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CHAPTER I

Appraisal of the Problem

1.1 Introduction:

Industrialization is commonly assumed to be one of the major indicators of economic development of a country. However, the economy of the country as a whole can reap the benefits of industrialization only when the impact of such development on regional economies serves to remove the imbalances that exist in the levels of regional economic and social growth.

The impact of industrialization on regional economics would depend on the levels of industrial development, the aerial and sectoral growth rate of industries, the degree of specialization and diversification, and the trends of shift in industrial employment.

Generally the word 'Industry' can be taken to mean any branch of Productive work, whether it belongs to the Primary, Secondary or Tertiary activities. It is in this sense that word 'Industry' is applied in most of the population censuses. On the basic of this meaning 'Industry' can be classified into three major groups - Primary, Secondary and Tertiary, which have many subdivisions amongst them again.

The term Industry is often used by itself to denote manufacturing. The term 'Manufacturing' includes those activities by which man changes the form or nature of raw materials converting them into more useful products. These transforming operations are conducted in factories to which go finished products to diverse market regions.

An industry is regarded as homogeneous groups of enterprises or companies, homogenicity being measurable in several ways as indicated below.
A company, business firm, concern or enterprise is an association of persons united for common purposes. "The procession of raw materials to exchange its value" is another sense in which we use the term 'industry'. Therefore on the basis of this meaning (* According to the operational process that term Industry uses) industry can be classified into four groups.

Extracting, Processing, Assembling and Servicing. Each group requires specific inputs (raw material, capital, labour, water) from specific sources for its operation and provides specific outputs for purchase in specific markets and market areas. Besides above the term Industry refers mainly to manufacturing activity and the essential function of it is the transformation of material or materials into a product, which is of greater value than the original materials. And the purpose of manufacturing industry is to alter and to process materials so that they serve new ends and satisfy different requirements.

'The term Industry' refers mainly to manufacturing activity. Agriculture, Mining and most other services are excluded from it. Therefore, agriculture, mining and most of services are excluded from the industry. And it is in this sense that the term "Industry" will be mainly used in the present study.

1.2 Industrialization in Modern Society :-

Industrialization has been defined as a process in which changes of a series of strategically production functions are taking place. It involves those basic changes that accompany the Mechanization of an enterprise, the building of a new industry, and the opening of a market and the exploitation of a new territory.

'Industrialization' is also treated as a process in which the economic gains of industrial process, mainly in the nature of increasing returns are continuously created and wholly or partially realized.
Industrialization means the growth of manufacturing industry. It is a basic process for achieving rapid development through harnessing a region's natural resources and rendering them into production wealth. It is thus a part of the economic development, which involves raising standards of living through a steady increase in the efficiency of factors of production.\textsuperscript{9}

Industrialization has been treated by historians as originally an European Phenomenon, sometimes more narrowly as a British phenomenon, which made its decisive appearance in the second half of the 18th century that simply caught on else where;\textsuperscript{10} while industrialization began in the later half of the 19th century. At present India as among the ten largest industrial nations in the world.

Industrialization is not an end in itself of course, but a means to raise living standards, the per capita income of the people of the country, Therefore, Governments and all others involved in the campaign to solve problems of under-developed countries through industrial growth to consider general industrialization aims and problems and every specific project in terms of value to the economy.\textsuperscript{11}

Industrialization raises the economic status of a society. Therefore, in any society or region or country industrialization can be a very effective tool to achieve economic development.\textsuperscript{12}

Actual process of industrialization brings profound changes in the pattern of living which calls for considerable social adjustment and adoption. These adjustments among other factors depend upon the standard of living in the agrarian society, population density, types of industries established, the types and layout of factories and workers houses and the nature of pre-industrial culture.

Besides, industrialization directly influences, commerce and trade, communication of human resources, urbanization service centers, social and cultural environment, natural resources, economic structure,
financial resources, availability of technical assistance, indigenous research and development efforts of a society or region or country.

The most important role of industrialization will be that of absorbing the human potential (growth of Population) to reach a satisfactory level of production. However, it is also necessary that there should not be reduction but an increase of agricultural production through mechanization it is also necessary to remember that problem of poverty and unemployment, national defense and economic regeneration in general cannot be solved without industrialization.  

1.3 Geographical Account Of W. Rostow’s Non-Special Model: (Stages Of Economic Development)

The non-spatial model formulated by W. Rostow in 1955 identifies five stages of economic development. This model was formulated to explain varying economic development without reference to spatial (Geographical) aspect. It is also called The Rostow Model of economic development.  

**Principle:**

Economic development takes place in five stages, with take-off into self-sustaining growth through many decades coming about as one sector of the economy develops rapidly and encourages the growth of other sectors. This way, the whole region develops.

The Classical Economic theory is the basis of this model. This theory assumes existence of uniform costs, perfect competition, perfect mobility of capital and labour in a given region. Further, it assumes that these assumed conditions should produce equilibrating forces to maintain inter-regional equality.

For example, excess labour migrate out from a region which has no Employment opportunities- thus, the given region loses labour to outside region-but, low labour costs in the given region attracts new
industry which helps to develop economically the given region—therefore, inter-Regional equality is maintained.

Five Stages:

I. TRADITIONAL SOCIETY: It is a stagnant and static society. It is divided into various social groups-Economic system is mainly dominated by basic subsistence agriculture. It has low technological level. There are few craft industries.

II. PRECONDITIONS FOR TAKE OFF: There is new social and political elite. There is development of infrastructure like roads and Railways. It has export, mining and cash cropping. The investment is 5 % of the gross national product. All these conditions help in reaching the 3rd stage.

