Chapter I

Introduction

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Chapter I

Introduction

1.1 Introduction:

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 the word 'industry' is applied in most of the population censuses. On the basis 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, where raw materials brought from various source regions and from finished products goes to diverse market regions.

An industry is regarded as a homogeneous group of enterprises or companies, homogeneity 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 the term industry uses) industry can be classified into four groups i.e. extracting, processing, assembling and servicing. Each group requires specific inputs (raw material, capital, labour, water transport) 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 we 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 Industrialisation in Modern Society:

Industrialisation has been defined as a process in which changes of a series of strategical production functions and taking place. It involves those basic changes that accompany the mechanization of an enterprise, the building of a new industry, the opening of a market and the exploitation of a new territory\(^7\). 'Industrialisation' 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 realised\(^8\). Industrialisation 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\(^9\).

Industrialisation has been treated by historians as originally an European phenomena, sometimes more narrowly as a British Phenomenan, which made its decisive appearance in the second half of the 18th century that simply caught on elsewhere\(^10\), while industrialisation began in the later half of the 19th century. At present India is among the ten largest industrial nations in the world.

Industrialisation 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 industrialisation aims and problems and every specific project in terms of value to the economy\(^11\). Industrialisation raises the economic status of a society. Therefore, in any society or region or country industrialisation can be a very effective tool to achieve economic development\(^12\).

Actual process of industrialisation brings profound changes in the pattern of living which calls for considerable social adjustment and adoption. These adjustment 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 industrialisation
directly influences, commerce and trade, communication, human resource utilization, urbanization, service centres, 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 industrialisation will be that of absorbing the human potential to reach a satisfactory level of production. However, it is also necessary that there should not be readuction but an increase of agricultural production through mechanization. It is also necessary to remember that problem of poverty and unemployment, national defence and economic regeneration in general can not be solved without industrialisation¹³.

1.3 Stages of Economic Development (Rostow):

Economic development which as generally measured either in terms of per capita income or in terms of rate of growth can be viewed either as the process of transformation of the economy from its per cent level of technology to a better technology or as the process of expansion or improvement of the basic productive elements population, natural resources, capital accumulation, labour and technical progress¹⁴.

Number of theories¹⁵ and models of the economic development and economic growth have been put forward by different economists. Many economists especially German believed that growth occurs in stages¹⁶. Among the stage theories Rostow’s work is the most recent one. Rostow’s economic development theory was propounded with special reference to under developed countries. According to him it is possible to identify all societies in their economic dimensions as lying within one of the five stages.

Rostow saw evaluation of an economy from a traditional society to a highly developed economy through five stages i.e.

a) The traditional society.
b) The pre-conditions for take-off.
c) The take-off phase.
d) The drive to maturity.
e) The stage of high communication¹⁷.
A traditional society has been defined as one whose structure is developed within limited production function based on Pre-Newtonian Science and the technology and as Pre-Newtonian attitudes towards the physical world. The second stage is a transitional era in which the pre-conditions for sustained growth are created. The pre-conditions for sustained industrialisation, according to Rostow have usually required radial changes in three non-industrial sectors, first a buildup of social overhead capital, especially in transport, in order to enlarge the extreme of the market to exploit natural resources productively and to allow the state to rule effectively. Second, a technological revolution in agriculture, so that agriculture productivity increase to meet the requirements of a raising general and urban population. Third, an expansion of imports, including capital imports, financed by efficient production and marketing of natural resources for experts.

The 'take-off' is the "great watershed" in the life of a society, when growth becomes its normal conditions forces of modernization countered 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 busk of its resources.

In the stage 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 her 'take-off' during 1950 while empirical findings 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 logatism is justified about the exact year of achievement.

A few characteristics of the Solapur district clearly indicate that Solapur district is in the stage of 'take-off'. There is heavy concentration of large medium scale and small scale industries in the Solapur city. Agro-based industries like sugar factories scattered in the every tahsil of the district. Sugar factories have changed the social and economic status of the people in the sugar belt region.
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 commercialisation in the use of these primary resources diversifies the occupational structure and industrialisation bring in further diversification by creating a variety of additional jobs²².

As there are various occupations and their types and number highly vary from nation to nation, region to region, we may 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 compare 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 world, but less prominent in developed area and less well paid than 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 and lowest in underdeveloped countries. However, the absolute number of secondary workers in some of the currently undeveloped countries has also risen fairly rapidly. In the study region most of the workers are engaged in primary sector like agriculture except
Solapur city. In rural areas like Akluj, Pandharpur, Sangola etc. some workers are engaged in sugar industries.

