Chapter - I

APPRaisal OF THE PROBLEM
INDEX

1. Introduction

2. Industrialisation in Modern Society

3. Stages of Economic Development (Rostow)

4. Comparison of the sectors of occupation

5. Secondary Economic activities and Economic Growth

6. Resource Utilization (Optimum)

7. Necessity of Integrated Approach

8. Geography is an Integrative approach

9. Industrial Geography

10. Relatively slow growth of Industrial Geography in India

11. Industrial Geographic Approach

12. Aims and Objectives of the present study

13. Methodology

14. Sources of data and Information used for the present study.
1.0 Introduction:

1.1 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 sub-divisions amongst them again.

1.2 The term 'Industry' is often used by itself to denote manufacturing¹.

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 are brought raw materials from various source regions and from which go finished products to diverse market regions².


1.3 An industry is regarded as a homogeneous groups of enterprises or companies\(^3\), 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.

1.4 "The processing of raw materials to exchange its value" is another sense in which we use the term 'Industry'. Therefore, on the basis of this meaning\(^*\) industry can be classified into four groups – extracting, processing, assembly 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.

1.5 Besides above, the term 'Industry' refers mainly to manufacturing\(^4\) 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\(^5\). And the purpose of manufacturing

---


\( ^* \) "According to the operational process that term Industry uses".
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 the services are excluded from the industry. And it is in this sense that the term 'Industry' will be mainly used in the present study.

2.0 Industrialisation in Modern Society:

2.1 Industrialisation has been defined as a process in which changes of a series of strategical production functions are 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.

'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. Ibid., pp. 1 - 2.
2.2 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.

2.3 Industrialisation 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 elsewhere. While industrialisation began in the later half of the 19th century. At present India as among the ten largest industrial nations in the world.

2.4 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.\textsuperscript{11}

2.5 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.\textsuperscript{12}

Actual process of industrialisation 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 type and layout of factories and workers houses and the nature of pre-industrial culture.

Besides, industrialisation directly influences commerce and trade, communication, human resources,


urbanization, service centres, social and cultural environment, natural resources, economic structure and financial resources, availability of technical assistance, indigenous research and development efforts of a society or region or country.

2.6 The most important role of industrialisation 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 mechanisation. It is also necessary to remember that problem of poverty and unemployment, national defence and economic regeneration in general cannot be solved without industrialisation.¹³

3.0 Stages of Economic Development (Rostow):

3.1 Economic development which is generally measured either in terms of per capita income or in terms of rate of growth, can be viewed either as the process of the transformation of the economy from its present 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 technological progress.\textsuperscript{14}

3.2 Number of theories\textsuperscript{15} 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 stages.\textsuperscript{16} 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.

(1) The traditional society


\textsuperscript{16} Ibid., p. 255.
(2) The pre-conditions for take off
(3) The 'Take off' phase
(4) The drive to maturity
(5) The stage of high communication.\(^{17}\)

A traditional society has been defined "as one whose structure is developed within limited production functions based on pre-Newtonian Science and the technology and as pre-Newtonian attitudes towards the physical world.\(^{18}\)

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 radical changes in three non-industrial sectors: first, a build-up 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 increases to meet the requirements of a rising


\(^{18}\) Ibid., p. 123.
general and urban population. Third, an expansion of imports, including capital imports, financed by efficient production and marketing of natural resources for exports.\(^{19}\)

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

3.3 According to Rostow India launched her 'take-off' during 1950 while empirical findings\(^{20}\) suggested that Indian economy entered into the stage of take off in 1954-55. After the 'take-off' Indian economy did not progress satisfactorily and as a result real gross


national product and reach national income increased only 2.3 percent during 1955-63. Indian economy will drive to maturity by the end of thirteenth Five Year Plan i.e. by 2016 A.D. Attaining maturity by thirteenth plan is only rough estimate and to dogmatism is justified about the exact year of achieving it. 21

3.4 A few characteristics of the Marathwada region clearly indicate that Marathwada region is still in the stage of "Pre-conditions for take off" except Aurangabad, Jalna, Nanded and Latur cities. 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. Out of 132 large and medium scale industries 78 industries are concentrated in Aurangabad district. All these characteristics indicate that the economy of this region has entered the stage of pre-conditions for take off phase.

4.0 Comparison of the Sector of Occupation:

4.1 Occupation refers to a 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 industrialisation bring in further diversification by creating a variety of additional jobs.\textsuperscript{22}

4.2 As there are various occupations and their types and number highly vary 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 both (secondary and tertiary) sectors of occupation are characteristically lesser user of land as compare to primary sector of occupation.

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

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

4.4 A primary sector of occupation is dominant in the underdeveloped world, but less prominent in developed areas and less well paid than the secondary and tertiary sectors. But it is also true that though the primary occupations continue to dominate the labour force, they are losing their pre-eminence as employers in those countries which have succeeded in modernizing their economies. 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 underdeveloped countries has also risen fairly rapidly.

