rather than heterogeneity) is to be guiding criterion while selecting industrial units. This would lead to better planning and utilization of common facilities, inter-firm cooperation and interlinked development.
- Location of the industrial estate is to be decided only on techno-economic considerations. A techno-economic feasibility study must always precede the setting of an industrial estate.
- Instead of building sheds in advance, these may be build on expressed demand as revealed at the time of techno-economic feasibility study.
- Elaborate and costlier construction has to be avoided and instead, functional types of sheds as cheaper rates may be provided.
- The construction cost should be kept at minimum.

Scope of Industrial Estates

The industrial estate programme combines itself a number of important schemes of assistance in form of a package and extends them to entrepreneurs with economy and inducement. The various facilities provided by the industrial estate are land and building (factory sheds), roads, open space, parking, recreation, drainage, water, power, communications, banks, post office, canteen, residential colony, first aid, hospital/dispensary, fire protection, labour welfare, administrative office, central warehouse, workshops, railway siding, common service facilities like raw materials depot, tools and dye shop, foundries, electroplating and heat treatment centres, maintenance and repair shops, quality control laboratory, demonstration workshop, technical advisory guidance bureau, research and development, training and extension, marketing, export promotion, financing, show-room and publicity, etc.

However, in the developing countries, only the threshold requirements are initially met by the industrial estates as a measure of economy, the facilities being increased gradually with the progress of the estate in due course. Space if provided in most of the
industrial estates for exhibiting products for small scale units including those produced for the railways and large scale establishments. Besides, industrial estates facilitate loans from state governments, institutional credit agencies, supply of machinery on hire-purchase basis to small scale units. Moreover, special attention is paid to the small scale units located within industrial estates.

While the direct incentives such as financial assistance on liberal terms, concessions, technical assistance and training through the Small Industries Service Institutes (SISIs) are available to all industrial enterprises, both within and outside industrial estates, the entrepreneurs functioning within the estates can save a great deal of efforts and expenses otherwise involved in selecting sites, acquiring and developing land, getting the plans approved, securing supply of electricity, water, gas, etc which really save initial investments and constraints to a considerable extent, and speed up production tempo and process. Thus, the industrial estates afford economy of scale and agglomeration. A large number of countries today depend on industrial estates for promoting industrialization and guiding industrial locations which are major constituents of national, economic and industrial development and also of urban and regional planning. The global recognition of Industrial Estates Programme is the clear proof of its relevance and vast scope.

In fact, Industrial Estates can push up the process of industrialization through-

- Expansion, diversification and modernization of existing units;
- Revitalizing sick enterprises by relocating them in fresh vigorating atmosphere;
- Encouraging growth of industries in the vicinity of the estate premises;
- Creating new planned settlements and making them growth foci;
- Urban and regional development through decentralization of industries;
- Compensating infrastructural deficiencies and handicaps to industrialization;
- Stimulating latent entrepreneurial talents;
- Exploring local raw materials;
- Helping as control point in environmental pollution.

Much of the various countries and the international agencies have recognized the scope, the effectiveness and relevance of Industrial Estates as a multipurpose tool, the technique of formulating industrial estate policies and programme in a comprehensive way, are yet to be formally documented. Industrial estate being dependent on the regional and national developmental goals and priorities, it is imperative to understand first, the socio-economic problems confronted by a nation or region, and secondly, the planning goals and priorities which may be subsequently set in. Further, the objective of industrial estate which may be of over-riding significances as of any period will change with economic progress and advancement a society may achieve during any time-frame. The periodic changes being inherent in any economic system, the same would be visualized by the sponsors of the industrial estates. The determination of right perspective within which an industrial estate should grow, and provisions of periodic review of the objectives should form part of the frame of reference for the organizations sponsoring Industrial Estates.

With the background of a global overview of the concept of industrial estates, their scope and importance as an effective instrument for accelerating the process of industrialization, it is necessary to review the programme of industrial estates in India.
2.3 INDUSTRIAL ESTATES OF INDIA

The establishment of industrial estates has been a special feature of industrial development activities of many developing countries of the world. The United Kingdom and United States of America have achieved significant progress in economic and industrial development by establishing industrial estates. The success of England in the programme of industrial estates has in fact encouraged and stimulated many Commonwealth countries including India to follow such programme for industrial development.33

Growth of a developing country like India, where majority of population lives in villages, cannot be possible in the absence of equitable and balanced development of rural sector. No doubt, tremendous development efforts under well-planned programmes have been made for the uplift of rural economy but the nation could not achieve commendable success in reducing inequalities among the masses and regional disparities, the reason being that the development of delivery system operating in the countryside has remained confined to some specific areas and selected centres, consequently this process has created a wide hiatus between the privileged and underprivileged sectors of our economy.34

The seminar on Industrial Estates held in Madras in November, 1961 under the joint sponsorship of U.N. and the Government of India noted that “governments in most countries in ECAFE (Economic Commission for Asia & the Far East) region recognized that Industrial Estates are an effective means of promoting industrial development, modernizing industrial enterprises, raising their productivity and thus reducing the costs and improving the quality of their products.

The growing interest towards the programme of industrial estate in most of the developing countries is the result of their increasing realization of the fact that Industrial Estates could be most effective tool to foster industrial development on a decentralized pattern. It prevented haphazard growth of industrial slums. The provision of well designed factory buildings and of advisory and common facility services and other amenities in the estates would not only ensure the health of the workers but also help to increase their productivity.

