Chapter - I

Introduction

1.1 Statement of the Problem: In 1901, about 8 per cent of the world's population lived in urban areas.\(^1\) The newly revised United Nations estimates indicate that at mid-1993, 43 per cent (2.3 billion) of the world's population lived in urban areas. With the urban population growing two and a half time faster than its rural counterpart, the level of urbanization is projected to cross the 50 per cent mark in 2005. United Nations projections further show that by 2025, more than three fifth of the world population will live in urban areas.\(^2\) India is no exception to this process of urbanisation. Though the rate of urbanisation is comparatively low, the size of the urban population is very large in India. Large cities and metropolitan areas have been growing very rapidly, since independence, whereas small and medium towns have either been stagnating or growing very slowly. The differential growth of small and medium towns and big cities has created imbalances in the urban growth pattern. This is because of more economic opportunities and better urban environment, which allure people to flock towards big cities.\(^3\) The lack of economic opportunities and better infrastructural facilities cause small and medium towns to be by-passed by the flocking population. A significant portion of the growth of urban population in our country is due to migration from rural areas to the towns. On an average, this has accounted for one-third of the urban growth. The figure is much higher in case of larger cities, like Bombay, Delhi, Calcutta and Madras.\(^4\) Perhaps, no other aspect of urbanisation has received so much attention in recent times as the trend towards the concentration of population in larger cities. In Haryana also, there were only twelve towns in 1991 out of ninety towns, which accounted for 58.59 per cent of the total urban population, while fifty small and twenty-six medium towns.

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\(^4\) D.P. Dhar, "Urban Situations in India", in Rajni Patel (Edited) (1975). "Wither Bombay?"
accounted for only 14.17 and 27.01 per cent of the total urban population respectively. Table 1.1 reveals the fact stated above.

Table 1.1

<table>
<thead>
<tr>
<th>Size-Class and Category of Towns</th>
<th>Number of Towns/Urban Agglomerations</th>
<th>Total Urban Population</th>
<th>Proportionate share of Total Urban Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITIES</td>
<td>11</td>
<td>12</td>
<td>16,02,749</td>
</tr>
<tr>
<td>Class I (Above 1,00,000)</td>
<td>11</td>
<td>12</td>
<td>16,02,749</td>
</tr>
<tr>
<td>MEDIUM TOWNS</td>
<td>18</td>
<td>26</td>
<td>7,13,740</td>
</tr>
<tr>
<td>Class II (50,000-99,999)</td>
<td>5</td>
<td>9</td>
<td>3,06,128</td>
</tr>
<tr>
<td>Class III (20,000 - 49,999)</td>
<td>13</td>
<td>17</td>
<td>4,07,612</td>
</tr>
<tr>
<td>SMALL TOWNS</td>
<td>45</td>
<td>50</td>
<td>4,71,525</td>
</tr>
<tr>
<td>Class IV (10,000 - 19,999)</td>
<td>22</td>
<td>30</td>
<td>3,00,168</td>
</tr>
<tr>
<td>Class V (5,000 – 9,999)</td>
<td>23</td>
<td>20</td>
<td>1,71,357</td>
</tr>
<tr>
<td>SMALLER TOWNS</td>
<td>2</td>
<td>2</td>
<td>7,602</td>
</tr>
<tr>
<td>Class VI (Less than 5,000)</td>
<td>2</td>
<td>2</td>
<td>7,602</td>
</tr>
</tbody>
</table>

Source: Census of India, 1991, Series 8, Haryana, District Census Handbooks.

It can be observed that both in 1981 and 1991, most of the towns in Haryana were either small or medium sized. The small towns of India in general and Haryana in particular are virtually developed villages with higher density of population, but possessing almost all the rural characteristics. These small towns are little more than large market villages, with some very local administrative functions added.5

The present study is an attempt to focus on the urban structure of Haryana in terms of size, growth and spatial distribution, change in functional characteristics, growth of infrastructural facilities and interlinkages of the three selected small and medium towns with other settlements for a period of thirty years from 1961 to 1991.