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 utilised 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 they should be utilized effectively and optimumly. Optimum utilization of resources the state in which per capita output and the rates of growth of total production are the highest. Inspite of well endowed with natural and human resources Solapur district is still remained backward 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 wags and scope for resource 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 Geography is an Integrative Discipline:

In this modern world knowledge of each of discipline has been expanding day by day. Disciplines have become inter-related and inter dependent to one another. Several new branches have been developing and each branch is inter-related and interdependent to one another for the further exploration of knowledge.
It is widely accepted by Most of the geographers that geography is an integrative discipline which bridges the gulf between the natural sciences on the one hand and the social sciences on the other.

At present geography no doubt, is a widely ranging discipline with mathematical, physical and human aspects which help to justify. Sir Halford Mackinder’s contention that geography is at once an art a science and a philosophy.

Every science, studies a single phenomenon at a time e.g. Botany-vegetation, zoology-animal, geology-rocks and minerals etc. But geography is the only science which studies all the phenomenon that are distributed on the surface of the earch i.e. land, water, climate, minerals, forest, animal, population, settlement, various crops, economic activities which have later on become distinguished sub-branches of geography. In this sense it is said that geography is magnificently integrated to the most of the disciplines which included either in natural sciences or social sciences as well as to the sub-branches of geography.

In the beginning, knowledge of the geography was explored through the two branches that is human geography and physical geography. But later on these two branches has given rise to the several sub-branches which have been clearly distinguished from one another, however, they are closely integrated and interdependent. In this sense geography is an integrative discipline.

1.8 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 industrialisation 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 expanded considerably. Due to this the industrial structure has become more diversified and expanded. As a result most of the socialists, 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 geographers 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 favourable areas for any production.

He can also find out the geographical distribution favourable locational factors which go to develop the industries. Even, the industrialist’s ultimate sources will depend upon his behaviour in the geographic environment.27

However, the studies of industries from geographical point of view will 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 industrial geography started only with the work of Hartshorne28, Walter Christaller29, George Renner30 and E.M. Rawston31.

What is "Geography of Manufacturing?" what features of manufacturing are significant from the view point of geography? The geographer is interested primarily in three aspects of manufacturing: its pattern of distribution, its relationship to other element within its region of location, and its relationship to other regions.32

Industrial geography is essentially associated with productive efforts of man for manufacturing the things to satisfy this need. 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 map as the chief tool of analysis is eminently suited to this type of study.

1.9 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 a backward region like Solapur.

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 for difference in the development of particular industries as between nations, while the second and more useful approach is to analyse the distribution of
industries within a smaller area for example a nation, state or a region. The former is analytical while the later is systematic.

Due to the first approach (analytical) industrial geography becomes relatively precise study of the distribution of factories that collectively make up in industry. By considering the distribution of many plants in several industrial areas of nations, it becomes possible to formulate general principle of location. Such geographical generalisation about manufacturing industry may prove meaningful. However, there are several types of industries and each industry has its own locational characteristics. Therefore, most generalisation that can be made about the economic geography of one industry are irrelevant, for the other industry and vice versa. Therefore, systematic 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 and consider different industries are useful for studying the industrial geography of Solapur district, the later approach is more useful and meaningful for the underdeveloped or developing area like Solapur district.

1.10 Choice of the Region and Topic:

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

Firstly, Solapur district comprising the eleven tahsils of Maharashtra State has a significant location on Maharashtra plateau. Except some small hillocks and river basins, majority part of the district comes under plateau region. Hilly tracts are not useful for the agricultural activities. 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 distinct physical entity and homogeneous unit for geographical investigation. The region is deficit in mineral resources, hence, there is no scope for mineral based industries.

Secondly, there are 1134 villages in this region. Out of the total villages about 953 villages are situated in drought prone area. Entire district except irrigated tract of Malshiras, Pandharpur, Sangola, Mangalweda, Mohol and Madha comes under drought prone area. Most of the part of the region is economically backward except
sugarcane belt. Therefore author has selected this region for the study.

Thirdly, the district has a limited area under forest. There are a few scrubs and scanty forest with patches in Barsi and Malshiras tahsils. Only dry thorny, dry deciduous and common scrubs type of vegetation have spread in the district. These vegetations do not carry much importance from the view point of economic development. Every tahsil has forest cover but proportion of forest cover varies from one tahsil to another tahsil. Therefore there is not scope for forest based industries in the study area.

Fourthly, river Bhima, Sina, Nira, Bori, Man and Bhogavati have some good potentials for the development of brick industries. River banks have huge alluvial soil deposits, hence, this condition is good for brick industries.