The Government of India was indeed inspired to experiment in the country the idea of the Trading Estates of the United Kingdom for solving the educated unemployment problem which is recorded in the First Five Year Plan Report as follows:

The Trading Estates in United Kingdom provided factory sites or built up factory premises with such facilities as transport and supply of electricity, water and gas laid on, to small amateur manufacturers on a rental basis. These facilities which individuals would not have been able to get except at very high cost, have made possible the establishment of small and medium sized factories in selected areas. In the United Kingdom, the government took initiative in encouraging private capital provide to building up these estates after the great depression to reduce unemployment and to bring about better distribution of industries. While the objective of dispersal of industries is only a long term process, the idea of Trading estates can be experimented upon, if it can help to some extent solve the unemployment problem of the educated classes. The built-up factory accommodation with all the other ancillary facilities (like electricity and water) will
provide the right type of incentives for persons who want to work hard and have small amounts to invest or can be given a measure of assistance.\textsuperscript{36}

In India, the programme of industrial estates began in the year 1955 with two objectives viz.

i. The growth of small scale industries to be accelerated, and

ii. To encouraging establishment of small scale industries in the industrially backward areas of the country.

Under the industrial estate programme, suitable locations were selected, with the development of infrastructure facilities like roads, power and water supply, etc and official agencies to built up factory sheds, which are allotted to the small entrepreneurs either on rental basis or on a hire purchase system.

It was expected that industrial estates would facilitate the task of the various supporting agencies engaged in banking, transportation and provision of utilities to serve units located there. In this way, small scale industries would be enabled to concentrate on production problems and to spend comparatively less amount of time and effort in arranging these various services. It was therefore felt that the small scale units situated in industrial estates will have an edge over the units in isolated areas.

As a matter of fact, the successful story of industrial estates or trade estates in Great Britain and other foreign countries which were considered as positive steps of stimulating industrial growth actually encouraged the then Government of India to start similar estates in the country. In this way, the idea of industrial estates was also a borrowed idea. The potential of industrial estates as a powerful tool for modifying the location and technology patterns of industry, particularly in small scale sectors, was deeply appreciated. The Government realized that it would be an effective method for basis. The grouping of industries in such estates facilitates a more intensive operation of various special agencies set up by the Government to aid small industries. As a result, the industries services, their branches and their extension centres in the region are able to provide technical services and guidance to units inside the estate. The National Small Industries Corporation (N.S.I.C.) and its subsidiary bodies are able to provide hire-purchase facilities for units desiring to buy modern machines and equipments get those contracts for the supply to Government Stores and ancillaries for large scale establishments, both state-owned and private owned; and render marketing assistance through their whole-sale depots, publications, etc. In the conditions obtaining in India, the states take the initiative in setting up industrial estates rather than leave their development to private enterprise. The construction and management of industrial estates is the responsibility of the State Government.

The main thrust of existing socio-economic environment and the process of rural development have been on developing the necessary infrastructure, agriculture and allied activities, cottage and small scale industries, etc. having vital significance for the economic development, the industrial development has been an integral part of the rural developmental process, therefore, rural industrial development has emerged as an important component of rural development.\textsuperscript{37}
Most of the countries have adopted planned clustering of industrial units as a strategy for promoting industrial development in general and also for generation of employment, dispersal of units, rectifying regional imbalances, development of indigenous/local entrepreneurship, developing specific types of industries such as ancillary, functional or export oriented units, etc. Such clustering of industries has been referred as Industrial Estates, Industrial Areas, Industrial Complexes, etc. These programmes have been initiated by the countries themselves or very often through the intervention and assistance of agencies like the UNIDO.

Industrial Estates programme in India is perhaps the biggest undertaken by any developing country. The idea of establishing industrial estates as a measure for the development of small scale industries was first adopted in India by Small Scale Industries Board at its meeting held in January, 1955. At the time of independence (1947), there were large numbers of unsophisticated small scale manufacturing and cottage units. The history of industrial estates in India can be traced back to the year 1947, when the then Bombay State (now Mumbai in Maharashtra) appointed a special officer to recommend centres in the state where industrial estates can be established. Though a number of centres in the state were recommended, the scheme did not materialize satisfactorily for want of finance. The lead given by the Bombay state was followed by the then Saurashtra State (now in Gujarat) when in 1955 it was decided to set up an industrial estate near Bhatti Nagar Railway Station in Rajkot.

The Central Government took initiative to establish two industrial estates, one in the federal territory of Delhi at Okhla, and another at Naini near Allahabad in Uttar Pradesh. Both were undertaken by the National Small Industries Corporation (NSIC), a private limited company within the Ministry of industry set to assist small scale industrialists to obtain imported machinery on hire purchase terms.

Though the programme of industrial estates was introduced in India towards the end of First Five Year Plan, it was materialized only in the Second and Third Five Year Plan. During the first five year plan, ten industrial estates were sanctioned to be set up by the State Government of Kerala, Tamil Nadu, Uttar Pradesh and West Bengal. Consequently, an industrial estate was started at Palakkad, Thiruvananthapuram, Kotiyam, Kollam and Trissur in Kerala, Guindy and and Virudhum Nagar in Tamil Nadu, Kanpur and Agra in Uttar Pradesh and Layani in West Bengal. The Central Government these ten industrial estates provided a loan of Rs. 58 million and a grant of Rs. 45,500.

In second five year plan 110 industrial estates were sanctioned throughout the country. During the first five year plan and second five year the main emphasis was on the provision of accommodation for the small scale sectors, and strengthening the functions of Central Small Industries Organisation (CSIO). There were 48 industrial estates in urban areas with more than 1,00,000 habitants and 25 were in places having population less than 20,000 out of all the industrial estates established during this period.

The programme made a rapid progress in the third five year plan. Acute demand for the industrial estates was met by sanctioning 348 industrial estates in the third five year plan. Many Rural and Semi Rural estates were built during this period. Up to the end of
third five year plan 458 industrial estates had been sponsored and Rs. 2225.45 lakhs were spent.

The fourth five year plan emphasized for consolidation of industrial estates programme. But during the fourth plan alone Rs. 1542.50 lakhs was spent and 612 industrial estates had been sponsored.