Witnessing urban growth rate of 43.07 per cent, Haryana surpassed almost all the major states (except Madhya Pradesh) of India in urban population growth during the decade of 1981-91. The Table 1.2 reveals this fact:

Table 1.2
Growth of Urban Population in India, 1981-91

<table>
<thead>
<tr>
<th>Se. No.</th>
<th>States/ Union Territory</th>
<th>Population Growth Rate (in Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INDIA</td>
<td>36.19</td>
</tr>
<tr>
<td>2</td>
<td>Mizoram</td>
<td>160.27</td>
</tr>
<tr>
<td>3</td>
<td>Arunachal Pradesh</td>
<td>152.98</td>
</tr>
<tr>
<td>4</td>
<td>Tripura</td>
<td>85.75</td>
</tr>
<tr>
<td>5</td>
<td>Nagaland</td>
<td>74.74</td>
</tr>
<tr>
<td>6</td>
<td>Dadra &amp; Nagar Haveli</td>
<td>69.51</td>
</tr>
<tr>
<td>7</td>
<td>Daman &amp; Diu</td>
<td>63.79</td>
</tr>
<tr>
<td>8</td>
<td>Pondicherry</td>
<td>63.56</td>
</tr>
<tr>
<td>9</td>
<td>Kerala</td>
<td>60.89</td>
</tr>
<tr>
<td>10</td>
<td>Lakshadweep</td>
<td>56.15</td>
</tr>
<tr>
<td>11</td>
<td>Andaman &amp; Nicobar Islands</td>
<td>50.72</td>
</tr>
<tr>
<td>12</td>
<td>Goa</td>
<td>48.53</td>
</tr>
<tr>
<td>13</td>
<td>Delhi</td>
<td>46.10</td>
</tr>
<tr>
<td>14</td>
<td>Haryana</td>
<td>44.98</td>
</tr>
<tr>
<td>15</td>
<td>Andhra Pradesh</td>
<td>42.64</td>
</tr>
<tr>
<td>16</td>
<td>Rajasthan</td>
<td>39.24</td>
</tr>
<tr>
<td>17</td>
<td>Uttar Pradesh</td>
<td>38.97</td>
</tr>
<tr>
<td>18</td>
<td>Maharashtra</td>
<td>38.66</td>
</tr>
<tr>
<td>19</td>
<td>Himachal Pradesh</td>
<td>36.46</td>
</tr>
<tr>
<td>20</td>
<td>Meghalaya</td>
<td>36.36</td>
</tr>
<tr>
<td>21</td>
<td>Orissa</td>
<td>36.08</td>
</tr>
<tr>
<td>22</td>
<td>Chandigarh</td>
<td>35.90</td>
</tr>
<tr>
<td>23</td>
<td>Manipur</td>
<td>34.73</td>
</tr>
<tr>
<td>24</td>
<td>Gujarat</td>
<td>33.60</td>
</tr>
<tr>
<td>25</td>
<td>Bihar</td>
<td>30.39</td>
</tr>
<tr>
<td>26</td>
<td>Punjab</td>
<td>29.11</td>
</tr>
<tr>
<td>27</td>
<td>Karnataka</td>
<td>29.09</td>
</tr>
<tr>
<td>28</td>
<td>West Bengal</td>
<td>28.90</td>
</tr>
<tr>
<td>29</td>
<td>Tamilnadu</td>
<td>19.28</td>
</tr>
<tr>
<td>30</td>
<td>Sikkim</td>
<td>27.60</td>
</tr>
</tbody>
</table>

Note: - Census was not conducted in 1991 in Assam and Jammu and Kashmir.

Two reasons are responsible for the rapid urban growth of the state. Firstly, the mechanisation of agricultural sector and green revolution in the agriculturally advanced state of Haryana resulted in surplus farm-labour and output, which were pushed to the urban areas. Secondly, the areas of the state adjoining Delhi metropolitan city remained an important attraction for industrialists to establish their industries in the said areas in close vicinity of the international market.6 The rapid

urban growth of the state is a symbol of Haryana’s economic development in the field of industries, commerce, agricultural inputs, transport and communication on one hand and urban environmental degradation in terms of congestion, generation of slums and blighted areas, housing shortages, traffic hazards, inadequacy of community facilities, services and utilities on the other hand. To arrest the rapid urban growth in a well-planned and systematic way is a challenge to the town planners of the state. This can be done with the development focus shifted to medium and small towns as they are majority in number among the urban centres.

1.2 Objectives: Based on the above analysis the following objectives have been formulated for the present study.
1. To study the trends in the growth of urban centres in terms of size and spatial distribution between 1961 and 1991.
2. To study the changes in the functional structure of small and medium towns.
3. To study the levels of development in terms of infrastructural facilities.
4. To study the spatial linkages of small and medium towns within the region.

