

URBAN GROWTH AND INDUSTRIAL LOCATIONS

K.N. GOPI



INDUSTRIAL LOCATIONS

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FOREWORD

The twentieth century is the century of metropolitan cities. It is, therefore, fascinating to study the dynamics of these cities which the present book proposes to do in the case of one city in India.

The close relationship between manufacturing activity and the growth dynamics of large metropolitan centres is well recognised. The concentration and growth of manufacturing activity have been the motive forces behind urban growth dynamics in modern times. Dr. Gopi in his work entitled "Urban Growth and Industrial Locations" has succeeded to a large extent to relate industrial locations with urban growth process. The study, while focussing on the problem of urban growth and industrial locations, has paid considerable attention to other related and pressing problems like housing, urban land value, etc. Besides, the work has dealt with some of the most pressing planning and development problems of Metropolitan Hyderabad such as the decay of the old city, haphazard growth, lack of a land policy for housing and growth of slums. He rightly invites the attention of the readers to some of the serious problems facing this historic city.

The book contains a mass of data and other informations mostly gathered by the author from primary sources. The work is a valuable contribution to the field of urban studies and students, scholars, administrators and policy makers concerned with urban development problems would find it very useful. It is indeed a refreshing study of a few urban problems in this part of the country.

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PREFACE

In the year 1975 the Indian Council of Social Science Research organised a seminar on problems of Urban Development, in Tata Institute of Social Sciences, Bombay. As a result of the deliberations in the seminar a number of areas, where no or little research efforts have been made, have been identified with a view to encourage research so as to fill in the gap in the sphere of our urban studies.

Subsequently, as a follow up measure, the **INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH** invited research proposals on a national basis for financial support. The research proposal submitted by the author, then with the Indian Institute of Management, Bangalore, was one of the few accepted by the I.C.S.S.R. for the award of the senior fellowship.

The present research study was finally taken up in November 1977. Owing to personal problems I could not continue on the fellowship and in June 1978 I requested for the conversion of the senior fellowship into a research project which the Council readily agreed and enabled me to complete this study.

In carrying out the study I have received co-operation and assistance from various organisations and individuals and I am personally grateful to one and all. I am indeed grateful to the Indian Council of Social Science Research, for providing me the necessary financial support for the study. I am also grateful to Prof. N. S. Ramaswamy, Director, Indian Institute of Management, Bangalore but for whose encouragement and support this study would not have been taken up.

I am grateful to Prof. G. Ram Reddy, Vice-Chancellor, Osmania University for his constant support and encouragement. This publication would not have been possible but for the generous publication grant provided by the Osmania University.

Sri Mohammad Aslam, who was the only regular research staff of the project, have made significant contributions to the study.

The entire data collection and processing of the same was done by him. I would like to mention particularly the sample survey of medium and large scale industrial units which was planned and carried out by him single handedly.

I also had the benefit of the scholarship and experience of two outstanding social scientists, Prof. S. Mansoor Alam, Dean, Faculty of Social Sciences, Osmania University and Dr. Waheeduddin Khan, senior faculty, Administrative Staff College of India, Hyderabad.

I am thankful to Sri K. Narayana Reddy for typing the report and Sri Jayanandan of National Institute of Rural Development for assistance in preparing the maps and diagrams.

I am grateful to Sri. N. Ravi Prakash and Miss Zubaida Begum of the Metropolitan Systems Project for their assistance.

I am also thankful to Sri. P. Satyanarayana, Deputy Director of I.C.S.S.R., Southern Regional Centre who has helped me at many critical stages of this study.

Last but not the least I am thankful to the Director of Industries, Government of Andhra Pradesh and Sri. P.B. Choudhery, of the Hyderabad Urban Development Authority who have been very helpful to me. Also I thank the various Industrial Establishments in the city for their co-operation in providing me necessary data.

Hyderabad

K.N. Gopi

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CHAPTER 1

INTRODUCTION

No spatial location problem would exist if the earth's resources were evenly distributed. But this is far from reality and economic resources are concentrated in certain areas. Consequently concentration of people and productive activities are located in such resource regions. There are a number of factors which lead to population concentration resulting in urban growth in certain areas. Firstly, the variation in resource type and production techniques may allow certain areas to be at an advantage over other locations. Secondly, through the continuous process of specialisation which results in reduction of per unit cost of production of goods and services, certain locations may achieve an advantage over others.