The expenditure on the industrial estate programme during the fifth plan was around Rs. 2461.28 lakhs. During the period 184 industrial estates were sponsored in the country. With this addition, the total number of industrial estates sponsored in India reached the figure 796. During the sixth plan period, the Government spent an amount of Rs. 4500 lakhs for industrial estates. By the end of the March 1985 there were 799 industrial estates with 13,467 small scale industries functioning and accounting for an annual production of about Rs. 636 crores and providing employment to about 2.2 lakhs persons.

During the seventh plan period, the Central Government made an outlay of Rs. 1120.51 crores for the development small scale industries including industrial estates. The Districts Industrial Centres (DICs) programme was launched in 1987 as a centrally sponsored scheme with the objectives of providing all the services and support facilities to the small scale industries under one roof. This scheme will continue for the next five year plans and there is greater need for the delegation of powers to the DICs by the State Governments particularly related to the raw materials, allotment of industrial sheds, power, margin money, investment subsidy and incentives. The DICs are restructured to make them technically and professionally sound and competent. These DICs are entrusted with function of planning and development of industrial estates. During the eight five year plan period onwards the government allotted funds for industrial parks and incentives for starting SSI units in backward areas.

Under the rural industrialization scheme, a number of programmes, viz. Village Artisan Programme, Common Production Programme, Pilot Project Programme, Rural Industrial Project Programme, Rural Industrial Estate Programme, District Industries Centre Programme and Growth Centre Programme were formulated by the government. But only the District Industries Centre Programme, Growth Centre Programme and Industrial Estate Programme are in operation. In addition to these programmes, Integrated Rural Development Programme and various specialized Boards are also implementing their own programmes in rural industries.

There is too much expansion of industrial estates as a device to promote small and medium scale entrepreneurship in the country. The survey of industrial estates in all states was x-rayed by the ‘Research Bureau of the Economic Times’ in July 1985 under the title ‘Economic Times Industrial Estates Survey’. According to its findings the operational efficiency of industrial estates is being impoverished by poor infrastructure facilities, unplanned growth, affluent disposal problems, sickness and closure of units, etc. But the overall success is impressive and small scale entrepreneurs of multiple characters are blossoming on a tremendous scale in the different parts of the country. Today, more than 750 industrial estates are in operation both in urban and rural areas. The development banks are encouraging the establishment of industrial estates in consonance with the plan priorities. In fact, in many of the estates are acting as a ‘Paradise’ for the new entrepreneurs of first generation. The role of these estates in terms of employment generation, production of goods and services for the community at large, export promotion,
regional development, diversification of products and services, decentralization of economic power, upliftment of society depressed and economically backward classes, absorption of technicians in enterprise building activities, development of socialist pattern of society and last but not the least the promotion, proliferation and diversification of small scale industries is very impressive and commendable. Today, small entrepreneurs are graduating to medium entrepreneurs and medium to large on account of the spreading impact of industrial estates ideology since first five year plan.42

The industrial estate programme was initiated in 1955 when, following the recommendations of Small Scale Industries Board, a total number of 12 estates were sanctioned. The construction, management and organization of ten estates were entrusted to the state governments while the development of two estates Okhla at Delhi and Naini at Allahabad was responsibility of National Small Scale Industries Corporation. The ten industrial estates entrusted to the state government were Guindy and Virudhnagar in Tamilnadu, Kanpur and Agra in Uttar Pradesh, Palghat, Trivandrum, kottyam, Quilon and Trichur in Kerala, Rajkot in Gujarat. The state government were sanctioned a loan of Rs.57.89 lakhs and a grant of Rs. 0.49 lakhs each for the purpose.

After looking to the progress of estates initially, the government started gave consideration the industrial development programmes. The status of industrial estates in India in various five year plans:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Planning Period (Five-Year Plans)</th>
<th>No. of Industrial Areas</th>
<th>Units Manufacturing</th>
<th>Total Labour Employed</th>
<th>Total Annual Production (‘ Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1st and IIrd Plans (1951-1955-1961)</td>
<td>53</td>
<td>1049</td>
<td>13400</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>IIIrd Plan (1961-66)</td>
<td>208</td>
<td>3199</td>
<td>54650</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>Annual Plans (1966-69)</td>
<td>285</td>
<td>4553</td>
<td>82748</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>IVth plan (1969-74)</td>
<td>455</td>
<td>10139</td>
<td>175700</td>
<td>404</td>
</tr>
<tr>
<td>5</td>
<td>Vth Plan (1974-79)</td>
<td>662</td>
<td>13467</td>
<td>220000</td>
<td>636</td>
</tr>
<tr>
<td>6</td>
<td>VIth Plan (1980-85)</td>
<td>808</td>
<td>19936</td>
<td>279341</td>
<td>NA</td>
</tr>
<tr>
<td>7</td>
<td>VIIth Plan(1985-90)</td>
<td>1034</td>
<td>36405</td>
<td>339740</td>
<td>NA</td>
</tr>
</tbody>
</table>

(Source: Half yearly progress report on industrial estates development, various commissioner small scale industries)

Industrial estates represent “state effort in its most concentrated form”. Moreover, the goals of industrial estates were wide-ranging and diverse, and their successful establishment can go a long way toward industrialization of the region. It has been found that industrial units inside estates are economically more viable than those located outside the estates.43
In Indian context and especially in the pre-1991 period, the various state governments used industrial estates to encourage the development of small scale investors. Industrial estates also provide the opportunity for regional states to offer not just general infrastructure such as roads or electricity, but also specialized functional infrastructure such as storage plants, high-technology parks, and the like. In many cases, these are custom-made to specific sectoral requirements. Moreover, the goal of backward areas’ development and regional dispersal overlap with the development of small scale sector, making the success of the industrial estate program in India a litmus test for three sets of goals: rural industrialization, small-scale private sector-based employment generation and regional dispersal across the nation.44