III. THE TAKE-OFF: Now, the economy becomes self-sustaining. Dynamic growth is favored by social, political and institutional changes. There is beginning of one or more manufacturing industries. There is an investment of 10 % of gross national product.

IV. DRIVE TO MATURITY: After completing the 3rd stage, the society has decreasing social inequality. There is growth in all the sectors of the economy. There is high investment.

V. HIGH MASS CONSUMPTION: Finally, the country achieves the stage of high mass consumption. Durable consumer and service industries due to high consumption of goods and services by a rich population enjoying the benefits of full development dominate economy. The economy is fully developed. The country is capable of becoming an international power. Capitalist economy is geared towards welfare capitalism.

4. Examples:

The great Industrial Revolution in U.K. was led by the cotton industry, which in turn encouraged the textile machinery industry,
transport improvements, service industries in the expanding towns and so on.

The take-off is the great watershed in the life of a society, when growth becomes its normal conditions... forces of Modernization counted against the habits and institutions. The drive to maturity is the period when a society has effectively applied the range of modern technology to the bulk of its resources.

In the age of high communication the balance of attention of the society is shifted from supply to demand, from problems of production to problems of consumption and of welfare in the widest sense. According to Rostow, India launched the take off during 1950 while Empirical findings.\(^{20}\) Suggested that Indian economy entered into the stage of take off in 1954-55. After take off, Indian economy did not progress satisfactorily and as a result real gross national product and reach national income increased only 2.3 % during 1955-63. Indian economy will drive to maturity by the end of thirteenth five-year plan. Attaining maturity thirteenth plan is only rough estimate and to dogmatism is justified about the exact year of achieving it.\(^{21}\)

A few characteristics of the Ahmednagar district clearly indicate that A.nagar district is still in the stage of Take off Phase. A few entrepreneurs are emerging in the region. A few industries mainly agro-based industries appear in the region and new production functions are adopted in agriculture and industry. There are 113 large and medium scale industries in the district. Even most of the small-scale industries are located in Ahmednagar, Shrirampur, Kopargaon tahsils have very few industries. All these characteristics indicate that the economy of this region has entered the stage of Take off.

1.4 Comparison of the Sector of Occupation :-

Occupation refers to person’s trade or profession or the type of work in which one is engaged such occupation structure of any society or nation is related to a number of factors. The basic foundation is laid
by nature and the variety of physical resources, good land for agriculture, trees for forestry, rich geological strata for preparing bricks etc. While commercialization in the use of these primary resources diversifies the occupational structure and industrialization bring in further diversification by creating a variety of additional jobs.\textsuperscript{22}

As there are various occupations and their types and number highly very from nation to nation, region-to-region, we may broadly classify them into three sectors, viz. Primary, Secondary and Tertiary based on the nature of economic activities. In the primary sector of occupation the chief factor of production is land and production involves the direct extraction of some useful substance from the physical environment. The secondary sector of occupation involves the process of converting raw material into final products, which is of greater value than original, while tertiary sector of occupation involves both production and exchange, and (Secondary and Tertiary) sectors of occupation are characteristically lesser user of land as compared primary sector of occupation.

A major geographic difference between primary, secondary and tertiary sector of occupation lies in their different distributional pattern.

The primary sector of occupation is spread mostly in villages, whereas secondary and tertiary sectors of occupations tend to concentrate in towns and cities.

A primary sector of occupation is dominant in the underdeveloped worlds, but less prominent in developed areas and less well paid then the secondary and tertiary sectors.

And only in the less developed countries most of the employment is still provided by primary sector of occupation. The proportion of workers engaged in the secondary sector of occupation is highest in technically advanced countries has also risen fairly rapidly. In the study
region most of the workers are engaged in primary sector like agriculture, which is backbone of the regions economy.

1.5 Resource Utilization (Optimum):-

Resource is a term applicable to a wide range of environmental attributes, which are of potential use to man either directly as an input to the agricultural or industrial economy or indirectly by exchanging the resource for monetary assets. All these resources whether physical or human can be utilized upon which man develops his economic structure.

The strength of nation's social, economic or potential is chiefly determined by the resource they command and their capacity to utilize these resources more presence of resources in any region does not necessarily make for their development in an economic sense. Therefore, whatever resources the region possesses the region possesses they should be utilized effectively and optimally. Optimum utilization of resources the state in which per capita output and the rates of growth of total production are the highest. In spite of well endowed with natural and human resources Ahmednagar district is still abundant resource mainly because of under utilization of the present resources.

1.6 Necessity of Integrated Approach: -

We need to adopt an integrated approach for the maximum and different utilization of resources. Of course such an integrated approach is necessary for changing the attitude of people towards the ways and scope for resources, utilization of the region, which makes the region economically strong and ultimately helps for the industrial development of the region.

As the regional development is primarily dependent upon the maximum and efficient utilization of all types of available resources, attention should be paid to the utilization and development of each of
the resources of the region. But there is a necessity of an integrated approach for studying the above two aspects.

1.7 Industrial Geography :-

Industrial geography is one of the youngest and well-established branches of economic geography. After the First World War and Second World War rapid industrialization has started in most of the countries of the world. The traditional and village industries slowly started to disappear and several new types of industries came into existence. Besides, Small Scale industries have also expand considerably. Due to this the industrial structure has become more diversified and expanded. As a result most of the sociologist, economists, regional planners and economic geographers are attracted towards the new study of industries with the view in the development plans of the country. Economic geographer started to study the new discipline i.e. industries with related to geographical factors. The location factor is determined either by economic conditions or by natural conditions or by both. However, there are other factors also which have some bearing on the location of industries. Economic geographers can sort out the most favorable areas for any production.

He can also find out the geographical distribution favorable locational factors, which go to develop the industries. Even the industrialist’s ultimate sources will depend upon his behavior in the geographic environment.

