INTRODUCTION

The rise of civilization has been intimately bound up with the gathering of men to live in cities because the two phenomena have a common geographical basis (Smiles, 1933: 1). The urban centres and the related urban way of life, therefore, are supposed to be as old as civilization itself. However, the modern urban dominance is relatively recent which came in the wake of technological changes, economic development, rapid communication system and growth of commerce and industry. The outstanding feature of the present-day urbanization is the spectacular growth of urban population and emergence of new cities on the face of the earth.

Urbanization though an universal phenomenon has never been uniform and has undergone tremendous changes with the changing culture in different societies and regions of the world. It is seen as a product of increasing economic specialization and advancing technology (Carter, 1972: 29). The study of urbanization or the process, progress and conditions of urban growth, therefore have never been so much relevant and popular than they are today. Geography, owing to its interdisciplinary and co-relative nature, offers a relatively more comprehensive approach for understanding this phenomenon.

Urbanization is an essential part of economic growth in an expanding economy. The processes of urbanization and urbanism are the indices of material progress and prosperity of a society in the present age. No country in the modern world, vying for development can achieve it without inevitable urbanization which is both cause and effect of development. Most of the highly advanced countries have a high proportion of urban population. In the developing countries, the pace of urbanization has been accelerated only recently and India is a typical example with a faster growth rate in the recent decades. Her urban growth pattern and regional variations are also quite significant.
The urbanization processes in India as well as in the State of Madhya Pradesh were primarily motivated not by industrialization but by politico-historical developments and socio-cultural transformation. The urbanization, therefore, took a different course in the State from that obtaining in the West where it was primarily through industrialization. The urbanization in India has taken place against a background of an stagnating economy characterized by greater participation of workers in the primary sector which shows that the occupational structure is static (Yadav, 1986: 20). The spatial organization of India's urban centres is rather unique with the result that the general appearance of these centres does not resemble that obtained in the West. The majority of Indian urban centres have unique characteristics which stem from indigenous living conditions and consequent adaptation. Hence, the transplantation of the Western concepts to Indian urban situation is unrealistic (Pancit, 1986: 29C). India's urbanization differs substantially from that in the Western countries not only in terms of character but also with respect to the pace. The urban population has been growing at a faster rate with greater concentration in a few large urban centres. Thus the Indian urbanization has progressed in its own characteristic way.

THE PROBLEM AND OBJECTIVES

Many problems have been created as a result of growth of urban population and expansion of urban areas. The quicker means of modern transportation, cultural changes, industrial explosion with unplanned urbanization and the existing problems etc. are getting more complicated. The planners and the policy-makers, therefore, are becoming increasingly concerned about the growing problems of urbanization in India. With ever-increasing dimensions of urbanization and the increasing role of cities in the socio-economic life of the society, the whole country is being re-oriented around large cities in a hierarchical manner. This in turn modifies the network of transport lines and resource-use patterns. Thus, the process of urbanization has become an index for the socio-
economic development of the country as well as for the State of Madhya Pradesh. Urban growth patterns and trends, therefore, are very fruitful themes for research in Geography.

The urban centres, by and large, have not transmitted growth impulses to their respective regional economies. The massive public investment in a few pockets of mainly export-based heavy and basic industries have further helped in the concentration of population and activities in a few such urban centres, which are generally incapable of acting as agents of growth and change. This model of urban growth in Madhya Pradesh is not different from the rest of the country. It presents only a bird's eye-view of urban growth patterns in Madhya Pradesh. A detailed spatial analysis of urban growth and patterns of urban development in temporal dimensions is called for.

Urbanization has been a popular field of research among Indian scholars. Very few studies, however, have been made to look at temporal-spatial trends in urban growth and to regionalize Madhya Pradesh on the basis of levels and patterns in urban development. No comprehensive study of the process of urbanization for the whole of Madhya Pradesh has been made so far. There was hardly any attempt to statistically test the various hypotheses stated in the context of the State's urbanization. The present work is an attempt to fill this gap in the study. It must be emphasized here that the subject has many facets and an individual has several limitations in covering such a wide ground. The study is only an attempt to solicit greater attention to the trends of urban growth and pattern of urban development, associated problems and possible solutions.

The main objective of the study is to understand the structure, process and stage of urbanization in the State. The processes of urbanization have spatial as well as temporal dimensions. The spatial analysis has been the pivot of geographical study and 'areal differentiation' is one of the main objectives. Further, an attempt has also been made to find out how the urban growth interacts with other elements of the
region and changes their structure with time and in turn, is influenced by them. Spatial distribution is the consequence of interaction of a myriad of factors and therefore, an attempt has been made to establish the relationship of urbanization with them. Of equal significance is the analysis of the process of urbanization. Thus, the growth of urbanization has been analysed right from the beginning of the present century.

The rural-urban migration constitutes an essential part of the process of urban growth which is looked upon as a horizontal response to the inter-sectoral transfer of population from the primary to the secondary and tertiary sectors. Thus, the periodicity of growth of urban population and the contribution of migration to it has been analysed.

