Chapter 3

OVERVIEW

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3.1 Introduction

The choice of the place where industrial establishment comes to be started is very important for the entrepreneur. The aspect of industrial location has got important place in the economy. The industrial units can be more efficient and make its business profitable with the help of location concept. It can be said industrial location of the place has a very great influence of productivity, efficiency and profitability of the industrial unit.\(^1\)

The state Government has pursued policies for speedy industrial growth and its dispersal to backward regions of the state. The state is in leading position of the production of some manufacturing items. Besides the state has been able to achieve a diversified structure of industries.

Despite its leading positions as an industrialized state, problems of lop-sided spatial distribution on industrial location has remained persistent. Government has used both, licensing restrictions and incentives to guide industrial locations.

To reduce excessive measure of industrial concentration at Ahmedabad, Vadodara, Surat, restrictions have been imposed on establishing new unite and expanding existing ones, in the area limits of the Urban Development Authorities of there cities.\(^3\)
The study of industrial location can show the dispersal and concentration of industries. Not only that, with the help of location concept regional disparities can be removed. Gujarat State has many backward regions despite it has a strong industrial base.

### 3.2 History of Location concept

The location was not so much important in the past. The village community was the centre of economic activity in India. It consisted of farmers, artisans, and priests. They were all protected by the village community, most of the production was for local consumption in the village and they consumed it for themselves. In other words, the purpose of selling the product and getting profit were not important. Not only that, the large scale industry or factory system did not exist. This way the choice of location did not occur. As time passed, the factory system has existed, and for that requirement of modern machinery, thousands of workers and large scale production become important.

The purpose and importance of selling, buying, making profit become popular. If there is no location or the choice of place for starting business, it could not be beneficial for the entrepreneur so making business profitable the location or choice of place is required.³

### 3.3 Importance Of The Study

A study of industrial location is important which shows the role of different regions or states in industrialization. Not only that, the dispersal or concentration of industries can be seen by the help of study of industrial location.
A study of location trends indicate the direction of future expansion of industry as well. It shows how to make an industrial unit more efficient and more profitable. The reduction of regional disparities is possible with the help of location analysis.

There are number of studies available on industrial location and industrial development such as studies of industrial location, studies of regional development etc. There are various location theories which have been given by different economists. In present study, it is tried to explain such location theories and its importance as per requirement of analytical framework. The theoretical literature emphasize on the cost and demand approach in determination of location.

An empirical investigation is also important to understand the present analysis for industrial location.

3.4 The Objectives Of The Study

The main objectives of the study are as follows:

(1) To study the pattern of industrial location and dispersion of industries in Gujarat state.

(2) To describe the changes those have taken place in respect of selected industries.

3.5 The Hypothesis

With these objectives in view, the following hypotheses have been framed:
(i) There is a trend in dispersal and concentration of selected industries in Gujarat State.

(ii) There is uneven distribution of industrial units in Gujarat State.

3.6 Sources of Data

The study is mainly based on secondary data. The analysis at state level are based on the factory on census sector data published by the CSO while Census sector report published by Directorate of Economics and Statistics Government of Gujarat. The inter-district comparison are based on census sector data of the annual survey of industries, census sector report published by the Directorate of Economic & Statistics, Government of Gujarat.

Besides these socio-economic review which is published by Directorate of Economics and Statistics, Government of Gujarat, monthly Review of Gujarat Economy center for Monitoring Indian Economy, Government Reports, research papers, books, journals, newspaper are used to collect the necessary data.

3.7 Methods of Analysis

The statistical techniques and methodology for measuring localization of industries may be explained here under.

The main objectives of present analysis to study the dispersion of industries and employment there in as well as the changes that have taken place
in respect of selected industries in intervening period in the state by using the following statistical measures:

(i) changes in the location quotient of selected important industries.

(ii) Changes in the coefficient of localization of selected important industries.

A statistical technique for measuring the degree and incidence of localization has already been worked by Professor Sargant Florence. He introduced new concepts for the measurement of the degree and incidence of localization. They are "location quotient" and "co-efficient of localization". This two concepts introduced by him are of immense use for the empirical measurement of the extent and incidence of localization. The location quotient gives the degree of concentration of particular industry as compared with the distribution of the working population as a whole.