1.3 Research Propositions: Keeping the objectives in mind, the following research propositions have been formulated and tested in this study.
1. Small and medium towns of Haryana located near the metropolitan city of Delhi have faster population growth rate than the towns away from Delhi.
2. As the size of the town increases, its functions tend to get diversified.
3. The population size and growth affect positively the growth of infrastructural facilities.
4. The towns with large population size tend to have more intense interlinkages with other settlements than the towns with small population size.

1.4 Data Base: The study entails the collection of both secondary and primary level data to analyze the size, functional character, infrastructural development and regional interlinkages of three selected towns of Haryana.
1.4.1 *Secondary Data* have been collected from the following volumes of Census of India publications. They are:


2. Table A-IV Towns and Urban Agglomerations Classified by Population in 1971 with Variation since 1901. Census of India 1971, Haryana, Series No.6. District Census Handbooks, Part X-C.


6. Table B-II Workers and Non-Workers in Cities and Non-City Urban Areas according to Main Activity Classified by Sex and Age-Group, Census of India, 1971, Haryana, Series. No.6, D.C.H., District Census Tables, Part X-C.


1.4.2 Primary Data: - To support the secondary data base, primary data have been collected from the field survey of three selected towns (one from class II, one from class III and one from class IV) to study the spatial interlinkages.

1.5 Methodology

The growth trend of towns according to size-class has been calculated in terms of simple percentages and growth rates. The spatial distribution of towns has been analysed by nearest neighbour analysis and rank size rule has been applied to understand the rank and size relationship of towns under study.

To study the changes in functional structure of towns, Asok Mitra’s method of functional classification of towns has been applied.

To study the infrastructural development, centrality score and composite index of the selected indicators has been calculated.

To study the interlinkages of three towns viz.; Thanesar, Fatehabad and Haileymandi the following formula has been applied.

\[ i_{xy} = \frac{P_x \times P_y}{d^2} \]

Where \( i_{xy} \) = Interaction between places \( x \) & \( y \), \( P_x \) = Population of \( x \) settlement, \( P_y \) = Population of \( y \) settlement, and \( d \) = Distance

To analyse the interlinkages in terms of socio-economic facilities like education, medical etc. simple percentages have been calculated.

1.6 Introduction to the Study Area

1.6.1 Location: - Fig. 1.1 shows the geographical position of Haryana in India. The state of Haryana (Latitude 27°39' to 30°55'5" N and Longitude 74°27'8" to
HARYANA
ADMINISTRATIVE DIVISIONS
1991

Fig. 1.1
77°36'5" E) came into being on 1st November 1966. It is one of the north-western states of India adjoining Delhi, the capital of India. Haryana is bounded by Himachal Pradesh in the north, Uttar Pradesh and Delhi in the east, Rajasthan in the south and south-west, and Punjab and Chandigarh in the north-west. The total area of the state is 44,212 square kilometres which forms 1.35 per cent of the total area of the country. In 1991, with 16,463,648 persons, Haryana accounted for 1.93 per cent of the total population of the country and ranked 15th among the states of India.

1.6.2 Administrative Divisions, 1991 - At the time of formation of the state on 1st November 1966, there were seven districts, viz., Ambala, Karnal, Rohtak, Gurgaon, Mahendragarh, Hisar and Jind. In the decade of 1971-1981, five new districts were formed out of the old districts viz., Bhiwani from Mahendragarh, Sonipat from Rohtak, Kurukshetra from Karnal, Sirsa from Hisar and Faridabad from Gurgaon district. In 1991, the number of districts has increased to 16 from 12 in 1981. The new districts formed are Yamunanagar from Ambala, Kaithal from Kurukshetra, Panipat from Karnal and Rewari from Mahendragarh districts. District Panipat was abolished and merged in Karnal vide State Govt. notification dated 24th July 1991, but was created again w.e.f. 1-1-1992. vide notification dated the 31st Dec. 1991. Amongst the districts, the largest district continues to be Hisar with an area of 6279 square km while Kurukshetra is still the smallest district with an area of 1217 square kilometres.

1.6.3 Physiography - As shown in the Fig. 1.II, Haryana is a plain area except the foothills of the Siwalik system in the northeast and of the remnants of the Aravalli system in the southwest.