5.0 Secondary Economic Activities and Economic Growth:

5.1 An increasingly high relative proportion of workers engaged in secondary economic activities which is characteristic of the modern world is a symbol of economic metamorphosis. Similarly the growth of secondary sector represents mainly strengthening of the economic potential of a country and flowering a national economy.

5.2 Economic growth is measured by rising per capita income and output per worker which are basically dependent upon the national income and gross domestic

---------------------------
24. Ibid., p. 167.
product. But secondary economic activities achieve rapid economic development, relatively higher national income and gross output of the nation through harnessing a nation's natural resources and rendering them into productive wealth.

5.3 Besides above modern secondary economic activity yields a different type of output and employees a larger production of the population engaged in industry is responsible for the development. Economic growth is also dependent upon the absolute amount of regional earnings and development of tertiary activities. It seems is nearly all countries secondary economic activities supply larger absolute amounts of national earnings.

6.0 Resource Utilization (Optimum):

6.1 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.

6.2 The strength of nation's social, economic or potential is chiefly determined by the resources they command and their capacity to utilize these resources. Mere 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 optimally*. Inspite of well endowed with natural and human resources Marathwada still remained backward; mainly because of under utilization of the present resources.

7.0 Necessity of Integrated Approach:

7.1 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


* Optimum utilization of resources is the state in which per capita output and the rates of growth of total production are the highest.
the region economically strong and ultimately helps for the industrial development of the region.

7.2 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.

8.0 Geography is an Integrative Discipline:

8.1 In this modern world knowledge of each 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 inter-dependent to one another for the further exploration of knowledge.

8.2 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 Halfred Mackinder's contention that 'Geography' is at once an art, a science and a philosophy.  

8.3 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 earth 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.

8.4 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 have 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.

9.0 Industrial Geography:

9.1 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 sociologist, economists, regional planners and Economic Geographers are attracted towards the new study of industries\(^{29}\) 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.

9.2 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.

9.3 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 in industrial geography started only with the

work of Hartshorne, Walter Christaller, George Renner and E.M. Rawston.

9.4 What is "Geography of Manufacturing?" What features of manufacturing are 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.

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

10.0 Relatively slow growth of Industrial
Geography in India:

10.1 Industrial geography a young branch of economic
geography in the true sense, came into existence in the
beginning of 20th century. In other nations systematic
study in the field of Industrial Geography started with
the workers of Christaller, W. Rawston, E. M.; Renner G.T.,
Hartshorne and Smita D.M. On the contrary systematic
contribution in this field have come quite late from
Indian Geographers.

10.2 Studies in the field of industrial geography by
Indian geographers can be traced back to early forties
of the 20th century. Before independence very few work
was done in the field of Industrial Geography by Indian
Geographers in which mention can be made of works of Iyengar C.V.V. (1930)\textsuperscript{36}, Rao R.H. (1930)\textsuperscript{37}, Lokanathan P.S. (1931, 1932, 1936 and 1939)\textsuperscript{38}, Kalyan Sundaram V. (1934)\textsuperscript{39}, Prakashrao V.L.S. (1941)\textsuperscript{40} and Ghosh S.C. (1946)\textsuperscript{41}


The serious attempt was made by Prof. V.L.S. Prakashrao to understand the role of geographical factors in the location of industries.\textsuperscript{42}

The above mentioned trend of research in the field of Industrial Geography before independence shows that the spatial distribution of industries and geographical factors operating in their location and the features of industrial landscape have been systematically analysed by the Indian Geographers.

10.3 But after the Indians attained independence many studies in the field of industrial geography have been undertaken by the Indian Geographers. Therefore, we may say that a dominant trend of research in the field of industrial geography in India has been evident in the post independent period. Geographers in the field of "Industrial Geography" reveals the following characteristics.

(i) A few geographers produce a really geographical analysis of locational aspects.

(ii) A few geographers have analysed different aspects of concentration and dispersal of industries on a regional basis and to recognise outstanding features of industrial landscape in the major zones of the country.

(iii) A number of geographers have emphasised on factors which have promoted industrial development in different regions of the country and have studied present industrial structure — problem of growth and prospects of development by selecting individual industry.

Such as sugar industry, cotton textile, tea, coffee, rubber plantation and processing industries, the copper, the aluminium and Iron and Steel industry, while a few geographers have studied problem of the small-scale and cottage industries mostly typical in nature.

10.4 Of course, many areas of research in the field of industrial geography have remained untouched by the Indian Geographers. Therefore, it may be said that there are large and serious gaps in the study of industrial geography. A large programme of research, based on new techniques, will have to be promoted to highlight the contribution of geography to the planning of industries in India. Studies in industrial

geography need considerable reorientation in both theoretical and applied aspects.\textsuperscript{44} Systematic studies of industrial location resource base, inter-industry transactions within and between location and oriented studies of different industries from the viewpoint of industrial and regional development yet have to be done by the Indian Geographers in the field of Industrial geography.