Given the federal structure of regulation, industrial estates also represent provincial efforts to harness state power for regionally specific political and economical ends. In contrast to the policy domain of licensing, where the central rule dominates, the industrial estate program represented policy arena in which central control was minimal. In this policy domain, the states attempt to enhance or augment resources provided by the central government as well as evolve independent policies. In the process doing so, they may transform or even contradict national goals. The central government attempt to encourage the establishment of industrial estates for achieving regional dispersal of development across India. The states, however, conceived of industrial estates as achieving employment-intensive industrialization and used industrial estates to provide services to the small-scale sector. Moreover, estates’ location was not always according to the central guidelines. An evaluation report on the backward-areas development noted, “in addition to central incentive schemes for backward-areas development, a wide range of incentives/facilities were being offered by the State Governments, appearing to vie with each other, to attract industrial units.” The regional estates also linked their industrial estate program with other policies, which, in fact, increased regional inequalities.45

Industries have a tendency to congregate near one another as they need infrastructure facilities, skilled labour, repair and maintenance services, supply of raw materials, tools, parts and components from trade and are helped by inter industry counseling and sales. Added to these general causes is the availability of service facilities like banking, telecommunication, marketing, transport, freight, etc.46

To exploit these advantages and reap the consecutive benefits, the industrial estates programme was developed, which ensures artificial congregation of enterprises. The concept of industrial estates, their role in small scale industries development, their broader importance in economic growth, regulations pertaining to industrial estates, various infrastructural facilities provided inside these industrial estates and areas, etc.47

The establishment of industrial estates fully endowed with infrastructure, roads, communications, electricity and financial services in small towns or semi-rural areas for providing services to these small micro enterprises has also had mixed and generally disappointing results. Industrial estates for rural areas are widely viewed as expensive failures. A rather different approach, relying on social networks in rural and semi-urban areas, to exploit synergy between social and economic factors, argues for the establishment of industrial clusters which can also harness the benefits of globalization for the poor.48
India’s industrial production growth is about 12 percent annually. This leads to a strong demand for industrial premises. Industrial parks have been developed in large numbers in India, both by the State Government or by quasi-Government agencies. The private sector has avoided industrial park development until recently for the following reasons –

- There are better opportunities in other property sectors; and
- The government involvement in industrial parks has depressed prices and the competition is very keen.

Most of these state-owned industrial parks are not run on a commercial basis and are in direct competition with each other. This has led to price undercutting for industrial land with some State Government even cutting profits in order to attract investments in the State. A new approach under consideration in various States is that of private sector participation or in partnership with Government in ownership and operation of new industrial parks. In this manner, it is hoped that the quality of these new industrial parks will improve particularly with foreign consultants being commissioned to do the master planning and a private sector approach to management and marketing.

These private sectors are now starting to develop the high end industrial facilities like business parks, software parks, IT parks, and etc as these high-end business park facilities will give them a better investment return than pure industrial estates. There is a strong demand for such high-end developments tailoring at foreign multinational companies and mature local corporations that can pay high land prices.49
Table 2.1 Numbers of Industrial Estates in various states of India (approx.)

<table>
<thead>
<tr>
<th>Name of the State</th>
<th>No. of Industrial Estates</th>
<th>Name of the State</th>
<th>No. of Industrial Estates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gujarat</td>
<td>166</td>
<td>Tamilnadu</td>
<td>43</td>
</tr>
<tr>
<td>Karnataka</td>
<td>164</td>
<td>Andhra Pradesh</td>
<td>300</td>
</tr>
<tr>
<td>Bihar</td>
<td>47</td>
<td>Uttar Pradesh</td>
<td>155</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>31</td>
<td>Punjab</td>
<td>45</td>
</tr>
<tr>
<td>Jammu &amp; Kashmir</td>
<td>7</td>
<td>Haryana</td>
<td>39</td>
</tr>
<tr>
<td>West Bengal</td>
<td>12</td>
<td>Delhi</td>
<td>29</td>
</tr>
<tr>
<td>Pondicherry</td>
<td>2</td>
<td>Goa</td>
<td>20</td>
</tr>
<tr>
<td>Kerala</td>
<td>53</td>
<td>Maharashtra</td>
<td>267</td>
</tr>
<tr>
<td>Daman &amp; Diu</td>
<td>3</td>
<td>Orissa</td>
<td>86</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>53</td>
<td>Chhattisgarh</td>
<td>7</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>185</td>
<td>Jharkhand</td>
<td>3</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>321</td>
<td>Assam</td>
<td>16</td>
</tr>
<tr>
<td>Tripura</td>
<td>6</td>
<td>Meghalaya</td>
<td>2</td>
</tr>
<tr>
<td>Manipur</td>
<td>1</td>
<td>Nagaland</td>
<td>4</td>
</tr>
<tr>
<td>Arunachal Pradesh</td>
<td>12</td>
<td>Mizoram</td>
<td>10</td>
</tr>
<tr>
<td>Sikkim</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Source: website of various State Industrial Development Corporations)

Types of Industrial Estates in India

(A) On the basis of Land

1. Urban Industrial Estates – These types of industrial estates are established within the limits of metros, municipal corporations or municipal palikas or in the areas of their boundaries. These types of industrial estates are spread in a minimum area of minimum 500 acres.

2. Semi-urban Industrial Estates – These types of industrial estates are also known as town estates. Such towns or cities having population 5,000 to 50,000 and have central importance of trade and business. Such places have proper transportation and communication medium and are well-connected with main parts of country. The industrial estates established in such towns have been kept under second category estates. The area of such estates is spread in nearly 200 acres.