Fifthly, this region has black, loamy, murmad and alluvial soils. Agriculture is developed in the region of deep and medium black soils, because they are having huge irrigation facilities. Therefore, there is wide scope for agro-based industries like dal mills, sugar factories, ginning and pressing and other agro-based industries like dairy farming.

Sixthly, out of the total geographical area about 86.04% area was under agriculture during 1992-97. But only 69.69% area was under cultivation. It means that there is scope to increase agricultural land in the region. By increasing agricultural area agricultural industrial crops production can be increased to a greater extent. The pressure of population on agricultural land was more in 1991. During 1991 the per capita cultivated area was only 0.33 hectare. It varies from tahsil to tahsil. It is essential to divert the population to the small-scale industries in the study area.

Seventhly, there is wide scope for the production of oil seeds, pulses, cotton, sugarcane and fruits in the study region ultimately this production will support to the small-scale agro-based industries in the tahsils like Malshiras, Pandharpur, Sangola, Madha, Barsi, Karmala, Mangalwedha and Akkalkot. It is felt that the study of the system of industrial development offer helpful approach to obtaining a more complete understanding of the problems and prospeetus of industrial development in a region.

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

1.11 Aims and Objectives of the Present study:

1. To study the availability of infra-structural and geographical factors in which the development and growth of industries depend.
2. To study industrial development in India, Maharashtra, Pune region and Solapur district.
3. To study the population characteristics and its effect on agriculture and industries.
4. To analyse and map the spatio-temporal distribution of irrigation facilities and its effect on cropping pattern.
5. To assess the effect of non-physical determinants on agricultural development.
6. To map, describe and interpret the distribution of large and medium scale industries in the study area.
7. To study the performance of small-scale units in Solapur district.
8. To study the trends in industrial development in the Solapur district specially from 1970-71 onwards.
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 remedies to solve them.

1.12 Date Base and Methodology:

The data collected and used for the period 1970-71 to 1999-2000 comes both from primary and secondary sources. The primary data is the raw data collected through sources for which special questionnaires were prepared. These questionnaires were used for the collection of selected large and medium 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 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 regard-
ing the industrial units. Therefore, secondary data was obtained from the Government offices, District Industrial Centre, Currency and Finance report etc.

The data thus collected through primary and secondary sources were processed and represented by statistical 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 reveals through choropleth method. For studying the pressure of population on agricultural land sex ratio, working classification of population, livestock, agricultural implements, electric pumps, use of electricity and road length these points are also considered from the viewpoint of agricultural and industrial development.

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

In order to smooth but unusual fluctuations five years average data for the year 1970-75 and 1995-2000 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 is 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 in the region. 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 chane 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 indus-
tries. Per capita value of gross output \( V_p \) is calculated by the following formula:

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

For the calculation of \( L_p \) or net labour productivity (per centage) the following formula is used.

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

Measurements of capital productivity is calculated by using the following formula:

\[
C_p = \frac{\text{Gross value of output-working capital}}{\text{Invested Capital}} \times 100
\]

Capital Labour ratio is also calculated by applying the following formula:

\[
CL = \frac{\text{Invested Capital}}{\text{No. of persons employed}}
\]

Industrial concentration and diversification is also studied for the study region. Since the people of each and every tahsil want almost equal industrial development even after no resource base, the number of small-scale industrial units per 100 sq. km. and employment per 10000 persons have been computed to compare all the tahsils.

1.12 Review of Listerature:

Various geographers have done their research work in the field of industrial geography. It's not possible to take review of all geographers. Some of the noted review are given below.

Kayastha S.L. and Singh M.B. (1979)

Studied "A Spatial Analysis of Manufacturing Industry in Uttar Pradesh". An
attempt has been made to examine the spatial aspects of manufacturing industry in U.P. The objectives of the studies were four fold. 1) to measure the mean point location of manufacturing employment since 1951, 2) to map and analyse 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 of manufacturing establishments, employment, production of industrial commodities and their per centage share in India. Author's have also calculated manufacturing employment index. They used various graphs and maps to show the 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 made fairly satisfactory growth in manufacturing industries. Author's 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 Plan. Industrial structure of U.P. becomes more or less specialised therefore, there is need for technological trained personal and industrial diversification. Author's found that all sugar factories of eastern U.P. experience under economic crushing, capacity, so these unit require replacement of old machines and rehabilitation. Author's suggest that there is need for balanced development of agriculture along with industries.