However, the studies of industries from geographical point of view until 1950 were more concerned with theoretical matters. Most of the work till this period was done in the content of industrial location as a response to the physical environment or with describing their revolution. The era of new concepts in industrial geography started only with the work of Hart Shorne, Walter Christaller, George Renner, and E.M. Rawston.
What is “Geography of manufacturing?” What features of manufacturing is significant from the viewpoint of geography? The geographer is interested primarily in three aspects of manufacturing its pattern of distribution, its relationship to other elements within its region of location, and its relationship to other regions.31

Industrial geography is essentially associated with productive efforts of man for manufacturing the thing to satisfy this needs. Therefore simply defined industrial geography is the study of the distribution of manufacturing industry. In broadest sense industrial geography is concerned with the interpretation of present distribution patterns global, continental, national or regional”. The geographic approach using the maps as the chief tool of analysis is eminently suited to this type of study.

1.8 Industrial Geographic Approach:–

In the field of industrial geography, we can study in depth the resource based industries particularly those related to agriculture, forests, minerals etc. Such a study is very essential for the backward regions, which are far away from industrial resource development. For the industrial and resource development of any region, Industrial geographic approach is desirable particularly in developing region like Ahmednagar district.

Traditionally there are two approaches in the industrial geography for studying the distribution of manufacturing industry by industry and by region. First approach is to account far difference in the development of particular industries as between nations, while the second and more useful approach is to analyze the distribution of industries with in a smaller area for example a nation, state or a region. The farmer is analytical while the later is synthetic.

Due to the first approach (Analytical) industrial geography becomes relatively precise study of the distribution of factories that collectively make up industry. By considering the distribution of
many plants in several industrial areas to nations it becomes possible to formulate general principle of location.

Such geographical generalization about manufacturing industry may prove meaningful. However, there are several types of industries and each industry has its own locational characteristics. Therefore, most generalization that can be made about the economic geography of one industry is irrelevant, for the other industry and vice versa. Therefore, synthetic approach of industrial geography becomes sometimes meaningful and more useful.

Though both approaches taking individual industries one by one and identifying different areas in which they are located and secondly taking regions one by one consider different industries are useful for studying the industrial development of Ahmednagar district, the later approach is more useful and meaningful for the development of area like Ahmednagar district.

1.9 Choice of the Region and Topic:

The choice of the area and the topic under investigation has been influenced by several considerations.

Firstly, Ahmednagar district comprising the fourteen tahsils (2001 census) of Maharashtra state has a significant location on Maharashtra plateau. But for the study only 13 old tahsils are considered. New tahsils like Rahata are not considered for the study due to the non-availability of data. The region under study has a major portion under flat topography, hence it supports high concentration of agriculture. As a result these characteristics make this region a district physical entity and homogeneous unit for geographical investigation. The region is deficit in mineral resources.

Secondly, there are 1559 villages in Ahmednagar district. Entire district region comes under drought prone area. About 80% of the annual rainfall is received in the southwest monsoon period. The
variation in the annual rainfall from year to year is fairly large. Their eleven medium projects and advantage of nine major projects to the study region. There are 1840 minor irrigation schemes in this region. The work of 1256 percolation tanks was completed in the district. Out of the total cultivated area about 35 % area was under irrigation during 2000-01. It means that there is a wide scope for agricultural development in the study region.

Thirdly, this region has black, Red, laterite and murmad soil. Agriculture is developed in the region of deep and medium black soils because they are having huge irrigational facilities, Godavari, Pravara, Adula, Mula, Bhima are the important rivers. Ghod, Sina and their tributaries flow through this region.

Fourthly, the pressure of population on agriculture land was more in 2001. During 2001 the per capita cultivated land was only 0.41 hectare. It varies from tahsil to tahsil. It is essential to divert the population to the small-scale industries in the study region.

Fifthly, there is wide scope for the production of oil seeds, pulses and cotton in the study region. Ultimately this production will support to the small-scale agro based industries. In the study region of Ahmednagar all tahsils have greater scope for the development of agro-based small-scale industries. It is felt that the study of the system of industrial developments offers helpful approach to obtaining a more complete understanding of the problems and prospectus of industrial development in a region.

All these considerations motivated the author to turn his attention to this region and its industrial development.

1.10 Aims and Objectives of the present study -

1. To study the availability of infra-structured and geographical factors on which the development and growth of industries depend.
2. To study industrial development in India, Maharashtra, Western Maharashtra & A.nagar district.

3. To study the population characteristics and its effect on agriculture and industries.

4. To analyze and map the spatio-temporal distribution of irrigation facilities and its effect on cropping pattern.

5. To assess the effect of non-physical determinant on agricultural development.

6. To map, describe and interpret the distribution of large and medium industries in the study region.

7. To study the performance of small-scale units in Ahmednagar district.

8. To study the trends in industrial development in the Ahmednagar district especially from 1981 to 2001.

9. To study the cottage and village industries of the study region.

10. To study the efforts for the growth of industries by industrial estates and Government agencies.

11. To find out the industrial problems and suggest suitable remedies to solve them.

1.11 Database and Methodology :-

The data collected and used for the period 1980-81 to 2000-01 comes both from primary and secondary sources. The primary data is the raw data collected through sources for which special questionnaires

Industrial units particularly these questionnaires were used for the collection of selected large and medium small-scale cottage industries. The broad picture of present pattern of land utilization, cropping pattern, trends of production of industrial crops is prepared with the help of secondary data which is obtained from Socio-Economic Review, District Statistical Abstract, District Census Handbooks, Gazetteers, Agricultural Epitomes, Periodically season and crop reports
published by the department of Agriculture. Secondary data of population, electricity also used for interpretation. It was not possible to collect in each case the primary data regarding the industrial units. Therefore, secondary data was obtained from the Government offices, District Industrial Center, Currency and Finance Report etc.