3. Rural Industrial Estates – The industrial estates established in such villages having population less than 5,000 are known as Rural Industrial Estates. The area of such type of industrial estates varies from 20 acres to 50 acres.
It is important to note that different industrial estates have industrial work-sheds of different size and dimensions as approved by the government. Such different classes of sheds are shown below-

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Particulars</th>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Urban Industrial Estates</td>
<td>60’ X 50’</td>
<td>60’ X 25’</td>
<td>40’ X 25’</td>
</tr>
<tr>
<td>02</td>
<td>Semi-urban Industrial Estates</td>
<td>60’ X 50’</td>
<td>40’ X 25’</td>
<td>30’ X 20’</td>
</tr>
<tr>
<td>03</td>
<td>Rural Industrial Estates</td>
<td>50’ X 20’</td>
<td>30’ X 20’</td>
<td>20’ X 15’</td>
</tr>
</tbody>
</table>

(Source: P.C. Alexander: Industrial Estates in India)

(B) On the basis of Industrial Activities

1. General Category – This type of industrial estate is also known as mutual estates. This type of estate provides work sheds (infrastructural facilities) to the different types of industrial units producing different products. Small scale industries should be considered for allocating work sheds in these estates.

2. Specific Category – In this type of estate, work sheds are allocated to those units which produce special types of products. But, it is necessary that such products should have vertically and horizontally relationship with other products.

(C) On the basis of Organisational Structure (has been defined in the Concept and Origin of industrial Estate)

1. Government
2. Cooperative
3. Self finance
4. Private

The Indian Objectives

The objectives of Industrial Estates Programme in India have been changing in accordance with the needs of time to help the growth of industry in the country. The main objective of the programme during the First and Second Five Year Plans was to provide factory accommodation with necessary facilities and amenities to the small entrepreneurs, to create an ideal environment for promotion of small scale industries. In the Third Five Year Plan, there was a shift in the objective to decentralization and development of backward areas. Besides, the programme was given a rural bias in that the new Industrial Estates were expected to be located, as far as possible, near small and medium sized towns.

In the Fourth Five Year Plan, emphasis was laid on encouraging ancillary and functional estates and construction of factory sheds to unemployed engineering graduates. In the Fifth Five Year Plan, Industrial Estates were promoted for development of export industries and complexes. Flatted factory estate was preferred in metropolitan centres and plots were allotted to medium and large industries in big urban centres on commercial
basis. With the introduction of New Industrial Policy declared on December 23, 1977, industrial estates were given rural orientation, to provide sheds in rural growth centres to promote small and cottage industries and create integrated rural development.

In the Sixth Five Year Plan, industrial estates and area programmes would get added emphasis particularly in industrially backward areas. Location of new industrial estates would be decided on purely techno-economic considerations. The size of the programme would be expanded by resorting to institutional funds utilising the budgetary provisions as margin money. Functional industrial estates both for groups of artisans and small scale units would receive special attention. More effective measures including incentives and assured supply of raw material and power would be provided to induce the entrepreneurs to occupy sheds in the rural and backward areas. It would also be necessary to provide common service facilities, technical guidance, etc., to make a success of rural industrialisation programmes.

In the Seventh Five Year Plan, The District Industries Centres (DICs) programme was launched in 1978 as a centrally sponsored scheme with the objective of providing all the services and support facilities to small industries under one roof. This scheme will continue in the Seventh Plan and there is need for greater delegation of powers to the DICs by the State Governments particularly relating to raw materials, allotment of industrial sheds, power, margin money, investment subsidy and incentives. The DICs are being restructured to make them technically and professionally competent.

In the Eighth Five Year Plan, the Growth Centre approach has already been accepted as a suitable measure for industrial dispersal and is under implementation in large and medium industries sector. During the Eighth Plan, establishment of 70 Growth Centres has been envisaged. It is proposed to earmark a certain percentage of developed industrial area for small industries. There is also need to establish functional industrial estates at suitable locations in areas with substantial agricultural, vegetable and horticultural produce. Besides the growth centres, integrated infrastructure development centres for tiny units in rural and backward areas would be set up involving the Centre, State Governments and industry associations.

In the Ninth Five Year Plan, the Growth Centre approach was proposed to split the Growth Centres in the North- Eastern States into two or more sub-Centres since a large area may not be available at one place; nor there enough takers for so many units at one location. Here again, it would be appropriate to concentrate on only one location in each of North- Eastern States and start work on the next sub-Centre only when the work on the first sub-Centre is nearing completion. The Tenth Five Year Plan had a planning of Investment in physical infrastructure.

Industrial Estates programme in India can be said to have the following objectives:

- Rapid development of small scale industries in the various states and union territories of the country;
• Shifting of small scale industry from congested areas to Industrial Estate premises to increase their productivity;

• Industrializing the economically backward rural areas of the country;

• Achieving decentralized industrial development in small town and large villages;

• Assisting growth of ancillary industries in townships surrounding major industrial undertakings both in public and private sectors;

• Providing opportunities for productive work to students of universities and technical institutions, to inspire them with earning-learning facilities;

• Establishments of Growth centres in various states of country especially in the North-Eastern States;

• Investment in physical infrastructure in the industrial estates for the industries.

The unique feature of Industrial Estate programme in India is that it differs from similar programmes in other countries in respect of exclusive emphasis on small scale industries development.
Chapter 2.4: INDUSTRIAL ESTATES IN CHHATTISGARH

Chhattisgarh, being a new state, have many opportunities for the industrial development as it is state with varieties of natural resources. The state is enriched with different types of mineral resources. Although Chhattisgarh is rich in terms of availability of mineral resources, it has been unable to exploit this natural advantage to spur industrial growth. Setting up Industrial Estates would go a long way in fuelling industrial growth, as properly designed and implemented Industrial Estates can attract small and medium scale value-added industries. Compared to States like Gujarat and Karnataka, which have about 200-300 Industrial Estates distributed across all the districts there are only seven Industrial Estates in the State. There are about 781 small-scale industries and 72 medium and large scale industries housed in these Industrial Estates. These Industrial Estates are managed by the Audyogik Kendra Vikas Nigam, Raipur, which is now part of Chhattisgarh State Industrial Development Corporation (CSIDC).