Kannan Chatterjee (1979)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 ratios in cotton textile mills, freight of raw cotton, wages of labour to study hurdles of the cotton textile industry in West Bengal. Author has calculated freight on cotton, labour wages, machine and labour ratios process of raw cotton and minimum wages of the labour for the study of cotton textile industry. He has also considered
machineries power supply and finance for the study of cotton textile industry.

Author found that the following fundamental problems in cotton textile industries of West Bengal. (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.

**Kannan Chaterjee (1980)**:

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 Tamiln nadu. 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 per centage of invested (average of 8 years from 1960-66 and 68) have been taken 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, tools per labour, minimum wages and profit for comparative study of cotton textile industries of Maharashtra, Gujarat 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 Gujarat 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%), Gujarat (59.76%) and West Bengal (48.4%).

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

Analysed 'Growth of Manufacturing in India : 1951-69'. The objectives of the paper was to examine the relationship between the growth of the system components over time and space. Authors have selected seven components such as total food grains, production, total surface roads, total value of minerals, total energy gen-
erated, inter-stage movement of major commodities by railways and rivers etc. for the study of growth of manufacturing in India. They used secondary data for the study. They have calculated indices, correlation, co-efficient, correlation matrics, intervariable correlation, co-efficient etc. for the study of growth of manufacturing in India 1951-69. They found that most of the additional energy produced after 1951 had been consumed in sectors other than manufacturing. They 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.

_Tawade M.D. and Gatade D.G. (1983)_37:

Studied 66 industrial potential of Konkan region of Maharashtra. They have been considered physical characteristics, resource potentials like water favourable geographical conditions for the development of hydel power, mineral resources, agricultural resources from the view point 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 a potentials for the development of hydro-electric power which may be considered a drive force for future development of industries within the region.

Authors have 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. They reveals if all the resources of the Konkan region are optimumly utilized alongwith adoption of certain industrial facilities then the region may be industrially developed in near future.

_Chaudhari M.R. (1989)_38:

Examined "Industrial Development in India During Planning Era." This paper is only descriptive. In this paper author has given revolution in Indian 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 is 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 plant were only two major units producing iron and steel, now there are six steel plant in the country. He 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)³⁹:

Examined "Problems of Small Units in North Eastern Region." Particularly author studied the problems of small units of Assam, Meghalaya, Manipur, Mizoram, Nagaland, Tripura and Arunachal 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.

Shukla Amitabh (1993)⁴⁰:

Studied "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 analyse the regionwise 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 with large and medium scale industries. 3) To study the regional variations in investment and employment of large, medium and small-scale industries.

Author collected secondary data. The collected data have been analysed by simple statistical tool co-efficient of variation as it has been thought appropriate by the author to analyse the disparities in investment and employment. The main findings were ethe growth rate of S.S.I. units in different zones of the state was quite even
except the Indore 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.

**Dr. Xaviour V.M. (1995)**:

Examined "Performance and Problems of the Entrepreneurs of Small-Scale Industries in Kerala." He has taken review of small-scale industries from 1983 to 1991. 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) Other 'Others' includes 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, whereas the unsuccessful entrepreneurs gave only fifth rank to this problem.

**Dr. Pathare G.B. (2000)**:

Studied "A Critical Study of Industrial Development in Jalna District." Author has collected primary and secondary data for the study. The main objectives of the study were as following.

1. To study large, small-scale and cottage industries of Jalna district.
2. To study physical and non-physical determinants of agriculture from the viewpoint of industrial development.
3. To study the efforts for the growth of industries by industrial Estates and Government agencies.

Author has calculated labour productivity, capital productivity, for the study of industrial development. He has also calculated industrial concentration and diversifi-
cation of the study region. He used co-efficient of variation, annual variation, moving average methods for analysing the data. Entire work is divided into eight chapters.

Author found the various problems like shortage of capital, less capacity utilization, marketing problems, shortage of raw material, lack of planned working system, problem of monopoly etc.

1.14 Chapter Scheme:

The present study is divided into eight chapters. The first chapter throws light on introduction, industrialisation in modern society, stages of economic development (Rostow) comparison 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 Pune division and industrial development in Solapur district.

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

Fourth chapter is divided into three parts throws light on concept of general landuse, classification of land, landuse pattern, tahsilwise per capita net sown area and landuse efficiecy. Second part of the fourth chapter related to index numbers of industrial crops, changing industrial cropping pattern and tahsilwise trends in industrial cropping whereas third part deals with growth of production in Solapur district, tahsilwise trends of production of selected industrial crops, growth of yield in Solapur district and tahsilwise 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 etc.

Sixth chapter throws light on growth of small-scale units, indices of units, labour force, investment, production cost, sale value and profit, tahsilwise 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 Pune and Solapur district.

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

References


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