

- (i) Sufficient water supply, if water is consumed in large quantities in the production processes.
- (ii) Disposal of waters.
- (iii) Strategic factors like dangers of air-attacks.
- (iv) Availability of fire-fighting facilities.
- (v) Availability of recreational, medical and educational facilities.
- (vi) Quality of life because of facilities like schools, hospitals, post-office, parks etc. enjoyed by the community.
- (vii) Community attitudes.
- (viii) Ecological and environmental considerations.
- (ix) Regional aspirations of people and their political satisfaction.

Selection of Actual Site

The important factors in this respect are:

- (1) Availability of cheap land to build and expand this plant.
- (2) Cost of land development: The land should be flat and strong enough to sustain heavy machine installation. For agro based industries the type of soil should also be considered.
- (3) Repair facilities: Facilities for upkeep and general maintenance should be available in nearby area.
- (4) Facilities for housing the workers and if necessary their transport from the place of residence to the work site.
- (5) Social and recreational facilities.
- (6) Post and telegraph facilities.
- (7) Cost of laying the water supply and providing sewage and disposal of waste.
- (8) Cheap facilities for disposing of trade waste.
- (9) Any restriction imposed by the town planning department, local bye-laws.
- (10) Taxes, fire protection facilities etc.

Economic Survey of Site Selection: The necessary factors in the selection of plant location vary from industry to industry and with changing technical and economic conditions. Therefore, a location survey must be carried out based on the specific requirements of a given enterprise.

The aim of such an economic survey is to find out whether or not the location meets first the primary, and then the secondary requirements. The relative importance of the necessary factors can be determined on the basis of their proportionate share in the unit cost of production and distribution. After the various factors have been weighed, suitable regions can be selected. Computation of Investment and Cost of Production and Distribution: The required capital investment and the unit cost of production and distribution for a given volume of output should be computed for each prospective location. The ideal location is that which permits the lowest cost of production and its distribution. If the unit cost of production in the various locations is somewhat comparable, the location that requires the least capital or fixed investment will be preferred. The choice

should be checked against detailed information obtained from local banks and Government agencies.

Table I
Illustrating the Determination of Cost of Production and Distribution
Fixed Capital Requirements in Rs.

<i>Location</i>	<i>A</i>	<i>B</i>	<i>C</i>
Land			
Building			
Improvement			
Equipement			
Total			

Unit Cost of Production and Distribution

<i>Location</i>	<i>A</i>	<i>B</i>	<i>C</i>
Raw Materials			
Fuel and Power			
(a) Electricity			
(b) Coal			
(c) Water			
(d) Gas			
(e) Oil etc.			
Factory Expenses			
(a) Labour			
(b) Supervision			
(c) Inspection			
(d) Testing etc.			
General Expenses			
(a) Administration			
(b) Salaries			
(c) Taxes			
(d) Insurance			
(e) Postages etc.			
Distribution Expenses			
(a) Advertising			
(b) Packing			
(c) Stocking			
(d) Transport			
(e) Sales etc.			
Total cost per unit			

FACILITIES PLANNING: LOCATION

Selection of Site (Urban, Rural or Suburban area)

There are broadly three possible alternatives open for the selection of the locality of the industrial unit:

(1) Urban or City area, (2) Rural area, (3) Suburban area.

The relative advantages and disadvantages of each area are discussed as under:

Urban or City Area

Due to certain typical advantages available only in the city area, promoters show preference for the city area as the location of the industrial unit.

Advantages of City Area

- (i) Good transportation facilities are available for the movement of raw-materials and finished products by rail and road and at times, by water and air.
- (ii) Good and prompt postal and communication services are available.
- (iii) Banking and credit facilities are available.
- (iv) Services of insurance companies are available in city areas.
- (v) Sufficient storing facilities including cold-storage, are available.
- (vi) Ample availability of skilled and unskilled workers.
- (vii) Advantages of vicinity of the market for the product. Due to large population, the local demand for the product is fairly high.
- (viii) Facility of the ancillary and service units, which develop around the industrial strip of the city area.
- (ix) Sufficient passenger transport facilities by road and railways are available to employees.
- (x) Development of the training institutes for workers and management institutes for executives put the city area units into privileged position.
- (xi) Educational, medical and recreational institutes increase the amenities of lives in the city area.
- (xii) Certain specific municipal service facilities are available only in city areas, like water supply, drainage, fire fighting facilities, sufficient police protection etc.