1.6.3.1 Physiographic Regions: - On the basis of local topography and distribution of sandy and calcareous sierozemic soils, Haryana Plain can be subdivided into Eastern, Western and Southern Plains (Fig. 1.III).

(a) Eastern Haryana Plain: The Eastern Plain covers the districts of Ambala, Yamunanagar, Jind, Kurukshetra, Kaithal, Karnal, Panipat, Sonipat and Rohtak. This

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Fig. 1.III
plain is bordered by low hills of Siwalik system in the north-east. The slope therefore is generally from the north-east to south-west in which direction most of the river flow. A large number of rain-fed torrents flow down the outer slopes of the Siwalik and spread much gravels and pebbles in their beds. Of these streams, the Ghaggar, the Markanda, the Chutang and the Sarasvati are the important ones. The state is devoid of any perennial river except for the Yamuna which provides irrigation facilities and flows along the extreme eastern side of the state and the plain. This plain extends from the west of the Yamuna upto 50 cms. isohyet line. The plain is remarkably flat and its general elevation varies only between 200 and 230 meters above sea level, within it some areas are more fertile consisting of narrow strips of low lying flood plains. 11 This belt lying close to the old west bank of the river Yamuna with a comparatively heavier rainfall and adequate sub-soil water resources has become a major area of attraction for the new urban growth since partition. In 1991, Eastern Plain had 55.32 per cent of the total towns of Haryana.

(b) Western Haryana Plain: - The Western Plain, which has a high aridity mainly, covers Hisar, Sirsa and Bhiwani districts. The scattered remnants of Aravalli, dot the area. The land is thirsty and is clothed by steppe vegetation and with sand dunes of various slopes and sizes. As wind erosion is active and water-table deep, the western part has dispersed urban settlements. In 1991, this plain contained only 24.5 per cent of the total towns of Haryana. The western part of the state is known as 'Bagar'. 12

(c) Southern Haryana Plain: - The southern plain covers the districts of Mahendragarh, Rewari, Gurgaon and Faridabad. It differs from the western plain because of the presence of Aravalli offshoots and its slope towards the north and undulating character. This part of the state is also dotted with sand dunes of varying sizes. A number of small rivulets carry the water from Rajasthan. Among them the Sahibi, the Krishnavati, the Indoris, the Dohan and the Landoha are worth mentioning. 13 Yet this area is generally unfavourable to habitations due to its rocky nature. But of late, this plain has become an important centre of attraction for the

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12 Ibid.
industrialists to establish their industries. The southern plain contains a little above 20 per cent of the total towns of Haryana.

The Haryana Plain is a part of the Indo-Gangetic plain, which was formed by deposition of the alluvial sediments, brought by the Himalayan rivers. It slopes from north-east to south-west and all the rivers of the region flow in this direction. The floodplains of these rivers are commonly known as 'Khadar'. The soils of this flood plain consist of river borne sand, silt and clay. In the southern and south-western parts of Haryana plain, there are extensive areas covered with sand dunes.

1.6.4 Climate - The climate of Haryana is of monsoon type. But due to its location at a long distance from the seas, Arabian Sea and Bay of Bengal it fails to get the full benefits from either of them. There is thus a shortage of rainfall over its greater part and coupled with the high summer temperatures, the evaporation is also high. It is thus characterised by a semi-arid type of monsoon climate, which is essentially a transitional one between that of the arid desert of Rajasthan and the moderately humid western Ganga plain. It, however, experiences the usual three seasons (Indian) in the year - the winter, the summer and the rainy. Both, the heat in summer and cold in winter, are extreme. Moreover, there are not only considerable differences in the weather from season to season but also from year to year.

1.6.5 Site and Situation of Urban Settlements: - The urban settlements of the region are situated on level land as stated above. Ubiquitous water supply in the eastern plain has facilitated the growth of urban centres, as water is a prerequisite for any settlement to flourish. The river Yamuna forms the eastern boundary of the eastern plain and is the lifeline of the region. The Ghaggar, Markanda Chutang and Saraswati rivers though seasonal in nature also provides a fertile plain. As a result more than 50 per cent of the towns are located in this region. On the other hand, the deficient water resource of the western plain has been the major hindrance for the development of towns. The southern plain also has a few seasonal rivulets, which has fostered the development of towns in the region. In addition to the availability of water resources the transport linkages have been the major factor for the development of towns in Haryana. The urban settlements of Haryana are well connected both by

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rail and road. Both the roads and railways have greatly helped in fixing the sites of the towns. Fig. 1.1V shows that out of 90 towns, 70 are situated along the different National Highways and railway routes. Twelve towns are situated along the National Highway (N.H.) number 1, while three towns each on the N.H. 2 and N.H. 8 and 9 towns on N.H. 10 (Appendix I.1). As far as railway network is concerned, branches of Northern, Central and Western Railways connect the towns of Haryana.

