LOCATION SELECTION AND PLANT LAYOUT

Trill post

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LOCATION SELECTION

Topics Covered

Nature of Location Decision, Importance of Plant Location, Dynamic Nature of Plant Location

Choice of site for selection, State regulations on location,

Government policies on decentralization.

Industrial Estates, Economic survey of Site selection, SEZ, Comparison of location,

IMPORTANCE OF PLANT LOCATION

Reasons for Selection of appropriate location:

It reduces the cost of production and distribution

It increases competitive strength or the profit margin of the business.

Location fixes the physical factors of the overall plant design, *e.g.* heating and ventilation requirements, storage capacity for raw-material, taking into consideration their local availability, transportation need for raw-materials and finished goods, power needs, costs of labour, taxes, land construction, fuel etc.

It determines the nature of investment costs to be incurred and also the level of many operating costs.

Government Incentives

Probably no location is so perfect as to guarantee success. But bad locations can be so bad as to bankrupt a company".

WHEN SELECTION OF SUITABLE SITE IS NEEDED ?

Selection of suitable site is needed:

- While starting a new factory/enterprise.
- During the expansion of the existing plant.
- When the existing plant is to be relocated at some other place to remove its draw backs or to gain the benefits of still better location.

DYNAMIC NATURE D'O FREE PLACEMENT LOCATION

No location can be considered unique and can remain good forever. The business uncertainty and dynamism may convert a good location of today into an inferior one of tomorrow and vice versa.

Location study thus requires constant monitoring.

Thus the problem of decision to move or to stay at a particular location is always before the management specially when some expansion program is undertaken.

The shift of the location of plant to some other place is known as relocation.

REASONS FOR By: Mudit M. Saxena, Dept. of Mech. PLANT

- Shift in the structure of the market or movement of markets.
- Changes in the nature and costs of transportation.
- Changes in the costs and availability of raw-materials.
- Change in the pricing policy of the enterprise.
- Undesirable labour situation.
- Non-availability of labour, rise in labour costs, changes in other factors etc.
- Demolition, compulsory purchase of premises or national legislation.
- Relocation of various associated industries and plants.
- Scientific discoveries/developments, new field of technology, increasing competition etc.

SITE SELECTION CRITERIA

The problem of site selection of a factory can be solved in the following three stages.

Selection of the region. Selection of the locality. Selection of actual site.

SITE SELECTION CRITERIA

Major considerations in selecting the region

Availability and proximity of raw-materials, Vicinity of the market, Labour supply, Climatic conditions Govt. Policies and Incentives.

By: Mudit M. Saxena, Dept. of Mech. Engg. SITE SELECTION CRITERIA Selection of the Locality. After selecting, the region, the specific locality within the region is considered. Alternatives open in selecting the locality Urban area. Rural area. Suburban area in the vicinity of the urban area.

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SITE SELECTION CRITERIA

Factors to be considered while selecting the location Availability of Raw-materials. Proximity to markets. Availability of labour. Transport and communication facilities. Availability of power and fuel. Climatic conditions. Availability of water. Ancillary Industries. Financial and other aids. Business and commercial facilities.

Disadvantages of concentration of Industries in few areas

- Unbalanced industrial growth and problems of poverty and unemployment in industrially backward areas.
- Increasing fixed, operating and living costs due to concentration of industries.
- Problems of pollution air, water and food pollution.
- Acute housing shortage and growth of slums or zopad patties.

SITE SELECTION CRITERIA

- Disadvantages of concentration of Industries in few areas..Continue..
- Congestion, bad sanitation, traffic jams etc. in urban areas.

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- Social and industrial unrests strikes, lockouts, murders, morchas and such other problems.
- Unfavourable from national point of view — fear of attack, bombardment by enemies to destroy industries. Inequitable distribution of wealth and income.

BACKWARD AREAS AND MOUSTRIAL POLICY

The Govt. can control the industrial location by adopting two types of measures

I. Positive measures to encourage establishment of industries in certain areas (backward areas).

2. Negative measures to discourage establishment of Industries in areas having concentration of industries.

Incentives for establishing industrial units in backward areas

MEASURES TAKEN BY THE GOVERNMENT TO MINIMIZE REGIONAL IMBALANCE

- Establishment of industrial estates in all states and special emphasis on small scale industries to bring about better regional distribution of industries.
- Liberal issue of licenses on a preferential basis for starting industries in less developed regions.
- Central assistance to state for development of their backward areas.
- Rural electrification on a large scale.
- Concessional power, water and finance for backward areas.
- Location of central projects in the backward states.
- Special training facilities in under-developed regions.
- Provision of infrastructure essential for starting industries in undeveloped areas; tax concessions etc.