Historically, concentration and growth of manufacturing plants has been the prime mover of urban growth dynamics. It is only in recent years that a new trend, particularly in the highly developed economies, of manufacturing plants moving out towards the periphery or suburbs of large urban areas has set in. In the Indian context this trend is not very relevant, because large manufacturing units still cluster in and around large urban agglomerations. This may be because in India, industrial development has not reached the level of sophistication as in the Western developed economies.

Location Theory and Manufacturing Units in Cities: The Weberian theory of industrial location, one of the earliest and best known theories, is based on two principles. Firstly, the least cost principle according to which the firm chooses locations which gives the least total transport cost. Secondly, the primary goal of the firm is to maximise profits. Both these principles do not have the same moving force in the locational decisions of firms under modern conditions. During the past three decades factories have been dispersed over large areas in cities. Technological change has been so rapid and revolutionary that there has been remarkable diversification in manufacturing. Besides there has been a marked spread of work force from the city centre towards the suburbs, a trend

which is continuing with greater force. These developments have undoubtedly weakened the importance of transport cost as a major parameter in the firm's decision on the choice of locations. In recent years factors such as urban land value, location of specialised labour force, inter-firm relationship and so on seem to play more important roles in the locational decision process of manufacturing firms.

Similarly, under present conditions, profit maximisation as a goal is no longer realistic. The huge modern corporations with dispersed stock ownership and tremendous market power may be guided by the growth maximisation objective rather than profit maximisation in its location decision making process. This however, does not mean that profit making is no longer an objective of the firm. The emphasis on the objective of the firm may differ according to the size and organisational structure and the environment in which it operates. A small firm may base its decision on location primarily on the profit maximisation objective while a large multinational corporation may have a long term objective of growth maximisation.

The Weberian theory of industrial locations was concerned with the location of individual firms in a capitalist economy. It assumed that the market is free with no government interference. But conditions have changed radically during the recent past. Today there is no country in the world without some element of government control over its economy. In many countries the State and public enterprises are playing an ever increasing role in their economic activities. Unlike a private enterprise the State enterprise may seldom be guided by profit maximising or least cost transport principles in its location decisions. To such an enterprise it may be the pursuit of a social objective (balanced regional development) or national security (self-reliance in defence production) which may be of overriding consideration in its locational decisions.

The weakness of the least cost location theories led to the "market area" school of location theorists, Losch and others, who formulated an improved theoretical frame for the location of industries. Transport costs were again of prime importance. These location theories emphasised the maximisation of market areas. Walter Isard¹, while retaining Weber's basic theoretical

¹Isard, W. *Location and Space Economy*, Cambridge, Mass; M.I.T. Press. 1956.

logic, greatly enhanced its scope and flexibility by placing it in a new methodological context—the substitution analysis.

However, most of these theories regard industrial locations as a passive element. They fail to recognise the fact that the distribution of manufacturing units in an urban area is a dynamic phenomenon. A viable theory of industrial location within cities is yet to be developed though attempts have been made. In this context Alonso's² model of urban land use is of considerable significance. There is an ever-increasing tendency of people and economic activity to concentrate in large urban areas. In spite of the high land costs, taxes, etc., large urban areas remain the preferred location for most industrial activities. Business firms find it mutually beneficial to cluster together in large urban areas because of their interdependency or other facilities like a large market for final products, good communication and so on.

Objectives of the Present Study

It is generally accepted that urbanisation and industrialisation are interrelated processes, one leading to the other. On account of the favourable locational factors like the availability of relatively cheap suitable land, skilled labour and infrastructure facilities industries tend to locate in and around large urban areas resulting in spatial expansion and population growth. This has been true of Hyderabad, the capital city and premier industrial centre of Andhra Pradesh. A variety of factors seem to have contributed to the industrial growth of this city. The nodality of the city which provides good access to national and international markets, availability of suitable sites and infrastructure facilities are some of the important factors. Besides, the national policy of encouraging decentralisation of industrial enterprises seems to have helped Hyderabad to achieve its present enviable position in the industrial map of the country.

The formation of the linguistic State of Andhra Pradesh in 1956 helped considerably in the continuous and vigorous growth of the city. Hyderabad being the capital and administrative headquarters of the State, a large number of enterprising and rich people from the rich agricultural coastal districts in the State have settled

²Alonso, W., *Location and Landuse*, Cambridge, Mass; Harvard University Press, 1964.

in the city in recent years. This has not only caused the inflow of considerable resources but also skill and talent which have made significant contributions to the growth and development of the city. Besides the setting up of a large number of national and international institutions like the ICRISAT, Hyderabad University, etc., employing of a large number highly paid personnel also seem to have influenced the growth dynamics of the city in recent years.