Disadvantages of Urban or City Area

- (i) The cost of land is very high as compared to rural areas.
- (ii) Even at high cost, sufficient land is not available, which puts constraints on the arrangement of plants and machines. Sometimes multi-story buildings are used which are not suitable for the installation of heavy plant and machines.
- (iii) Due to high standard of living in city area, the cost of labour is relatively high.
- (iv) Due to possibilities of changing jobs from one unit to another, and tendency of competitors to snatch away the good employees, the rate of labour turnover is very high in city area.
- (v) The trade union movement is very strong in city area. Militant trade unionists disturb the amiable industrial relations, which give rise to strikes and lock-outs.

- (vi) Various types of taxes are levied in city areas. The rates of taxes are also relatively high; e.g. Octroi is a typical tax of the city area which is not levied in rural areas.
- (vii) Certain municipal restrictions put constraints and involve extra costs due to height of the building, disposal of waters, treatment of affluent water, elimination of air pollution caused by smoke etc.
- (viii) The industrialization in the city area gives birth to slums and dirty residences which creates the typical problems of sanitation and health.

Rural Area

In certain situations, a rural area is also preferred as a site for the industrial unit. The following are its advantages and limitations.

Advantages of Rural Area

- (i) As compared to the city area, the land is available at cheaper rates.
- (ii) Large plots of the land are available which can be developed for a factory site, office buildings and residential quarters. Horizontal arrangement of plant and machines in the vast area of land is possible. Provisions can also be made for further expansion.
- (iii) Due to lower standard of living, the rates of labour are relatively lower. Thus, labour cost is reduced substantially.
- (iv) As compared to the city area, the labour force is more or less stable which reduces the rate of labour turnover.
- (v) The industrial relations between labour and management are relatively amicable. The rural environment and residential staff quarters develop personal relations among employees.
- (vi) The local taxes which are found in city areas are practically non-existent in rural areas.
- (vii) The municipal restrictions which are found in city areas do not exist in rural areas, e.g., height of building, constructed area in total land etc.
- (viii) Slums and dirty residence are not found in rural areas. The rural environment is conducive to good health of workers.
- (ix) Due to lack of congestion, there is no danger of fire caused by surrounding units.
- (x) No danger of bombardment in war-time. Industrial city areas become the target of air-attacks in war time.

Limitations of Rural Area

- (i) Transportation facilities are not available in good conditions and sufficient quantities.
- (ii) Sometimes the services of post and telegraph and means of communications are not available.
- (iii) Banking and credit facilities are also not available. The indigenous money-lenders are charging exorbitantly for these services.
- (iv) Absence of insurance facilities.

- (v) Storing and warehouse facilities are also not available in rural areas.
- (vi) Passenger transport facilities are not available, as are available in city area. If the unit is located at a distance from residential area, it becomes difficult for the workers to reach to the work place.
- (vii) Like city areas, the advantage of ancillary and service units is not available.
- (viii) Such units are very far from the market place and this increases the cost of distribution of finished goods.
- (ix) It is not possible to tap the advantage of industrial training institutes or management development programmes which is possible in city areas.
- (x) It is generally not easy to get skilled workers in rural areas. In the city areas, it is not so difficult.
- (xi) Municipal facilities like water supply, drainage, fire-fighting etc. are not available in rural areas.
- (xii) There is absence of recreation facilities, good educational institutes, good and sufficient medical facilities etc.

Suburban Area

The city area as a location of industrial unit has got many negative aspects. The other extreme is the rural area, which again is not free from many limitations. The better compromise in the decision is the selection of suburban area as the location of the industrial unit. Suburban area is the area which is located on the outskirts of the city area. Suburban area matches the advantages of the rural area with those of city area which is located at a short distance, e.g., Odhav, Narol, Kathawada, Naroda, Vatva are the suburban areas of Ahmedabad City.

Advantages of Suburban Area

- (i) Land is available at a cheaper rate as compared to urban areas.
- (ii) Adequate land is available for future expansion unit. The machines can be installed horizontally and still the provision for future expansion can be made.
- (iii) Infrastructure facilities like road, water supply, drainage, banking, warehousing, insurance etc. are developed either by Government, municipal authorities or industrial associations.
- (iv) As the city area is nearest, the skilled and unskilled, both type of labour are available.
- (v) It is possible to tap the advantage of industrial training institutes, management development programmes, research institutes etc. which are available in nearby city area.
- (vi) The nearby city area provides a substantial market for the products of the unit. This reduces the cost of marketing the finished products and other ancillary advantages of marketing are available.
- (vii) Educational institutes, medical facilities and other recreational facilities are available in the suburban area itself as well as in the nearby city area.

The limitation of suburban area as a site for industry is that in the development process, it may be converted into a part of the urban area with all its merits and demerits.

In general, the big city (urban area) offers particular benefits to the small enterprise. Rural areas offer benefits to a large manufacturing firm and suburban areas often suit the medium sized industries.