The study region comprises of fourteen tahsils but actually new tahsils like Rahata is omitted from the study. Old 13 tahsils are considered for the study. Tahsil is selected as a suitable data base for studying the region.

The data thus collected through primary and secondary sources, were processed and represented by statistical and cartographic techniques. As the study purpose to be geographical in spirit the chorographic and chorologic Methodologies have been adopted. These involve the distribution and interpretation of the regional patterns revealed through choropleth method. For studying the pressure of population on agricultural land, the density of population is computed. Rural-Urban sex ratio, working classification of population, livestock, agricultural implements, electric pumps, use of electricity, and road length are also considered from the view point of agricultural and industrial development.

For studying the changes in land use pattern five measure of landuse categories i.e. area under forest, area not available for cultivation, other uncultivated land excluding fallow land, and net sown area are considered.

In order to smooth but unusual fluctuations ten years average data for the year 1980-90 and 1990-2001 are used. For studying the industrial crops, indices are used only for the district. The quinquennial average area under different industrial crops and relative share of each crop in gross cropped area has been deployed for the study of cropping pattern in study region. The indices of production of selected industrial crops is also computed for the study of trends of production on the
region from 1980-81 to 2000-01 (base year 1980-81) The trends of yield of industrial crops is also calculated for the study region.

Data regarding the number of large and medium and small-scale industries, capital investment, working capital, capacity utilization, value of finished products or its markets value, profit are considered for the measurement of industrial development location quotient for selected small scale industries also calculated for the study region. Indices of large scale, small scale industries regarding number of units, production profit, labour, force etc has been calculated for the entire study region. Volume of change in labour force, production profit has been worked out for the study region. Primary data of cottage and village industries also processed systematically for interpretation.

Labour productivity has been considered to show how much contribution is made by labour towards gross value of output and production in the selected industries. Per capita value of gross output Vp is calculated by the following formula:

\[ Vp = \frac{\text{Gross value of output}}{\text{Number of person's employed}} \]

For the calculation of Lp or net labour productivity (Percentage) the following formula is used.

\[ Lp = \frac{\text{Gross value of output - Total value of wages, salaries benefits and employers contribution}}{\text{Total value of wages, salaries, benefits and employers contribution etc.}} \times 100 \]

Measurements of Capital Productivity are calculated by using the following formula :-

\[ Cp = \frac{\text{Gross value of output - working capital}}{\text{Invested Capital}} \times 100 \]
Capital labour ratio is also calculated by applying the following formula:

\[ CL = \frac{\text{Invested Capital}}{\text{No. of person's employed}} \]

Industrial concentration and diversification is also studied for the study region.

Since the people of each and every tahsil want almost equal industrial development ever after no resource base, the number of small-scale industrial units per 100 sq. km. and employment per 10,000 persons have been computed to compare all the tahsils.

1.12 Review of literature:-

Baleshwar Thakur (1979)\(^2\) examined Intra-urban location of manufacturing. The primary purpose of this study was a) to identify the changes in spatial construction during a specific time period and b) to suggest reasons for spatial changes.

The hypothesis selected for this purpose were a) the factor growing the intensity the more it will disperse and b) the higher the female participation rate the less industry will disperse.

**The twin cities of Kitcheners Waterloo**

had been selected as a case study for the empirical analysis. Several data problems were encountered in attempting to measure the changes in spatial concentration of manufacturing firm on a more detailed basic over an extended period. The information on the date of establishment the address of the firm, the employment figure and the nature of the products were obtained from the manufactures. Index was collected from the industrial commissioners of Kitchener and Waterloo respectively. Since the manufactures, index of waterloo had not mentioned date of establishment, this was checked and supplemented by the field studies. Census data had been used for population resources
with this basic information measurement was made of the average
distance of each type of manufacturing from 1951 to 1970. From the
center of gravity of twin cities of Kitchener and Waterloo after
locating the points (firms) with the help of addresses straight-line
distance between the center and the located firms was measured.
Author has calculated correlation between shift from centre of gravity
and to independent variables. Author has considered employment of
various industries viz. Food and Beverages, rubber, leather, textile,
wool and furniture, paper and allied products, painting and publishing,
electrical products etc. for the study of Intra-urban location of
manufacturing.

The empirical study of the spatial changes in the concentration of
industry in Kitchener- Waterloo during 1951-1970 reveal that
transportation equipment, electrical products, metal fabricating,
nonmetallic mineral products and food beverage industries were the
growth industries and rubber, leather, textile, wood and furniture,
clothing and knitting mills were the non growth industries during the
study period. The analysis shows that only transportation equipment,
electrical products and nonmetallic mineral products had shown a
centrifugal tendency.

Fabricating, rubber leather, textile, clothing, knitting mills,
painting and publishing units had shown centripetal tendencies. It was
proved statistically that growth industries are not dispersing at faster
rate and fail to show a close association with the shift from the centre of
gravity.

Similarly the female participation rate was not explained the shift
from the centre of gravity statistically and two are not correlated. Thus,
the author feels that there is some other causes which more important in
explaining the dispersion of industry in Kitchener and Waterloo.
Kayastha S.L. and Sigh M.B. (1979)\textsuperscript{33}:

Studied a spatial analysis of manufacturing industry in "Uttar Pradesh". Attempt has been made to examine the spatial aspects of manufacturing industry in U.P. The objectives of study were four fold 1) to measure the mean point location of manufacturing employment since 1951. 2) to map and analyze the number of industrial workers and units engaged in Manufacturing 3) to measure manufacturing employment index and diversification, personal income and value added by different manufacturing product groups has been considered. 4) to know the further prospects in terms of dispersal and scope for new developments.