There is scope for setting up more Industrial Estates in the State. To start with, these could be set up in the regions of Dantewada, Janjgir and Surguja where the mineral processing industries and downstream industries of iron, aluminum and cement could be targeted. The successful implementation of new industrial estate projects would critically depend upon factors such as detailed location analysis, a proper institutional framework, adaptation of the configuration and design of the industrial estate to local conditions. The private sector must be involved in developing these Industrial Estates to improve the commercial viability of the project and the Government must limit itself the policy making and regulatory roles.

There are several industrial growth centres/parks in Chhattisgarh, acting as hubs of development and promotion of industrial activity. Most of the industries in the State are in the core sector and are located in the districts of Raipur and Durg. Some of the well-established industrial growth centres are located at Urla and Siltara in Raipur district; Sirgitti and Anjani in Bilaspur district; and at Borai in Durg district.

In terms of industrial infrastructure, there are 7 Industrial Estates. Of these 4 growth centres are operated by CSIDC – Borai, Sirgitti, Urla, Siltara and Arjuni – while the rest are being looked after by the local District Trade and Industry Centre (DTIC). The Industrial Estates managed by the DTIC’s are located in Bhilai, Rajnandgaon, Champa, Korba, Chakradhar Nagar (District Raigarh), Frezerpur (District Bastar), Ambikapur (District Surguja) and Gahmaria (District Jashpur Nagar). Apart from these Industrial Estates, about 3,260 acres of land has been acquired throughout the State for industrial purposes.

Moreover, to meet the increasing demand of land for new industrial units, the government has decided to set up four Star Industrial Areas across 6,836 hectares of land in the districts of Bilaspur, Raigarh, Rajnandgaon and Raipur. Sponge iron and mini-steel plants, ferro alloy units, power plants/captive power plants and other core industries are planned to be established in these proposed Star Industrial Areas.

The highly productive labour force and peaceful law and order are catalysing this process. The State Investment Promotion Board is bound by law to issue time bound approvals, with legislation to this effect in place. Chhattisgarh State Industrial Development Corporation (CSIDC) is responsible for the development and promotion of industrial activity in the State.
Corporation (CSIDC) has developed industrial growth centres - Urla and Siltara (Raipur), Borai (Durg), Sirgitti (Bilaspur) & Anjani (Pendra Road) and proposes to setup four large Industrial Area in Raipur, Bilaspur, Raigarh and Durg/Rajnandgaon.

<table>
<thead>
<tr>
<th>Location</th>
<th>Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>By CSIDC Dagori in Bilaspur Distt.</td>
<td>383.62</td>
</tr>
<tr>
<td>By CSIDC Silpahari in Bilaspur Distt.</td>
<td>605.95</td>
</tr>
<tr>
<td>By CSIDC Champa-Hathnora in Janjgir Champa Distt.</td>
<td>504.65</td>
</tr>
<tr>
<td>By CSIDC Birkoni in Mahasamund Distt.</td>
<td>208.2</td>
</tr>
<tr>
<td>By DTIC Ranisagar in Raigarh Distt.</td>
<td>45</td>
</tr>
<tr>
<td>By DTIC Narayanpur in Surguja Distt.</td>
<td>126</td>
</tr>
<tr>
<td>By DTIC Birkoni in Mahasamund Distt.</td>
<td>241</td>
</tr>
<tr>
<td>By DTIC Bacheli in Dantewada Distt.</td>
<td>23.39</td>
</tr>
<tr>
<td>By DTIC Narayanpur in Surguja Distt.</td>
<td>126</td>
</tr>
<tr>
<td>By DTIC Kirandul in Dantewada Distt.</td>
<td>82.78</td>
</tr>
<tr>
<td>By DTIC Hiranar-Ghotpal-Geedam in Dantewara Distt.</td>
<td>192.78</td>
</tr>
<tr>
<td>By DTIC Maolibhata-Teknar in Bastar Distt.</td>
<td>795.75</td>
</tr>
<tr>
<td>By DTIC Raikot in Bastar Distt.</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: CSIDC

**Progress of Industrial Estates/Parks in Chhattisgarh and Infrastructure**

**Establishment of Specified Parks**

a. Food Park is proposed in Borai industrial growth centre with private capital investment of Rs. 50 crores.

b. Software Park for information technology has been established in Bhilai.

c. Cycle Complex is being established in the Siltara Industrial Estate. Five industries producing cycle parts have been established and two units are proposed.

d. Aluminum Park is proposed in Bilaspur for which survey of area is under process.

e. Apparel Park – An initial project report on establishment of Apparel Park have been presented by consultant. The process of selection of location is under process.

f. Chemical Zone - An initial project report on establishment of Chemical Zone have been presented by consultant. The process of selection of location is under process.

**Establishment of Specified Parks**

a. Apparel Park (Integrated Textile Park) - This park is proposed at Dhansuli and Sakri Dist. Raipur in Balodabazar Road. The land proposed to be acquired is 84.395 hect. out of which 67.755 hect. is private and 16.538 hect. is government. The process of acquisition of land is in progress.
b. Herbal/Medicinal Park – This park is proposed in gram Banjari and Balod tehsil Kurud Dist. Dhamtari in nearly 200 acres of land. This park will be developed on Public Private Partnership basis. Estimated cost of development of infrastructure is Rs. 62.00 crores.

c. Food Processing Park – This park is proposed under public private partnership scheme in gram Indavani dist Rajnandgaon in nearly 75.00 acres of land. The estimated cost of infrastructure development is 31.00 crores.

d. Gems & Jewellery SEZ – This SEZ is proposed in Naya Raipur in about 70 acres of land with an estimated cost of development Rs. 170.00 crores.