The primary objective of the present study is to unravel the interrelationship between industrial locations and urban growth in Hyderabad, both in the spatial and demographic context. More specifically the objectives are:

- 1) To study the impact of industrial locations on the growth of the city, particularly the relationship between spatial expansion and industrial locations and also the relationship between industrial investment and urban growth, and

- 2) To study the inter-industry linkages and its role in urban growth.

Data for the present study have been collected from various institutions like the Hyderabad Urban Development Authority, Census Organisation and the State Directorate of Industries. However, the basic data for the study was collected through a sample survey of large and medium scale industrial establishments in the city. The following sampling frame has been used for the sample survey.

The standard industrial and occupational classification adopted by the central statistical organisation, Government of India, is a very detailed one. The manufacturing activities (Division 2-3) have 199 groups which have been further categorised into 375 sub-groups. This industrial categorisation, because of its exhaustiveness, could not be used as a frame for sampling.

In the present study a stratified random sampling frame has been adopted. There are 97 large and medium scale industrial units working in Hyderabad city at the time of the survey (1978). These units have been grouped into five categories for the purpose of stratification as given in Table 1.1.

TABLE 1.1

Large and Medium Scale Industrial Units in Hyderabad City, 1978

<i>Industrial category</i>	<i>No. of units</i>	<i>Per cent to total</i>
Food Products	22	22.7
Textiles and Footwear	4	4.1
Chemicals	20	20.6
Electricals and Machinery	45	46.4
Miscellaneous	6	6.2
All	97	100.0

Based on the industrial categories given in Table 1.1 a proportionate random sample has been picked up. The details of the sample distribution is given in Table 1.2

TABLE 1.2

Sample Size: Large and Medium Industrial Units in Hyderabad City, 1978

<i>Industrial category</i>	<i>No. of units</i>	<i>Sample size</i>	<i>Sample as per cent to total</i>
Food Products	22	5	5.2
Textiles and Footwear	4	—	—
Chemicals	20	3	3.1
Electricals and Machinery	45	11	11.2
Miscellaneous	6	1	1.1
All	97	20	20.6

The coverage of the sample is 20 per cent and as a result of the rigid stratification procedures adopted, it is hoped that the data would be fairly sound and adequate to achieve the objectives set forth in this study.

CHAPTER 2

EVOLUTION OF INDUSTRIAL GROWTH

Compared to other metropolitan centres in the country, manufacturing activities in Hyderabad is of relatively recent origin. As the first step in a series of measures to promote industrial development in the city, the government developed a 120 acre industrial site at Azamabad in 1931. Concessions and exemptions were given to industries by way of exemptions from taxes, duties and octroi levies. As a result some of the earliest large scale industrial units in the city, like the cigarette manufacturing and Hume pipe-making units were established during this period. These two were among the earliest large scale units in the city. Thus modern industrial activity in the city started in the early 1930s with considerable government encouragement. But the progress in the industrial field was slow till the out-break of the Second World War.

However, the Second World War provided impetus to manufacturing, and a number of industrial units were set up in the city in the early 1940s. Important among the units which came up during this period are the Brem-Gun Factory (now the Allwyn Metal Works) and the Praga Tools Corporation. The Sanathnagar Industrial Area, one of the important industrial clusters in the city today, was developed in 1941. The launching of the second five year plan with its emphasis on industrialisation opened up new opportunities for industrial activity in the city. As a result, a number of important industrial units, both in the small scale sector and in the large scale sector were set up in the late 1950s and early 1960s.

Industrial Structure

Andhra Pradesh is one of the less industrially developed states in the country. But in recent years there has been substantial industrial activities, particularly in Hyderabad city and Visakhapatnam, leading to the emergence of these two areas as industrial clusters of national importance. Today Hyderabad city occupies a unique

position in the industrial map of Andhra Pradesh.