For this location quotients has been calculated. The author has collected data about the number manufacturing establishments, employment, production of industrial commodities and their percentage share in India. Author has also calculated manufacturing employment index. Author has used various maps and graphs to show trends of industrial products.

The study presents a spatial analysis of manufacturing industries in U.P. It is obvious that during the past few decades U.P. has fairly satisfactory growth in manufacturing industries. Author found that manufacturing employment in U.P. between 1951-60 decreased to greater extent. Greater emphasis has given on agro-based industries in the first five-year plans. Industrial structure of U.P. becomes more or less specialized (agro based, textile, live stock based and Engineering) therefore, there is need for technologically trained personal and industrial diversification. Author found that all the sugar factories of eastern U.P. experience under economic crushing, capacity, so these unit require replacement of old machines and rehabilitation. Author suggests that there is need for balanced development of agriculture along with industries.
Kannan Chatterjee (1979)\textsuperscript{34}:

Examined Hurdles of the cotton textile industry in West Bengal. An attempt has been made in this study to show how far the present working and future expansion of the cotton textile industry in West Bengal are handicapped due to the various problems of its own. Author has collected data about prices of raw cotton, Machine and labour ratio's in cotton textile mills, freight of raw cotton, wages of labour to study the Hurdles of the cotton textile industry in West Bengal. Author has calculated freight on cotton, labour wages, machine and labour ratio's process of raw cotton and minimum wages of the labour for the study of cotton textile industry. He has also considered power supply of machines and finance for the study of cotton textile industry.

Author found that the following fundamental problems in cotton textile industries of West Bengal that is i) Higher cost of raw materials due to extra freight on cotton and staple fibre. ii) Excessive labour use iii) Lack of modernization and rationalization iv) Power shortage and frequent interruption of power supply and v) Lack of adequate finance.

Shukla S.K. (1980)\textsuperscript{35}:

Studied "Sugar industry in the Madhya Bharat Plateau- A case study" He has selected Madhya Bharat for the study of sugar industries. Author has collected secondary data about sugar cane crushed, sugar produced, sugar recovery, for the period of 1950-51 to 1975-76. He also considered sources of raw material area of labour supply, employment in sugar industry and type of labours in sugar industry for the study region.

He has calculated the freight rates of sugarcane. Author has applied percentage technique, choropleth, maps and graphs for the interpretation of collected data. Author has pointed out various problems of the Sugar industries:
1. The main problem of the factories was the inadequate supply of cane both in quality and quantity.

2. The second problem was that field at a distance from the factory were not well connected by direct routes and the cultivators use the cane for the manufacturing of gur. On the other hand the high prices of gur and its demand in the rural areas have resulted in a large-scale diversion of cane to gur manufacturing.

3. Quantitatively, the cane grown in the region was in general not of good quality. In comparison to the sugary recovery of Uttar Pradesh, Bihar and Maharashtra (9.6 %, 9.7 %, and 12.10 % respectively.) during the period of investigating.

4. Shrinkage of area under cane, cultivation was also a serious problem delay during the transportation of the cane involves increased production cost.

Author has suggested some remedies to solve the problems.

1) A scientific approach to agriculture and the provision of adequate input are bound to improve substantially the sugarcane yield and the quality of sugarcane in region.

2) Author suggested that by-products of the sugar factory should be utilized as fertilizers, manure cattle food and in alcohol and chemical industry.

3) There is need for the development of roads and truck services in mill areas without which progress of industry will be hampered.

4) To have a large crushing it is necessary to encourage the development of early, medium and late variety of sugarcane in the region.

Kayatha S.L. and Sing M.B. (1980) 36:

Examined Industrial landscape of Mirzapur District (U.P.) This paper comprises an assessment of resources, analysis of their uses
including industrial patterns and suggestion for future development in Mirzapur district. Author has used data of minerals & their estimated value in crores of tonne's area of occurrence. He also collected data of large and medium scale small-scale industries about the number of units, capital investment, employment and production for the investigation. Author used simple technique of percentage and maps for the study of industrial landscape.

**Author has given following suggestions.**

i) Mirzapur possesses numerous mineral, power, forest and agricultural resources. All these resources of the district offer wide scope for industrial development. Therefore, infrastructural facilities such as roads and railways should be developed for further mineral based industrial development.

ii) The units are based on agriculture resource may be planned for the manufacture of malt extract, Jute Wine starch etc.

iii) There is also scope for development of modern flourmills, rice mills and pulses mills. The forest resources can be utilized for the manufacture of packing cases electrical wood-accessories, furniture, strawboard and various other articles.

**Kannan Chaterjee (1980)³⁷:**

Studied some considerations on cotton textile industry in selected states of India. This study is related to evaluation of cotton textile industry of West Bengal against some of the leading textile producing states in India. The study presents comparative evaluation of the cotton textile industry of West Bengal in the background of the leading textile producing states of India namely Maharashtra, Gujarat and Tamilnadu. This is a study of productivity cost of production and profitability in the cotton textile industry.

To pursue the study, per capita value of gross output, net labour productivity, capital - labour ratio, gross profit as percentage of invested (average of 8 years from 1960-66 and 68) have been take into
consideration. Author used data from 1960 to 1968 for the analysis.

Author used secondary data for the study. He has calculated per capita value of gross output, labour productivity, net capital productivity, and tools per labour, minimum wages and profit for comparative study of cotton textile industries of Maharashtra, Gujrat and Tamilnadu.