**Development of Industrial Infrastructure**

<table>
<thead>
<tr>
<th>Place</th>
<th>Land Area</th>
<th>Financial Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dhamtari</td>
<td>Land marked 81.62 acres</td>
<td>Rs. 1 crores allocated to CSIDC</td>
</tr>
<tr>
<td></td>
<td>Land acquired 22.07 acres</td>
<td></td>
</tr>
<tr>
<td>Mahasamund</td>
<td>Land marked 238.25 acres</td>
<td>Rs. 1 crores allocated to CSIDC</td>
</tr>
<tr>
<td></td>
<td>Land acquired 238.25 acres</td>
<td>Tender invited for development activities.</td>
</tr>
<tr>
<td>Raipur</td>
<td>Land marked 4034.93</td>
<td>Transfer and acquisition of land under process</td>
</tr>
<tr>
<td>Sarguja</td>
<td>Land marked 128 acres</td>
<td>Rs. 1 crores allocated to CSIDC and development work under process</td>
</tr>
<tr>
<td>Kabirdham</td>
<td>Land acquired 51.74 acres</td>
<td>Rs. 1 crores allocated to CSIDC and tenders invited for development work.</td>
</tr>
<tr>
<td>Raigarh</td>
<td>Project report is being</td>
<td>Land acquisition proposal</td>
</tr>
<tr>
<td></td>
<td>is prepared by SITCON</td>
<td>being prepared.</td>
</tr>
</tbody>
</table>

**Development of Industrial Infrastructure**

<table>
<thead>
<tr>
<th>Place</th>
<th>Land Area</th>
<th>Financial Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilaspur (Dagori)</td>
<td>Land marked 795.92 hect.</td>
<td>Pending for NOC from Ministry of Forest and Environment GOI</td>
</tr>
<tr>
<td>Raigarh (Lara)</td>
<td>Land marked 1465.847 hect.</td>
<td>Pending for NOC from Ministry of Forest and Environment GOI</td>
</tr>
<tr>
<td>Raipur (Tilda)</td>
<td>Land marked 2502.561 hect.</td>
<td>Pending for NOC from Ministry of Forest and Environment GOI</td>
</tr>
<tr>
<td>Rajnandgaon (Joratarai)</td>
<td>Land acquired 2089.161 hect. Notification for acquisition of 698.288 hect. land issued under section 06 of Land Acquisition Act</td>
<td></td>
</tr>
</tbody>
</table>
Proposed Small Industrial Estates

Bilaspur (Tifra) proposed land 57.397 hect. out of which 35.653 hect. is Government and 21.744 hect. is private. Development of infrastructure is under progress and land is also allocated.

Dhamtari (Shyamtarai) proposed land 34.820 hect. out of which 8.830 hect. is government and 25.990 hect. is private. Development of infrastructure is under progress and land is also allocated.

Dantewada (Teknar) proposed land 19.270 hect. out of which 19.270 is government. Development of infrastructure is under progress and land is also allocated.

Raipur (Beltukari) proposed land 79.736 hect. out of which 79.736 is government. Development of infrastructure is under progress and land is also allocated.

Table 2.2 : Status of Industrial Estates

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Industrial Estate</th>
<th>Land Area (Hect.)</th>
<th>Available Land (Hect.)</th>
<th>Industries Established</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Siltara</td>
<td>1676.00</td>
<td>1260.00</td>
<td>25 700 1750</td>
</tr>
<tr>
<td>2</td>
<td>Borai</td>
<td>800.00</td>
<td>436.84</td>
<td>36 115 1200</td>
</tr>
<tr>
<td>3</td>
<td>Urla</td>
<td>302.17</td>
<td>232.41</td>
<td>320 500 12000</td>
</tr>
<tr>
<td>4</td>
<td>Sirgitti</td>
<td>449.39</td>
<td>371.56</td>
<td>190 100 5000</td>
</tr>
</tbody>
</table>

Table 2.3 : Status of Industrial Estates

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Industrial Estate</th>
<th>Land Area (Hect.)</th>
<th>Available Land (Hect.)</th>
<th>Industries Established</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Siltara</td>
<td>1676.00</td>
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<td>Urla</td>
<td>302.17</td>
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<td>320 500 11808</td>
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<td>4</td>
<td>Sirgitti</td>
<td>449.39</td>
<td>371.56</td>
<td>190 100 5098</td>
</tr>
</tbody>
</table>

Basic infrastructures facilities like banking, post office, telephone services, electric sub-station, police station, water, power, shopping complex, canteen, industrial sheds, green belt, fire brigade, street light, road, etc are being developed for which Chhattisgarh State Industrial Development Corporation has been authorised.
Key approvals required

Prior to setting up business in the state, certain approvals are required from different departments. The approvals are to be taken from the State Government in the following order:

Step 1: Allotment of plots/built-up sheds – CSIDC allots the plot for setting up a project depending on the nature of industry and scale of investment.

Step 2: Signing of the lease deed – The lease deed is signed between the CSIDC and land applicant.

Step 3: Water connection – The completed application form should be submitted to CSIDC, which is also responsible for providing the water connection.

Step 4: Electricity connection – CSIDC is responsible for providing an electricity connection.

Step 5: Pollution clearance - Application in prescribed format is submitted to the District Trade & Industries Centre (for investment up to US$ 2.43 million)/State Investment Promotion Board (for investment above US$ 2.43 million) with environment impact assessment report.

(Source: India Brand Equity Foundation, prepared a report ICRA Management Consulting Services Limited (IMaCS) on Chhattisgarh, 2010 p66)

Chhattisgarh has adopted its five-year Industrial Policy in 2001. The four basic strategies identified in the policy are Cluster based industrial development, Good governance and excellent infrastructure, improving the competitiveness of small scale industries, and Directed incentives. The State has formulated and is implementing stable macro-economic policies, and ensuring transparency and accountability in the administering of rules and regulations. Government has enhanced allocations including by way of public-private partnerships, for providing basic and specialised physical infrastructure, especially in industrial parks. It is also focussing on concerted human resource development.