The growth of urbanization is an index of economic development which is most intimately related with industrialization in any region. The urbanization processes in the state were primarily motivated not by industrialization, it has in fact followed much later as a secondary feature. Thus, it remained to be ascertained if there is any spatial relationship between urban and industrial growth in Madhya Pradesh. If urbanization is to be taken as a spatial consequence of industrialization then whether in Madhya Pradesh could we establish such a relationship or does the expectation hold good that urbanization and industrialization are concomitants? As a matter of fact, many distinguished scholars have observed that in India urban growth has been influenced by concentrated industrial growth despite a desire to have decentralized urban-industrial development. With this object in mind an attempt has been made to analyse the present levels of urban, industrial and regional developments and correlate them with each other. The analysis relates mainly to the 1961 year data base. In a nutshell, the main objectives of the present study are:

1. To analyse the growth, distribution and pattern of urbanization in perspective of physical, cultural and economic environment prevailing in the state.
2. To study the spatial and temporal dimensions of urban growth trends and patterns of urban development during the present century with particular reference to the impact of migration on the growing urban population.

3. To find out the centrality and hierarchy of urban centres.

4. To work out the level of urban development and compare it with the levels of industrial and regional development.

5. To test the validity of some hypotheses and models such as rank-size relationship, Primacy Index, Nearest-Neighbour relationship, district-wise degree of urbanization and urban growth, size and growth rate of urban centres etc.

THE STUDY AREA

Machhya Pradesh, as its name suggests, is the central state of the Indian Union and lies mainly on the tableland of central India. It has acquired its present shape in November 1956 after the reorganization of states. It is the largest state in area (443,446 sq km) in the country with 13.5 per cent of the country's total land. In terms of population (52,178,644 persons) however it ranks sixth with 7.6 per cent of the country's population at the 1981 Census.

Machhya Pradesh is one of the least developed states in India with a low degree of urbanization (20.3% in 1961). The rate of urban growth however has been much faster than national average since 1961. The decadal growth rate of urban population in the State was 56.0 per cent during 1971-81 as against 38.6 per cent in the country as a whole. The Urban-Rural Growth Rate Differential in the State was 36.9 per cent, as against 21.1 per cent in the country for the corresponding period.

The process of urbanization in the State is more or less haphazard, unplanned and exploitative. Out of the 45 districts
only five contain more than 30 per cent urban population of the State. A polarized urban growth, in which a few cities took away large proportions of urban population has been evolved. In 1981, nearly one-half (47.6%) of the State's urban population was living in its 14 cities (with 1 CC, CCC or more population). On the other hand, little more than one-fifth (22.9%) of the State's urban population lived in 220 small towns (with population less than 20,000). These small towns, numerically nearly three-fourths (72.4%) of the total number of urban centres, are only a little more than large market villages, with additions of some local administrative functions. The contrast between the explosion of cities and stagnation of small towns is quite sharp and the State presents a peculiar situation of low level of economic development.

Machya Pradesh is one of the few states which have rich natural resources. It ranks second in the country's mineral production. Despite the availability of a large variety of industrial raw materials, Machya Pradesh is still considered an industrially backward state of the country. About three-fourths (73%) of large and medium-scale units are concentrated in only nine districts of the State, while 18 districts have no industry, in spite of having rich resource potential. The State is fortunate in one respect that urbanization has not yet assumed any serious dimensions despite the absence of any urbanization policy.

PERIOD OF URBAN GROWTH STUDIED

The study period (1961-1981) of the present work begins with dawn of the present century till the last census-count (of 1981) for urban growth trends. The published data, adjusted to the existing administrative boundaries of the State are available only for this period. The Census of 1971 was held in the month of April which is the general harvesting period involving a mass movement of labourers from one rural area to another region. This phenomenon, however, did not affect the urban population. This span of eight decades was punctuated by the events like natural calamities, World War I and II and
Independence of India and the mass transfer of people of the sub-continent. It is of special interest to study the impact of these events on urban growth in the State. A comparison of urban growth trends and patterns in the pre and post Independence period is of special significance because of the role of differing political economies on the nature of urbanization.

SOURCES OF DATA

The basic sources of secondary data are the Census of India publications which contain information about urban population alongside other aspects. Information for the growth and development of the present-day urban centres is also based on memoirs, district gazetteers, earlier urban studies and field investigations. Statistical information, pertaining to industries and other economic activities, has been obtained from both published and unpublished records of various departments of the State Government, specially from the Directorate of Economics and Statistics, Madhya Pradesh, Bhopal.

Besides these sources, information was also collected by way of field studies to test the validity of the findings based on secondary data. Sample surveys have been conducted for the purpose. Selection of sample urban places was done after stratification based on various criteria of urbanization. Thus, the analysis is based on secondary as well as primary information. The use of secondary data has its own limitations but a researcher has to reply on the statistics available from various sources. Quite a number of discrepancies have been found in the figures published in the different Census reports. In such situations separate calculations and adjustments have been made. The collected data and information have been tabulated, analysed and presented in the form of maps and diagrams with the purpose of correlating and explaining various aspects of urbanization in Madhya Pradesh.