Likewise there is a need for formulating models of industrial complex and different resource regions as a part of the strategy in the formation of economic regions. For this purpose, a beginning has to be made in studying problems of industrial locations and industrialisation in a regional framework.

11.0 \textbf{Industrial Geographic Approach}:

11.1 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 Marathwada.

11.2 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 synthetic.

11.3 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, synthetic approach of industrial geography becomes sometimes meaningful and more useful.

11.4 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 the Marathwada, the later approach is more useful and meaningful for the underdeveloped an area like the Marathwada region.

12.0 Aims and Objectives of the Present Study:

12.1 To study the availability of infra-structural and geographical factors on which the development and growth of industries depend.

12.2 To map, describe and interprete the present distribution of manufacturing industries in the Marathwada region.
12.4 To study the trends in industrial development in the Marathwada region specifically from 1960 onwards.

12.5 The analysis of the existing industries (by classifying them into major groups.).

12.6 To study the resources potential from the view point of industries to set up in the region.

12.7 To study the efforts for the growth of industries by industrial Estates and Government agencies.

12.8 To find out the indications of the future development of industries and the prospects for the industrial growth in the Marathwada region.

12.9 In addition an attempt has also been made to give a critical account of different resources (i.e. land use, industrial cropping pattern, minerals, fisheries, water resources, human resources etc.) as a basis for industrial development.

13.0 Methodology:

13.1 As this work has to be done single handedly, I hope the readers will take into consideration its obvious
limitations. 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 and seven district Industries Centres.

13.2 The study region comprises of seven district (46 talukas). Therefore, taluka is selected as a suitable data base for studying the region. In a few topics due to the non-availability of taluka level data district is taken as a unit.

13.3 Various types of industries are established in the Marathwada region in which each has different types of distribution and locational pattern.

Therefore, for the study of spatial distribution and locational patterns of industries, all the manufacturing industries of the region have been classified into ten major groups, on the basis of original standard and natural resources consumed by manufacturing industries and final products of the manufacturing industries.
13.4 Different geographers have used different criteria to measure the level of industrialisation. In the present study, to measure the level of industrialisation of the Marathwada region two variables have been used: 
(a) the number of manufacturing industries and (b) persons employed in the manufacturing industries. There are two reasons in using these two variables to measure the level of industrialisation. One of the two reasons—-------- in the case of Marathwada region only these two types of data are available, except in the case of small-scale industries. Another reason is that by adopting these two variables together an index arrives near to reality and gives more accurate picture of the level of industrialisation.

13.5 The study of distribution and scope of different types of industries are mainly based on—

   (i) Local and regional resources.

   (ii) Finished products, by-products and waste products of existing industries.

   (iii) Ancillary demands of existing large-scale units.
(iv) Studies made by several institutions and organization like district Industries Centres, Maharashtra Chamber of Commerce, Indian Chamber of Commerce, Maharashtra Industrial Development Corporation, Marathwada Development Corporation etc.

14.0 Sources of data and Information used for the present study:

It is necessary to list in detail all the sources from which a fund of information and great deal of data are derived during the course of the research work.

Statistical data used for the present study have been collected from the different sources. The data regarding small-scale industries have been collected during the field work period from the offices of "District Industries Centres" of Aurangabad, Jalna, Parbhani, Bhir, Nanded, Latur and Osmanabad. Data of factory industries have been taken from the Office of the Deputy Inspector of Industries, Aurangabad region during the field work. It has been also taken from the socio-economic reviews and District Statistical Abstracts of Aurangabad, Jalna, Parbhani, Nanded, Bhir, Latur and Osmanabad. Data of Khadi and Village
Industries have been taken from the Office of the District Khadi and Village Industries Officer of every district. Data of occupational structure, population, agriculture, forest products, fisheries, industrial crops, transportation and communication, etc. are taken from the "Socio-Economic Reviews and District Statistical abstracts of Aurangabad, Jalna, Bhir, Nanded, Osmanabad and Latur districts, statistical Abstracts of Maharashtra as well as from the Handbook of Maharashtra and Joint Director's Office of Statistics and Economics, Aurangabad.

Statistical data regarding finance and other economic aspects of industries have been taken from the annual reports of Maharashtra State Finance Corporation, Development Corporation of Marathwada, Maharashtra Small-scale Industries Development Corporation, Maharashtra Industrial Development Corporation, and Statistical Abstracts of Maharashtra, etc. Statistical information regarding industrial Estate and industrial units of it, have been taken from the MIDC Office, Aurangabad and MDC Office, Aurangabad.