Author found that the share of wages, salaries etc. To the total cost was lower in Tamilnadu and West Bengal. On the other hand Maharashtra and Gujrat states were having more share of wages salaries to the total cost of production. Author also observed that Maharashtra ranks first in net capital productivity with 70.41 % followed by Tamilnadu (65.58 %), Gujrat (59.76%) and West Bengal (48.40 %)

S.L.Kavastha and M.B. Singh 38:

Studied “Evolution of industrialization in Eastern Uttar Pradesh”. They have analyzed that there were four definite phases of industrialization in Eastern U.P. i.e. industrialization before first world war between the two word wars, post second world war and during the plan period.

Their study area comprises of nine districts. They classified industrial units as cottage and village units, small scale units and large scale units. They observed that the distribution of there industries is mainly confined to the northern and southern districts of the study region.

Sadhukhan S.K. and Dr. R. Bhattacharyya (1981)39:

Analyzed growth of manufacturing in India: 1951-69. The objective of the paper was to examine the relationship between the growth of the system components over time and space. Author has selected seven components such as total food grains production, total surfaced roads, total value of minerals, total energy generated, inter-stage movement of major commodities by railways and rivers etc. For
the study of growth of manufacturing in India. Author has used secondary data for the study. He has calculated indices, correlation, coefficient, correlation matrices inward correlation, co-efficient etc. for the study of growth of manufacturing in India: 1951-1969. Author found that most of the additional energy produced after 1951 had been consumed in sectors other than manufacturing. He observed that most of the additional production of minerals after 1951 had not generally been used for industrial processing within India and had perhaps been exported. He also found that increase in the number of scholars in the recognized academic institutions has not contributed in the growth of labour force in manufacturing and that increases in the length of surfaced roads, in the production of food grains and in the bulk of interstate commodity movement have contributed more directly in the growth of manufacturing.

U.P. Singh*:

Observed in his study of "Evolution and growth of industrial landscape in the Damodar valley, Bihar" that main natural reasons and the technological resources are the primary bases for industrial evolution. He has also analyzed that the character and utilization of various reason. Defines the stages of industrial development in the study region. He concluded in his observation that most of the industrial units are raw material oriented. The area has marked a rapid change in its industrial landscapes with in short span of period and western area the study region has metallic mineral based industries.

Jagdish Singh (1983)**:

Examined Industrial Development in Madhya Pradesh and detailed account has taken by considering 'A case study in the process and pattern of industrialization in India.' In this analysis he pointed that there was very uneven temporal spatial distribution of industrial employment created through the flattering palm. He compares the rate of industrial growth of M.P. with other state of India and found that
M.P. had made very little development considering the natural resources available in the state due limited linkage of big plants with medium and small scale units. He has given detailed analysis of process and pattern of industrialization in the country as a whole and shows that M.P. being a centrally located state a greater part of it has the benefit of cross road location. It should have attracted a considerable number of large-scale industries and made spectaender strides with specific objectives for the industrial development.

**Jadhav P.A. (1984)**:  

Studied "Agro-based Industries in Satara district (M.S.). Author has selected Sugar industry, cotton ginning and spinning mills and changes there in during the period 1951 to 1981. He has studied impact of sugar industries on cropping pattern. Author has used primary and secondary data for the study. He uses various graphs and maps to interpret the data. Entire work is organized into six chapters. In first chapter he throws light on importance of the problem, choice of the region, aims and objectives, methodology etc. Second chapter is devoted to location, drainage, climate, soils and agricultural landuse of the study region. Third chapter deals with changing cropping pattern of the study region, while the fourth chapter deals with spatio-temporal distribution of agro-based industries. In fifth chapter author has discussed agro-industrial potentials of the study region. The last chapter throws light on conclusion. Author observed that due the sugar industries there is tremendous change in cropping pattern. The farmers of this region are attracted to the cash crops like sugarcane. The area under sugarcane is increased on large scale as compared to the last twenty years.

**Gatade D.G. and Tawade M.D. (1983)**:  

Examined 66 industrial potential areas of Konkan region of Maharashtra. Authors have been considered physical characteristics, resource potentials like water, and favorable geographical conditions
for the development of hydel power, mineral resources, and agricultural resources from the viewpoint of industrial development. They have not used time series data for the study. This study mainly focused the light on the depletion of resources and suggestions for their better economic development, keeping in view the environmental balance. In this study all the resources of the region have been considered to assess their industrial development. Due to typical physiography Konkan region has potentials for the development of hydroelectric power, which may be considered a drive force for future development of industries within the region.

Author has pointed out that Konkan region has great potentials for industrial development due to availability of various resources such as agriculture, forest, marine and minerals. Industrial development in the Konkan region was unbalanced due to lack of planning during the period of investigation. Author reveals if all the resources of the Konkan region are optimally utilized along with adoption of certain industrial facilities then the region may be industrially developed in near future.

**Y. N. Mahajan and V.S. Phadke (1986)**:

Studied industries of Khopoli in respect of raw material and market linkages. They observed that location of industries in backward areas should be considered powerful tool in reducing spatial imbalance in the development. But such experiments often fail to establish industries in backward areas. Primarily due to constraints of lack of infrastructure the authors with the help of case study bring out one of the cause of such failure viz lack of material and market linkage with the local or regional economy. They have suggested that unless some of the industries at the centre have linkage with the economy of the region, Such industrialization is not likely to benefit the region.
Chaudhari M.R. (1989)⁴⁵:

Examined “Industrial development in India during planning Era”. This paper is only descriptive. In this paper author has given revolution on India industry. Finance for industry, review of foreign capital in Indian industry. Author has given idea about the industrial development of India upto the seventh Five-year Plan. He has used secondary data of industrial units, labour and production for the comparison. Author concluded that during the different five year plan the expansion and diversification of India’s industrial structure helped to transform the economic scenario in the country. He found that the number of industrial units has increased significantly. Particularly in 1951 steel plants were only two major units producing iron and steel, there were now six major steel pants with a capacity of about 8.9 million in 1985-86. He observed that capacity and production of iron and steel industry has increased during the five-year plan. The products in new industries like agricultural tractors, electronics and fertilizers that practically did not exist in 1951 considerable increased so that their import has been brought down to the minimum. The drugs and pharmaceutical industries have also made rapid progress. Author found that the textile industry now produces different types of synthetic fibers in addition to the cotton and Jute textiles. He also found that the country attained self. Sufficiency with regard to sugar and cement machinery, power boilers, Material handling equipment and a large number of consumer durable. He observed that rapid expansion of the public sector has been and important feature of industrial growth in India after independence.

Sunil K. Saikia (1992)⁴⁶:

Studied “Problems of small units in North eastern region.” Particularly author studied the problems of small units of Assam, Meghalaya, Manipur, Mizoram, Nagaland, Tripura and Auranachal Pradesh. Secondary data has been used for the study (1971 to 1991) He found that there are number of reasons for slow growth and high
sickness of small-scale industrial sector in the region, such as lack of infrastructural facilities, dearth of entrepreneurship, high manufacturing cost, absence of training facilities, problems of marketing, lack of techno-economic information, lack of co-ordination etc.

Sand Sara J.C. (1993) 47:

Examined "Modern small Industry : Aspects of Growth and structural change." Author has used two industrial census such as 1972 and 1987-88. Using the massive data made available in the report of the second census of modern small industrial units along with data from the first census. This paper attempts to highlight some aspects of growth and structural change in modern small industry over the 15-year period between 1972 and 1987-88, the reference years of the two census. Author has measured growth of small scale-industries on the number of units fixed capital investment, production, value added and employment. He also noted the changes in the average size of the unit, capital and labour productivity and capital intensity. Structural change refers to changes in the distribution of small industry in terms of units, employment, fixed capital investment and production by board groups of industry and state, and in terms of the number of units and production by board size groups. Author has calculated the volume of change in percentage about number of units and their production, sick units, investment, new value added to see the growth and structural change from 1972 to 1987-88.

Author found that both capital and labour productivity increased over the period. He noted that increase in labour productivity has not only been more than that in capital productivity, but also more than that in capital intensity. He observed that growth of investment in fixed assets and growth of production have been high relative to growth of employment between 1972 and 1987-88. He also found that food and Textiles and Services groups increased their shares and metal and Electrical product group lost its share in the respective totals in the
number of units, employment investment in fixed assets and production
between 1972 and 1987-88.

**Shukla Amitabh (1993)**:
Examine "Development of Small Scale Industries in Madhya Pradesh: A study of Growth, Employment and Regional Distribution."
The main objectives of the studies were:
1. To analyze the region wise structure and growth of small scale industries.
2. To evaluate the role of S.S.I. in employment generation in different regions of the state and compare the same with large and medium scale industries.
3. To study the regional variations in investment and employment of large, medium and small-scale industries.

Author has collected relevant data from the secondary sources. The author has considered classification made by the state Government under industrial zones the collected data have been analyzed by simple statistical tool coefficient of variation as it has been thought appropriate by the author to analyze the disparities across regions in respect of investment and employment in small-scale industries for the purpose of studying regional structure.

The main findings were the growth rate of S.S.I. units in different zones of the state was quite even except the Indore zone. The S.S.I. here spread all over. The state and were not concentrated in any zone.

He observed that small-scale industries play an important role in employment generation in each zone. Their share in the total industrial employment was about 60% during the period of investigation. Author also observed that zone wise employment and investment in small-scale industries has less variations than in large and medium industries. The ratio of small-scale industries to large and medium industries in employment generation came to viz.
Sakriva D. (1994)⁴⁹:

Examined "Small Industry and Globalization". Author has published this paper in the Journal of Yojana in February 1994. This paper is just descriptive. Author has not used time series data for this paper. He used some figures to highlight the role of small-scale industries in the countries economy. Author has considered stride growth of small sector, winds of change productivity, technology, Ancillarisation and Boosting exports from small industry. He Pointed out that development of small-scale units in our country is essential for three basic reasons. Firstly, the development of this sector is conceived to provide employment opportunities for surplus labour force available in the country at a relatively smaller capital cost. Secondly, small-scale industries for mobilizing untapped skill that may other wise remain unutilized in our vast country. Thirdly, these industries are expected to ensure the diffusion of productive industrial activity.

Author found that Indian entrepreneurs have proved there mental worldwide. He concluded that in the highly demanding environments our entrepreneurs have demonstrated outstanding entrepreneurial capacity of an enormous capacity for hard work. Author concludes that small entrepreneurs have a big role to play in the revolution of our national economic problems and towards integrating the country with the world economy.

Dr. Xaviour V.M. (1995)⁵⁰:

Studied "Performance and Problems of the entrepreneurs of Small Industries in Kerala" Author has taken review of small-scale industries from 1983 to 1991. Particularly he has discussed the performance and problems of the entrepreneurs of small-scale industries in Kerala. Author has not used time series data but he used some figures to high light the performance and problems of the small-scale entrepreneurs. He has considered promotion of the enterprise, awareness of incentives, reasons for not availing of the incentives,
method of Supervision, Marketing policy, Capacity utilization, Size of employment in his paper. Problems faced by the entrepreneurs were also studied by the author asked some question to the successful and unsuccessful entrepreneurs regarding the ranking of the problems faced by them from a list of problems given to them viz. i) Finance ii) Marketing iii) Raw material iv) Labour v) Power and vi) Others.