3.7.1 Location Quotient

The location quotient can be computed by two different methods:

(i) By dividing (a) the percentage share of the region in the total workers employed in the industry by (b) the percentage share of the region in the total working population.

(ii) By dividing (a) percentage share of the industry in the total workers employed in the region by (b) the percentage share of the industry in the total working population.
Both methods gives the same result it can be explained by following formulated 6

\[
\frac{A}{C} \times \frac{B}{D} = \frac{A}{B} \times \frac{C}{D}
\]

where A represents the share of the region in the total workers employed in the industry, B represents the total workers employed in the industry, C represents the share of the region in the total working population, and D presents the total working population.

The location quotient indicates the degree of concentration of an industry in particular region/district.

The location Quotient for a particular industry for a given district is computed by dividing the percentage share of the districts in the number of workers in that industries, by the percentage share of the district in the total number of workers in all the industries taken together.

\[W_{ij} = \text{Number of workers in Jth industry in ith district. } C_i = \text{district, } J = \text{industries.}\]

\[W_{io} = \text{Total number of workers in ith district area all industries.}\]

\[W_{oj} = \text{Total number of workers in the State in Jth industry.}\]

\[W_{oo} = \text{Total number of workers in the State in all industries taken together.}\]

Then the location Quotient Qij for ith the district for Jth as given:

\[Q_{ij} = \frac{\text{Percentage share of the district in the workers in the given industry}}{\text{percentage share of the district in the total workers in all industries.}}\]
\[ \frac{\text{\(W_{ij}/W_{oj}\)}}{\text{\(W_{io}/W_{oo}\)}} *100 \]

The Value of the location quotient for an industry for a district will be zero when there is not a single worker in that industry in that district.

If the value of the location quotient for an industry for a district is unity, it indicates that the proportion of workers in the particular industry accounted for by the district is the same as the proportion of workers in all industries taken together in the state accounted for by the district.

If the value of location quotient for particular industry in a district is greater than one, it indicates relatively there is greater concentration of that industry in the district.

### 3.7.2 Coefficient of Localization

The coefficient of localization gives a general picture of the degree of local concentration of a particular industry compared with the distribution of the working population as a whole. It refers to a particular industry and not to a particular region.\(^7\)

The "co-efficient of localization" can be computed in the following way:
(i) Percentage of all workers found in each region is to be calculated

(ii) The percentage of the workers of the industry in question in each region is to be found out.

(iii) The positive deviation of (2) from (1) is to be added up

(iv) The sum derived is to be divided by 100\(^8\).

As a result the coefficient of localization can be found. It should industries concentration and dispersion. Coefficient of localization can have any value between 0 to 1 industries having a very high or low coefficient of localization show little tendency towards dispersal. Industries with a high coefficient of localization which are predominantly localized near the source of raw material. In other words, it shows little dispersal of industries. If it is low that means a greater tendency towards dispersal over different parts of country or region.

In present study some selected industries have been analyzed. The tendency of these industries for location in various groups has been studied with the help of statistical measures such as location quotient and coefficient of localization which have been introduced by Sargant Florence.

The coefficient of localization far and industry is given by the sum of the positive deviations of the percentage shares of the districts in the total workers in a given industry (\( \frac{W_{ij}}{W_{oj}} \)) from the percentage shares of the districts in the total workers in all industries taken together (\( \frac{W_{io}}{W_{oo}} \)).

\[
CL = \left( \frac{W_{ij}}{W_{oj}} - \frac{W_{io}}{W_{oo}} \right) / 100
\]
3.8 Period of Analysis

The study broadly covers 1975 to 1985 and 1990 to 1998. After this period current data have been used for analysis as well.

3.9 Limitations Of The Present Study

The objectives of the analysis to study of the trends in the location of some selected industries. There are many industries which can be analyzed. However, in present study selected industries have been taken into consideration. It was difficult to cover all industries, not only that the data of industries were not available in the required format as well.

Notes:

(2) Ibid., P.P 20.
(3) Marvania P.G., Industrial location and regional development in Gujarat march 1998 PP 14, Published by saurashtra university Rajkot.
(4) Florance Sargant, Investment, Location and size of Plant (Cambridge, 1948), PP 34-37, 41 and 77 ; Economic policy and Industrial Research (Economics Journal Dec. 1937), PP 622-23 and statistical method in Economic And Political Science, PP. 327-328