Incentives, in keeping with our Industrial policy, are directed only at thrust industries, Mega projects and small scale industries. Additional incentives are being provided to industries that employ a large number of women workers, industries that are set up by Scheduled Tribes/Scheduled Castes, and those units investing in quality control and innovation. Highlight of Chhattisgarh State’ Industrial Policy 2004-2009:

Strategy

- To take measures for ensuring availability of necessary basic industrial infrastructure like rail-road, power, water, etc.

- To encourage private sector for providing quality roads, developed land, water, etc. in the least possible time, and to encourage captive power generation for providing low cost power.

- To establish new industrial areas, expand the existing industrial areas and to improve available services therein.
• To set up special industrial parks to provide common infrastructure and services by adopting cluster approach for the development of industries which have not been developed in spite of availability of abundant resources.

• To identify and promote such non-traditional industries for which good potential exists in the State due to availability of necessary resources.

• To provide special directed incentives to encourage establishment of industries by the weaker classes and in the economically backward areas of the State.

• To provide special incentives to small scale and cottage industries to create employment opportunities in the industrial sector in the least possible time throughout the State.

• To provide incentives to industrial units for technology upgradation and modernisation to enable them to face the challenges of global competition.

• To make arrangements for skill improvement, training and guidance of younger sections to enable them to seek maximum possible employment.

• To provide special package necessary for rehabilitation of sick and closed industrial units.

• To establish an effective system of "single point contact" and "time bound clearance" for providing requisite facilities, services and statutory clearances for investment.

**Industrial Infrastructure**

• For planning and development of basic infrastructure for new industries, initiative will be taken for preparation of an "Industrial Zoning Atlas".

• To ensure balanced regional development in the State, industrial areas will be developed at suitable sites near each district headquarter for small scale and medium industries.

• Development of private industrial areas will be encouraged.

• Cluster approach will be adopted for setting up of new industries and suitable areas will be identified for development of herbal park, Food Park, Aluminum Park, Metal Park, Cycle Complex, Apparel Park, IT Park, Gem and Jewellery Park, etc.

• In the industrial areas and parks, State Government will ensure availability of essential common facilities like laboratory, quality certification, cold storage, etc.

• Provision of roads, water supply, power supply and other common facilities, their upgradation and maintenance will be taken up from the State's own resources and through special purpose vehicles to be set up under the industrial infrastructure upgradation scheme of the Government of India.

• To promote exports from the State, efforts will be made to set up "special economic zone", "agro export zone" and "air cargo complex", and for upgradation of facilities in the existing "inland container depot".

• For setting up industries, particularly large and mega industrial units, outside the industrial areas and parks, government revenue land and private land will be acquired.
and made available to investors through Chhattisgarh State Industrial Development Corporation.

- Initiatives will be taken for setting up residential facilities close to the industrial areas through the State Housing Board and other agencies in the government and private sector.

**Directed Incentives**

Directed Incentives will be provided for industrial investment in the State in the form of interest subsidy, infrastructure development / capital investment subsidy, exemption from electricity duty, exemption from stamp duty, exemption from entry tax, allotment of plots at concessional premium in industrial areas, exemption from land diversion fee, reimbursement of project report expenses, quality certification subsidy, technology patent subsidy, interest subsidy for technology up-gradation, etc.

**Certain Definitions**

“Industrial Area” means and includes an existing industrial area, industrial estate, semi-urban industrial estate / rural work-shed, industrial growth centre, industrial area established under joint sector, industrial park established in private sector approved by the State Government, integrated infrastructure development centre, land bank in the possession of State Government / Chhattisgarh State Industrial Development Corporation and industrial park, special economic zone maintained by the State Government / Chhattisgarh State Industrial Development Corporation.

“New Industrial Unit” means an industrial unit which has commenced commercial production on or after the first day of November, 2004 and holds, as the case may be, permanent small industry registration certificate or commercial production certificate issued by a competent authority to that effect.

“Existing Industrial Unit” means an industrial unit which has commenced commercial production prior to the appointed day of Industrial Policy 2004 –09.

“Expansion of the Existing Industrial Unit” means an industrial unit which, after signing a Memorandum of Understanding with the State Government after the appointed day, invests a minimum of Rupees 25 crore towards fixed capital and expands its production capacity by more than 25% of its originally installed capacity or three year's average production, whichever is higher.

“Small Industrial Unit” means an industrial unit which is defined as such by the Government of India from time to time and holds a valid registration certificate of the District Trade & Industry Centre.

“Medium / Large Industrial Unit” means an industrial unit whose total fixed capital investment is more than the capital investment prescribed by the Government of India for a small scale industry, but less than Rupees 100 crore, has obtained, as the case may be, industrial entrepreneur memorandum certificate, industrial licence or letter of intent from Government of India and holds a production certificate issued by the competent authority.

“Mega Project” means an industrial unit, which has fixed capital investment of more than Rupees 100 crores, has obtained, as the case may be, industrial entrepreneur
memorandum certificate, industrial licence or letter of intent from Government of India and holds a production certificate issued by State's Directorate of Industries.

“Special Thrust Sector Industry” means an industry included in Annexure- 3.

“Ineligible Industry” means an industry included in Annexure –2.

“Total Capital Cost” means and includes the total infrastructure cost and the fixed capital investment necessary for the industry, made at the premises of industrial establishment.

“Infrastructure Cost” means the investment made by an industrial undertaking on land, land development, approach road, power supply and water supply necessary for the establishment of a new unit, or for expansion of an existing industrial unit.

“Land” means the land purchased or taken on lease required for the establishment of industrial undertaking, and “land expenses” include the actual purchase price / premium of the land and the stamp duty and the registration fee paid.

“Land Development” means and includes land leveling, excavation and construction of drainage.

Note: Investment made on the land development will be limited up to a maximum of 10 percent of the eligible fixed capital investment.

“Shed–Building” means and includes factory building, shed, laboratory building, research building, administrative building, canteen, labour rest room, cycle / scooter stand, security post, godown constructed at the premises of industrial establishment.
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