APPROACH AND METHODOLOGY USED

Urban geographers have only recently adopted a more panoramic and holistic approach to the analyses of urban situation of a region.
This approach regards a town as one entity and the whole array of towns of a region are considered as a set or system. The focus has been on the external relations of urban settlements and their role in the organization and functioning of the regional urban system. All the urban centres of the state have been viewed as parts of an inter-related system. The urban system of Madhya Pradesh, which is a sub-system of the national scene is treated here as an entity for the purpose of the present study.

In geography, as in other disciplines the last three decades (1951-81) have been marked by an increasing reliance on statistical methods which are expected to add to the objectivity and rigour of the ultimate analysis. Under the circumstances no study is deemed methodologically sound and rigorous which is based on qualitative interpretation alone. Thus the quantitative methods using computers and other electronic devices are a great help in this regard. The standard statistical methods have been employed for analyses and investigations in the present work without sacrificing relevant positive aspects of the earlier qualitative approaches. Correlation analyses have been extensively used to establish the strength and nature of relationships between variables. The purpose has been to test a number of hypotheses on urban growth. Rigorous methods were employed in the analysis of distribution, growth, hierarchy of urban centres and in determining the levels of urban, industrial and regional developments because these aspects are of pivotal importance in the present work. A number of explanatory variables of urban growth are tested at state level. Some of the hypotheses on urban growth are known, while others have been framed on the basis of observations in the course of the present work.

The correlation, initial indices and composite index for urban, industrial and regional development have been analysed on the computer DEC TANLY TRS-80, Model-4 installed at the Central Instrumentation Laboratory of this University. Cartographic techniques at the same time have been extensively employed to present a visually appealing spatial view of urban growth and
urbanization in the region in consonance with the essentially geographic presentation. Similar or otherwise findings have been matched with those of other major studies in this field, the latter have been reproduced for a comparison and ready reference.

ORGANISATION OF THE WORK

The aim of the present work is not merely the study of growth trends and spatial patterns of urban development but also to correlate the urban growth with industrial and regional development on the basis of different parameters. It also deals with the changes which have taken place in the process of urbanization and in urban population. The various factors which are held responsible for the urbanization of a country are also active in this region. The socio-economic changes due to the development of agriculture, industries, mining and commerce have accelerated the process of urbanization in the State. The present study has been organised into nine chapters on different aspects of urban settlements and their population. The first chapter is devoted to the description of the physical base and the geoeconomic personality of Madhya Pradesh. It examines the physiography, soils, forest and mineral resources, agriculture, and transport framework. An attempt has also been made to relate the urban development with these factors.

The second chapter deals with socio-economic characteristics of urban population such as literacy, sex-ratio and urban work-force. Analysis of urban density has also been made to determine the levels of urbanization.

The growth and distribution trends of urban population and settlements in the present century have been traced in the third chapter. The growth of urban population in the State has been compared with that of India. Analyses of the degree and rate of urbanization, hierarchical levels of urbanization, variation in the number of urban settlements by transition matrix have also been made.
Migration plays an important role in the process of urban growth and is considered as the main mechanism by which urban settlements continue to grow. The fourth chapter, therefore, embodies an analysis of migrational streams. Particular emphasis has been laid on an evaluation of their role in spatial patterns of urban growth in the state. The reasons for movement of the people have also been discussed.

An attempt has been made in the fifth chapter to establish a relationship that exists between the population of urban centres and the ideal theoretical conditions. The rank-size relationship of urban settlements and the patterns of spatial distribution of urban centres have been analysed with the help of established quantitative techniques.

Hierarchy of urban centres has been assessed in the following chapter. For this study the population engaged in 'other work' category of the 1981 Census has been used as a base. With the help of the hierarchy index five-tier hierarchical classes of urban centres have been identified.

The role of industries in the growth of existing urban centres and in creating new urban settlements has been examined in the seventh chapter. The relationship between urbanization and industrialization has also been reviewed. The future consideration for industrialization in relation to healthy urban growth and human welfare has been pointed out.

The eighth chapter is exclusively devoted to the study of the levels of urbanization, industrialization and regional development. Composite index of each development has been determined by suitable statistical techniques. The urban development level has been correlated with industrial and regional development levels.

Finally, in the ninth chapter the major findings and observations have been analysed and summarized together with conclusions which have emerged out of this study. The prospects
of future development have been presented. An attempt has also been made to 'project' the future trends of class I cities, class II and some other fast-growing important towns. So as to ascertain the character of each of these urban places in the year 1991.

REFERENCES

To avoid repetition, references for all the chapters have been given at the end of the thesis in an alphabetical order. In the text, however, only the surname of the author, the year of publication and the page numbers of work have been given.