In several of the developed towns, 'mandies' (grain markets) are located close to the railway stations. These mandies handle the trade in agricultural produce, so that the villagers may find easy access to the markets for their produce. Accessibility in terms of transport and better commercial opportunities has been the major factor for the development of these mandi towns.

1.7 Research Design:

The present study is organised into six chapters.

The First Chapter is an introduction to the thesis which includes the statement of the problem, the objectives, research propositions, data-base, methodology, an introduction to the study area, the research design and a review of literature. Chapter Two has been devoted to an analysis of the size, growth and spatial distribution of towns. Chapter Three has examined the functional structure of towns and the changes that has taken place. In Chapter Four, the infrastructural development of small and medium towns have been analyzed. In Chapter Five, the regional interlinkages of the three selected towns Thanesar, Fatehabad and Haileymandi have been examined. Chapter Six provides the summary and conclusions and further planning strategies for small and medium towns of Haryana.

1.8 Literature Review -

Urbanization, in the demographic sense means an increase in the proportion of the urban population in total population over a period of time. In Indian cities a typical situation prevails where the big cities and metropolitan areas are recording a fast growth in their population and the small towns are stagnating.

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The process of urbanisation has been fairly brisk in Haryana, particularly in the last few decades. The total urban population as well as its share in the total population has been changing continuously.

There has been, in recent years, a growing interest in the study of the development of small and medium towns as against the big cities, because many scholars have felt the need for the development of small and medium towns. The available literature has been grouped under the following heads:

1.8.1 Size and Spatial Distribution

Although India is still a land of villages with 74.29 per cent of its population being rural and 25.71 per cent urban (Census of India, 1991), the recent rapid growth of metropolitan and larger cities is a cause of concern as regards India's urban future. Unlike the urban process in the industrialised countries of the west, Indian urbanisation shows all the characteristics of maladjustment between the traditional life and living pattern of Indian society on the one hand and the sudden and almost disastrous impact of western colonialism, political and economic ideals and western technology on the other. The intensity of the urban impact on human life in Indian cities is alarming. In our country, the urban system has not yet shown a harmony between the city and the countryside, and the cities do not seem to be functioning in economic unison even in a broad sense. It would be indeed a desirable, though a challenging task, to find out what city-size in our country is economically efficient. And it is equally important to know whether most of the urban areas are merely accumulation of humanity rushing in from the countryside and adding heavily to the natural growth of urban population. The available data are limited mainly to the Census and these reveal that there is no single 'urban problem' in our country, but a series of problems depending upon the city-size and the function. It is known for example, that while the metropolitan areas are bursting at the seam, the medium sized

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cities and towns show a slow population growth and the smaller towns are either sluggish in growth or in stagnation.\(^{19}\)

It is observed that population size has, to some extent influenced the proportion of demographic and occupational characteristics in our urban situation. As we know, growing cities acquire certain industrial and service functions in the process of urban growth.\(^{20}\)

Edwin Von Böventer (1971)\(^{21}\) considered factors that work towards a certain amount of regularity. Though numerical rank-size relationships and the spatial layout of the cities should always be considered simultaneously and the rank-size relationship separately, the size relationship can even be studied in a non-spatial context. If the actual city-size structure were far from its optimum, meaning that for some reason certain city sizes were non-existent though firms and households desired them and that thus there were too many somewhat smaller and too many somewhat bigger cities then via such factors as wage rate and land value differentials the biggest of the smaller cities might be expected to grow faster than normal, and the smallest of the cities that had already grown too big might grow slower than normal. This would be the static solution, but nothing guarantees that the dynamic properties of the system are such that this will actually happen. Assuming that the adjustment mechanisms are such as to lead towards these optima, regularity as described by the rank-size rule would be obtained if the individual economic unit preferences were distributed accordingly.