As against 3940 industrial establishments employing a work force of 225,702 in 1966, there were 5798 units employing 472,490 persons in 1976 in the State. During this ten years period 1,858 new industrial units were set up in the state which is almost a 50 per cent increase over 1966. But industrial employment during this period has almost doubled. The performance of Hyderabad district in the industrial field during the same period has been remarkable. The number of industrial establishments increased from 466 in 1966 to 973 in 1976, registering more than 100 per cent growth during ten years period. What is more striking is the increase in employment during the period. In 1966 the total work force employed in industrial establishments in the district was a mere 34,225. In 1976 industrial employment in the district was 129,352. Thus while the number of industrial units in the district has doubled during the ten years period industrial employment has increased almost four times. This suggests that most of the units which came up during the period 1966-76 in the district have been large scale units employing a relatively large work force.

TABLE 2.1

Andhra Pradesh; Basic Statistics on Industrial Activity in 1976

<i>Region</i>	<i>No. of units</i>	<i>Total employment</i>	<i>Production capital (Rs. '00,000)</i>	<i>Output (Rs. '00,000)</i>	<i>Value added (Rs. '00,000)</i>
Hyderabad district	973	129,352	67,395	60,978	16,147
Andhra Pradesh	5,798	472,490	104,551	162,937	30,117
Per cent share of Hyderabad District	16.78	27.38	64.46	37.42	53.61

Source: Andhra Pradesh Statistical Abstract, 1976.

It must, however, be emphasised that almost all the industrial units, except a very few small units, in Hyderabad district are located in Hyderabad city and its immediate environs. Qualitatively the industrial units located in the metropolis differ much from those elsewhere in the state. The predominant position of Hyderabad district in the industrial scene in the state needs no emphasis. The district accounts for 64 per cent of the productive

capital, 37 per cent of industrial output and 54 per cent of value added by manufacturing in the state (Table 2.1). More than one-half of value added by manufacturing by all units in the state is contributed by the units located in the metropolis. This only shows the importance of Hyderabad as an industrial centre in the state. The share of productive capital, output and employment further highlights its dominant position in the state's economy.

Locational Pattern of Industries

Two distinct spatial locational pattern is evident in the industrial map of Hyderabad city. Firstly, within the incorporated area industrial units are concentrated in the old established industrial areas of Azamabad, Sanathnagar, and in the Chandulal Baradari Industrial Estate. Outside the incorporated area of the city three distinct industrial clusters are emerging. These are the Moula Ali-Nacharam-Uppal area, the Balanagar-Kukatpally and Ramachandrapuram-Pattancheru area. These three areas are characterised by their distinct industrial mix. While the former area is predominantly made up of industrial establishments of light manufacturing and electronics, the latter are of engineering and heavy manufacturing like the Bharat Heavy Electricals Limited, the Hindustan Aeronauticals Limited, and so on. As is elsewhere there is a distinct preference for industrial sites located along broad-guage railway lines and good roads particularly along the national highways. A detailed analysis of the structure of these various industrial clusters is taken up elsewhere in this study.

CHAPTER 3

DEMOGRAPHIC AND SPATIAL GROWTH

Demographic Growth

The historic city of Hyderabad, founded in 1591, has been experiencing tremendous demographic and spatial growth in recent years. The population of the city, except during the decade 1911-21, has been growing continuously, though with varying intensity of growth, from decade to decade (Table 3.1). During the decade 1911-21 the city lost a substantial population from 502,104 in 1911 to 405, 630 in 1921. This decrease in population can be attributed to the wide-spread epidemic in the city during the period. However the growth of the city's population has been particularly vigorous since 1931. During the decade 1931-41 the population increased almost by 61 per cent and during 1941-51 the increase was 42 per cent. The decrease in growth during the decade 1941-51 can be attributed to the fact that a substantial population of the city migrated to Pakistan in 1947. Since 1961 the city has been experiencing vigorous population growth and the increase in population during the decade 1961-71 has been a little over 44 per cent. The population trend of the city during the past 90 years can be summarised as fluctuating in intensity of growth—some decades registering very high growth while others registering relatively moderate growth. However, there is evidence to suggest that the present trend of growth may continue for the next decade. The city's population, according to projections, is expected to reach 23.92 lakhs by 1981 and 33.09 lakhs by 1991¹.

It may be seen from the data on Table 3.2 that the density of population in the city, both in the incorporated area and in the urban agglomeration, has increased substantially during the period 1961-71. There has not been any change in the incorporated area of the city during the period. But at the same time the population of the incorporated area of the city has increased by 44 per cent

¹Hyderabad Urban Development Authority: Development Plan for Hyderabad.