GOVT. POLICIES FOR DECENTRALISATION

The Central and State Government may take the following effective measures to achieve decentralization

Prohibition on starting new industries in industrialized cities or areas and declaring specific region as industrial areas, somewhat away from the bigger cities.

Direct encouragement to private sector units to start their industries or to shift their existing plants to underdeveloped regions.

Development of public sector-units in semi-rural and rural areas.

Establishing Industrial Estates in undeveloped areas, provided with all facilities for industrialization.

Development of adequate public utility services in undeveloped regions.

In producing industrial licensing system under the Industries Act, 1951.

Development of hydro-electric projects in many states to provide liberal rural electrification.

GOVT. POLICIES FOR DECENTRALISATION

The objectives of Govt. intervention and control can be stated as:

To attain balanced regional development.

- To narrow down the gap of inequality of income and wealth through creating and providing employment opportunities to less developed areas.
- To reduce the concentration of population and congestion of industries in big cities.
- As strategic defense policy, spread of industries reduces the chances of heavy losses in war time.

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INDUSTRIAL ESTATES

Industrial estate is a piece of vast land sub-divided into different industrial plots systematically developed, wherein factory shades are constructed.

Govt. of India has planned a national policy for the development of industrial estates to State Government.

In each state Development Corporations are established.

Industrial estates have also been developed by private entrepreneurs and chambers of commerce.

INDUSTRIAL ESTATES

Industrial estate provides all amenities and facilities as well as public utility services to a number of small business units.

The plots of land in industrial estate are sold to the prospective promoters. Thus, industrial estates has group of small factories, workshop or business units with suitable sites and facilities to run the business smoothly.

The number of units can enjoy common amenities and benefits of site, sheds, water supply, power supply, roads, transport, drainage, etc. at reasonable charges

ADVANTAGES OF INDUSTREAL ESTATES

Industrial development helps in promotion of small and medium sized industries in the under-developed areas.

- The entrepreneur is not required to carry out survey for finding suitable location for his plant.
- The member units can enjoy the common facilities like water supply, power supply, roads, transport, drainage, etc. at reasonable charges.
- The infrastructure facilities available in industrial estate reduces the gestation period in the infant stage of business.

By: Mudit M. Saxena, Dept. of Mech. ADVANTAGES OF INDUSTRIAL ESTATES

Govt. and other Public authorities offer many tax, incentives and other concessions in charges and rates as well as other services at cheaper costs to encourage industrialization in their areas.

Each member unit enjoys protection and security from the promoters of such industrial estates.

Development of industrial estates offers many advantages to the community and regions e.g. employment opportunities, training opportunities, balanced growth, equitable distribution of, wealth and income, rising living standard etc.

ECONOMIC SURVEY OF SITES. SELECTION

The aim of economic survey is to find out whether or not the location meets first the primary, and then secondary requirements.

The relative importance of the necessary factors can be determined on the basis of their proportionate shares 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 units cost of production in the various locations are some what comparable, the location that requires the least capital on fixed investment will be preferred.

The most advantages location may also be selected on the basis of Rate of return.

SPECIAL ECONOMIC ZONE (SEZ)

A Special Economic Zone (SEZ) is a geographical region that has economic and other laws that are more free-marketoriented than a country's typical or national laws. "Nationwide" laws may be suspended inside a special economic zone.

The category 'SEZ' covers a broad range of more specific zone types, including <u>Free Trade Zones</u> (FTZ), Export Processing Zones (EPZ), Free Zones (FZ), Industrial Estates (IE), Free Ports, Urban Enterprise Zones and others.

Usually the goal of a structure is to increase <u>foreign direct</u> <u>investment</u> by foreign investors, typically an <u>international</u> <u>business</u> or a <u>multinational corporation</u> (MNC).

A single <u>SEZ</u> can contain multiple 'specific' zones within its boundaries.

SEZs are often developed under a <u>public-private</u> <u>partnership</u> arrangement, in which the public sector provides some level of support (provision of off-site infrastructure, equity investment, soft loans, bond issues, etc.) to enable a private sector developer to obtain a reasonable rate of return on the project (typically 10-20% depending on risk levels).

ASSIGNMENT - 1

- Q1. Explain the reasons for Selection of appropriate location? When it is needed ?
- Q 2. Write the factors to be considered while selecting the location.
- Q 3. What is dynamic nature of plant location ? What are the reasons for relocation of the plant ?
- Q 4. Write the disadvantages of concentration of Industries in few areas.
- Q 5. Compare Rural and Urban area in connection with selection of site for industry.
- Q 6. What are the advantages of sub-urban area in connection with selection of site for industry.
- Q 7. What are industrial Estates ? What are their advantages ?
- Q 8. Explain the measures taken by the government to minimize regional imbalance.
- Q 9. What is SEZ ? Explain.