As W.E. Reed\(^{22}\), in his study observes that transport network plays major role in the distribution of urban settlements.

Barr, Lindsay and Reinett\(^{23}\) analysed the variation in Soviet urban settlement patterns. They selected twenty economic administrative regions for their study and applied order neighbour statistic to test the hypothesis of randomness of spatial

patterns. The results of the analysis display different components of clustering, randomness and uniformity in settlement patterns.

T. Prasad\textsuperscript{24} described the spatial pattern of rural settlements in Vishakhapatnam Taluk (Andhra Pradesh). The area has been divided into three arbitrary zones, for convenience, (1) North, (2) West, and (3) South of the Vishakhapatnam-Malkapuram urban agglomeration and the significance of the variation between the three zones has been tested by $X^2$ (chi-square) statistics. Any spatial pattern is basically a function of distance. The spacing of quantitative expression of dispersion of villages has been correlated with various physico-cultural factors. The nature of dispersion, comprehended by random, cluster and uniform pattern has been analysed through the nearest neighbour technique as envisaged by Clark and Evans. Spatial variation in distribution, size and spacing of rural settlements in Vishakhapatnam taluka is derived quantitatively. Large number of villages with moderate population size and low spacing in the west zone are correlated with the well-knitted transport arteries and widespread availability of fertile stretches of land and water. Higher spacing and small size of villages in the north zone are correlated with the undulating area and the greater incidence of forested area. The large size of the settlements with higher spacing in the south zone is correlated with the absence of transport lines and the presence of swampy lands.

Spatial pattern of urban centres is highly functional and size oriented which has attracted many scholars. Jain and Iyer (1980)\textsuperscript{25} analysed this problem in respect to the urban centres in Maharashtra. The study is based on the hypothesis that the spatial internal distance among urban centres increases with their sizes. Through analysis it is found that there is relationship between the mean inter distance and size of urban centres though some irregularity is observed because of surface configuration and uneven economic development.

Thakur (1980)\textsuperscript{26}, analyses the changes in number and distribution of urban places in his “Urban Settlements in Eastern India”, comprising the natural regions of


the Bihar plain, the Chotanagpur plateau, the Lower Ganga plain, the Orissa Highlands and the Utkal Coastal plain, during a period of one hundred years (1872-1971). The great spatial extension and the variety of physical and economic environments in the region provide a clear vantage point for studying the process of development of urban systems there. The principal quantitative methods are nearest neighbour and entropy which the author applies for achieving his objective. But the real thrust is directed at demonstrating the efficiency of entropy method for detecting the changes in urban pattern in Eastern India.

Kurien (1975) made an attempt to analyse in depth the process behind the striking growth of new towns and the rapid increase in urban population (1971) in Tamilnadu. For this purpose, he examined the urban growth process in Thanjavur (wet region) and Salem (dry region) districts. In particular he investigated into two aspects: (i) whether the above two features are being influenced by the formation of a loose class of unskilled labour who settle in towns in off-seasons, and (ii) whether the increasing presence of such a class of labour, unskilled and footloose provided an explanation for the emergence of new towns. Kurien observed that in the case of the Salem district, urbanisation has been influenced by industrial development (textile industry). Towns in the dry region have grown rapidly and spatially highly concentrated, where one finds a large proportion of "loosely moving rural population". These features are in a striking contrast with those observed in the wet region. In other words, this analysis shows, that region which is open to an exchange-oriented economy of unstable nature, the urban stimuli will make the "loosely fixed population" to converge towards it, and give rise to a spatially concentrated and rapidly growing type of urbanisation. On the other hand, if the region is made up of labour intensive and stable rural economies, the urban stimuli spreads over the region without being localised or intensified.

Kundu and Raza (1975) have made an attempt to study the impact of the urban process on the agrarian economy in three states, namely, Punjab, Haryana and

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Rajasthan. According to this study, indicators of modernisation, tractorization, commercialisation and the levels of urban growth are positively associated in Punjab and Haryana. This suggests that the emergence of urban centres and their phenomenal rates of growth have not led to a weakening of the agricultural economy.

Khan\(^2\) (1976) examined the growth rates of towns, their functional specialisation's and size-distribution over three decades. On the basis of this analysis, Khan suggests that investment in the selected growth centres in manufacturing and in trade and commerce will have better impact on growth and stability, particularly where the centres are located on major communication routes and possesses nodality. The study also indicates that investment on improving communication links of the selected centres with their respective hinterlands and the rest of the world will have good pay-offs in terms of higher and stable growth rates.