Comparison between Urban and Rural area in Connection with the Selection of Site:

<i>Urban</i>	<i>Rural</i>
<p>1. Availability of Local Market: Due to large population the local demand for the product is fairly high</p>	<p>The market place is far away from the industries, therefore cost of distribution of finished products is more.</p>
<p>2. Labour: Ample availability of diversified labour</p>	<p>It is rather difficult to get skilled labour in rural areas.</p>
<p>3. Transport Facilities: Good transport facilities are available.</p>	<p>Adequate transport facilities are not available.</p>
<p>4. Allied Industries: Proximity to allied industries and service units.</p>	<p>Absence of allied industries.</p>
<p>5. Availability of Educational Facilities: Availability of educational, recreational and social facilities.</p>	<p>There are fewer educational, social and recreational facilities.</p>
<p>6. Cost of Land: The cost of land is high. Even at high cost sufficient land is not available which puts constraints on the arrangement of plants and machines.</p>	<p>Sufficient land is available at cheaper rates.</p>
<p>7. Restrictions on Constructions: There are greater restrictions on the constructions of factory buildings.</p>	<p>There are few restrictions on constructions of factory buildings.</p>
<p>8. Municipal and Public Utility Services: Certain specific municipal facilities and public utility services and public utility services such as water supply, drainage, fire fighting, police protection etc. are available.</p>	<p>Municipal facilities and public utility services are not available.</p>
<p>9. Postal and Communication Service: Good and prompt postal and communication services are available.</p>	<p>Prompt postal and communication services are not available.</p>
<p>10. Rates of Taxes: The rate of taxes are relatively high.</p>	<p>The rate of taxes are quite low.</p>
<p>11. Cost of Labour: Due to high standard of living the cost of labour is relatively high.</p>	<p>Labour is available at cheaper rates.</p>
<p>12. Availability of Facilities: Banking facilities, credit facilities are insurance facilities are available.</p>	<p>Absence of banking facilities, credit facilities and insurance facilities.</p>
<p>13. Labour Turnover: High labour turnover because of large number of industries.</p>	<p>Labour force is more stable.</p>
<p>14. Trade Union Movement: The trade union movement is very strong which often results in strikes, lockouts etc.</p>	<p>Trade union movement is not very strong.</p>

<p>15. Training Facilities: Development of the training facilities for workers and management institutes for executives put the city area into privileged position.</p>	<p>Absence of training facilities and management institutes.</p>
<p>16. Transport Facilities: Sufficient passenger transport by road and railways are available to employees.</p>	<p>The passenger transport facilities are inadequate. If the factory is located at a large distance from the residential areas, it becomes difficult for the workers to reach the work place.</p>
<p>17. Storage Facilities: Sufficient storage facilities including cold-storage are available.</p>	<p>Storing and warehouse facilities are not available.</p>
<p>18. Problems of Pollution: Concentration of many industries in urban areas creates problems of air pollution, water pollution, sanitation etc.</p>	<p>Problems of air pollution, water pollution etc. are less and the rural environment conducive to good health of workers.</p>
<p>19. Danger of Bombardment in War Time: Industrial city areas become the target of air attacks in war time.</p>	<p>Less danger of bombardment in war time.</p>
<p>20. Government Policy: To avoid concentration of industries. Government imposes restrictions for starting new industries in urban areas.</p>	<p>Government provides financial assistance and land at cheaper rates to attract the entrepreneurs to start industries in rural areas.</p>

Recent Trends in the Location of Industries

The traditional factors like nearness of sources of raw materials, motive power, nearness of markets, labour supply etc. have no longer remained the effective pulling forces in the location of industries. The locational trends have changed substantially due to the development of substitute raw materials, net work of electrification and transportation by roads and railway, mobility of the labour and persuasive and compulsive policies of the Government for balanced regional development.

The recent trends in the selection of industrial location can be described as under:

(1) Priority for the suburban areas: The industrialists show their preference for the suburban area as the site for establishment of a new unit or relocation of the existing one. The industrial policy of the Government does not permit the establishment of a new unit or expansion of an existing one in city areas. At the same time infra-structure facilities are developed in the suburban areas.

(2) Industrial development in the notified backward areas: In order to have balanced regional development, the Central Government as well as the State Government has notified certain backward areas; e.g., Panchamahals, Bharuch and Surendranagar are the centrally notified backward districts of Gujarat State. Similarly, Gujarat State Government has also notified certain backward Talukas. Different types of incentives like cash subsidy, tax reliefs, concessional financial assistance, cheaper land and power supply etc. are provided. So, many such areas have been developed substantially in the recent times. An illustration can be cited for the industrial development of Halol in Panchamahals, Ankleshwar in Bharuch and Surendranagar.