Others include bureaucracy and red tape, Government intervention, sale tax related harassment and disparity in tax collection.

Author found that the first rank was given to others by both the successful and unsuccessful entrepreneurs. The second main problem for the successful entrepreneurs according to their ranking was raw material, where as the unsuccessful entrepreneurs gave only fifth rank to this problem.

**Dr. Navin Chandra Joshi (1995)**:

Studied “Rejuvenating rural life through industrial growth.” This paper is mainly descriptive. Author has not used time series data. He has used some figures to highlight his topic. Author has considered restructuring rural economy development of agro-industries, infrastructure development to prevent migration, improving rural environment, pioneering role of Khadi and Village industries commission, Policy package for small industries, evaluation overdue, trust on S.S.I. Promotion of handicraft, measuring backwardness, industrial backwardness, report of Sivaraman committee arresting reverse transmission of funds and Industrial Estates for the discussion.

Author concludes that all facts of rural life need to be affected by the latest developments so that rural people also raise their standard of living in the modern sense. This productivity rate should improve with the help of better tools, implements, inputs and hard work. The unemployed growth in rural areas should be absorbed in skill formation activities in the village itself. A number of technological
institutions need to be set up in villages. All these things sound like a wishful thinking but then a day must come when the majority of the people of this country are brought into mainstream of the present day development taking place everywhere.

**Dr. Mohan Gulve (1988)**:  

Studied "A study of small scale agro-based industries in Beed District. The main objectives of the study were:

i) To study the infrastructural and geographical factors from the viewpoint of industrial development.

ii) To study cropping pattern, production of various crops and productivity.

iii) To study small-scale agro-based industries such as dal mills, oil mills, cotton textiles etc.

iv) To study the role of different agencies in the development of small-scale agro-based units. Author has collected primary and secondary data. He has chosen period from 1970-71 to 1994-95. Author has used different techniques such as percentages, variability, indices, correlation, compound growth rate, location quotient, industrial concentration and diversification for the interpretation of data. He has also calculated labour productivity, capital productivity and capital-Labour ratio for the selected small-scale industries. Author has Seventy-three tables and 134 maps for the interpretation of data.

Entire work is divided into eight chapters. The first chapter deals with meaning of industry, meaning of agro based industry, significance of small-scale industries, aims and objectives, methodology, review of literature and chapter scheme.

Second chapter throws light on changing definitions of small scale, industrial policy, small-scale industrial growth in India,
Maharashtra and western Maharashtra. Third chapter deals with personality of the study region while fourth chapter throws light on general and agricultural landuse of the study region. Fifth, Sixth and Seventh chapter throws light on small-scale agro-based industries in forest, chemical, mineral, cotton, ginning and pressing etc. Author has also given case study of every agro-based small-scale units. Author has pointed out the following main problems of small-scale agro based units of Beed district.

i) Problems of Finance  ii) Problem of water iii) Lack of facilities of securing adequate and regular supplies of raw material iv) Absence of adequate marketing facilities. v) Inability of entrepreneurs to adopt themselves to changes of times due partly to their conservatism and want of financial and other resources.

To solve these difficulties the author suggests the following measures.

a) It is necessary to organize proper survey before starting the unit in any area.

b) Govt. should have provided proper water schemes to the industrial estate.

c) Various banks should provide lot of working capital to the entrepreneurs at low rate of interest.

d) Govt. should have fixed marketing prices of finished products. That prices should be sufficient to the entrepreneurs.

e) Govt. of Maharashtra should have set separate centres to provide raw materials to the small-scale agro-based units.

f) Govt. should give the training to the entrepreneurs regarding there concerning units.

1.13 Chapter Scheme -

The present study is divided into eight chapters. The first chapter throws light on introduction, industrialization in modern society, stages
of economic development (Rostow) compression of sector of occupation, Resource utilization (optimum) necessity of integrated approach, Industrial Geography, Industrial geographic approach, choice of the region and topic, aims and objectives of the present study, data base and methodology and review of literature.

The second chapter deals with industrial policy, role of industries in national economy, industrial development through Five year plans in India, large scale industries in India, industrial development in Maharashtra, industrial development in Western Maharashtra and industrial development in Ahmednagar district.

Third chapter deals with location, boundaries and area, historical background, territorial changes, physiography, geology, drainage, climate, soil types and natural vegetation of the study region. In second part of the third chapter role of irrigation, population, animal resources, agricultural implements, chemical fertilizer, credit and finance, electricity, marketing and transportation in the development of agriculture is considered.

Fourth chapter is divided into three parts first part shows light on concept of general landuse, classification of land, Landuse pattern, tahsil wise per capita, net sown area and landuse efficiency.

Second part of the fourth chapter is related index numbers of industrial crops, changing industrial cropping pattern and tahsil wise trends in industrial cropping where as third part deal with growth of production in Ahmednagar district, tahsil wise trends of production of selected industrial crops, growth of yield in Ahmednagar district and tahsil wise trends of yield in the study region.

Fifth chapter throws light on efforts of large and medium scale industries, index numbers of investment, labour force, sale value, profit, present position of large scale industries, Sugar factories, milk dairies, Engineering industries.
Six chapter throw light on growth of small scale units, indices of
unites, labour force, investments tahsil wise distribution of S.S.I. Units,
Industrial combination, concentration and diversification

Seventh chapter is related with development of Khadi and village
industries in India, Gandhian thought, Jawaharlal Nehru’s view, Fiscal
commission (1949-50), development of Khadi and village industries in
Western Maharashtra and Ahmednagar district.

Chapter eight covers conclusions, industrial problems of
Ahmednagar district and suggestions.

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