Pothana and Rao\(^3\) in their analysis of trends in urbanisation and urban growth at the aggregate level of the states suggests that the pace of urbanisation has regularly accelerated, except, during the decade 1951-61, which may be attributed to the declassification of 79 towns at 1961 Census. Further, distribution of urban population by size-class of towns and cities over period show the intensity of spatial concentration of population in the medium towns and cities of Andhra Pradesh. The analysis at the district level shows that five out of the 23 districts stand out prominently as highly urbanised when compared with the average of the state for the period 1961, 1971, 1981 and 1991. This suggested a shift in the spatial pattern of new urbanisation away from the traditional areas of urban growth.

Rao\(^4\) identified two factors to explain the urban growth process in Andhra Pradesh for the periods 1971-81 and 1981-91. They are (i) the rate of growth of total population, and (ii) the size of an urban area itself. The cross-sectional study of the 21 districts of Andhra Pradesh shows that the urban growth of a district is positively

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\(^2\) Waheeduddin Khan, "Growth and Stagnation of Small and Medium Sized Towns in Telangana - An Exploratory Analysis", in Alam S. Manzoor and Pokshishevsky, V V (Ed.), "Urbanization in Developing Countries", Osmania University, Hyderabad, (India), 1976, pp. 367-400.


related to the growth of total population. This relationship holds good for all the three regions - Coastal, Rayalseema and Telangana regions. Rao observed the relationship that higher the size of the cities, the faster the rate of growth of cities and towns. It is true that the first class cities are still attracting migrants from rural areas and other small and medium towns. The agglomerative economies play a dominant role in increasing the size of an urban area. Higher the size of an urban area, greater is the agglomerative economies.

Sreelakshmannma\textsuperscript{32}, highlighted the pattern of growth of towns and cities in India in general and Andhra Pradesh in particular. It is observed that there is heavy concentration of population in class-I cities in Andhra Pradesh like in the country as a whole. The growth of urban population in Andhra Pradesh was not so much due to the addition of new towns as it is due to enlargement of existing towns at every level. The results indicate that big and medium towns are growing bigger, while small towns are declining to still smaller towns. This has been owing to lack of productive employment opportunities in rural areas of Andhra Pradesh resulting the movement of people from rural areas to towns and from small towns to metropolitan cities.

Shahi (1989)\textsuperscript{33} analysed the trend of urbanisation during 1901-81. With the help of different methods and techniques. After having analysed the growth of urban population and its density, level of urbanisation, distribution of urban centres, as well as growth of population by size class of towns, an effort has been made to study the changes in the size of urban centres, during 1901-81, with the help of transition matrices. In order to examine the relationship between growth rate and population size of urban centres, the scatter diagram of towns for each of the seven decades (1901-71) has been prepared. Further t-ratios have been calculated to test the significance of differences among mean growth rates for various classes of towns in each decade.


Jauhari\textsuperscript{34} in his paper, "Growth of urban settlements in the Sutlej-Yamuna divide described the urban settlements of Haryana during Pre-Historic and Early-Historic periods'. He attempted to find out the origin of most of the present districts and urban centres of Haryana namely Thaneswar, Kaithal, Rajaund, Safidon, Jind, Sonepat, Rohtak, Palwal, Sirsa and Agroha. The growth of urban-settlements was facilitated by various geographical factors like relief and climate and the domestication of animals and growth of agricultural practices. These settlements being along the river banks on their high bluffs, could avail the facilities of river navigation and the use of wheeled carts were and further aided to urbanisation.

Jauhari stated that early settlements came into existence during the long Pre-historic and Early-historic period of about three thousand years from the latter half of the third millennium B.C. to the downfall of Harsha's empire in 647 B.C. The most important of these towns like Karnal, Panipat and Sonepat appear to have been sited on the high-bluffs of the Yamuna. Other towns, like Thaneswar and Pehowa lie on the river Sarasvati, while the Jind town must have been sited along the banks of the river Chittang or Chutang. The economy of these settlements must have been based on agriculture and pastoral industries. The above mentioned towns found their origin in later Pre-historic or early Vedic period from about 1500 B.C. to about 500 B.C. In Iron-Age from about 500 B.C. to 647 A.D., Agroha town came into being in the south central part and Rohtak in the south-east of Sutlej-Yamuna Divide. Kaithal was a major town of that period. This town is said to have been founded by the hero Yudhisthira. Its Sanskrit name is Kapisthala or the ‘abode of Monkeys’.\textsuperscript{35} Likewise the town of Jind is said to have grown around a temple built by Pandava to ‘Jainta Devi’ the goddess of victory.\textsuperscript{36} Rajaund, a village in Kurukshetra, has been mentioned in Mahabharata, and the name is said to have been derived from ‘Raja-hand’ or ‘the Prison of Rajah’s.\textsuperscript{37} Moreover, Panipat and Sonepat are among the five ‘pats’ demanded by Yudhishtihira as a price of peace\textsuperscript{38} the town of Safidon.

\textsuperscript{36} Ibid.
\textsuperscript{38} Imperial Gazetteer of India, Provincial Series, Punjab Part I, 1908, pp-301-316, Op. Cit.
according to legend, was founded by Janamejaya the son of Raja Parikshit, who was responsible for the destruction of serpents. The name of the town Thaneswar is said to have been derived from Sthana (abode) and Ishwara (God). So the author has very successfully made an attempt to analyse the evolution of the earliest towns of the region and emphasised the influence of the physical and cultural environment on their evolution.

Jauhari in his next paper, "Urban settlements of the Sutlej-Yamuna Divide - C. 647 A.D. to 1947 A.D. (medieval and later historic period settlements)" stated that during such a long period of over 1,300 years, the Divide had varied contacts with foreign elements and passed through a chequered history, which greatly influenced urban settlements. His study starts with the medieval period of Indian history which begins from the time of the downfall of Harsha’s empire in 647 A.D. and ends with the later historical period, when the country was partitioned in 1947 A.D. He has divided the growth of towns into five periods namely (i) C. 647 A.D. to 1192, (ii) 1192 A.D. to 1707 (iii) Eighteenth Century i.e. from 1707 to the beginning of the British rule in 1803 A.D. (iv) Early British period from 1803 to the first complete Census of 1881 and (v) 1881 to 1948. In the first time period Sadaura, Banur, Samana, Sunam and Sirhind towns came to existence between Sarasvati and the Sutlej, while the towns of Hansi, Maham, Gohana, Jhajjar, Rewari and Narnaul lie in between the Yamuna and the desert of Rajasthan. He has also related political and cultural features with the growth of urban centres probably from pre-existing villages. The second time period i.e. from 1192 to 1707 A.D. brought about a great religious and cultural change in the region after the defeat of Hindus and the towns that were founded after 1192 were mostly from the view-point of alien rulers which aimed at firstly, the effective control of the empire and secondly, the wholesale destruction of the Hindu culture and places associated with it. So the towns of Shahabad, Sanaur,

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39 Janamejaya was the great-grandson of Arjuna - the Pandava Brother it was to this king that the Mahabharata was recited by Vaisampayna in A.S. Jauhari (1962), "Growth of Early Urban-Settlements in the Sutlej-Yamuna Divide (a Pre-Historic to Early Historic Periods)", National Geographical Journal of India, Vol. I, 1962.

40 Imperial Gazetteer of India, Provincial Series Punjab, Part II, 1908, p. 325, Ibid. p. 15
Ludhiana, Basi, Sangrur, Phul, Jagraon, and Raikot in order of their age lie in the Sutlej-Saraswati interfluve, while the towns of Bawal, Fatehabad, Hisar, Ferozepur Jhikra, Tohana, Mahindragarh, Beri and Pataudi in order of their age are situated in the southern part of the divide and in the south of the river Ghaggar. In time period three, the new settlements were small-fortified towns, which were the seats of each rising family clan or group. In this western Ghaggar upland plain are the towns of Dharamkot, Kot Kapura, Bhadaur, Barnala, Dhanoula, Nabha and Patiala. They all extend in a narrow belt from Patiala in the east to Kot-Kapura in the west. Only the towns of Dharamkot lies quite detached in the north while the towns of Loharu, Farrukhnagar, Ballabgarh and Hodal are situated in the tract lying to the south of Haryana. In the fourth period only a few new towns were founded during the 78 years, i.e. from the time of the coming of British influence in 1803 to the first complete Census of 1881. It was mainly a period of expansion and growth for a large number of the existing towns in fifth time-period (i.e. 1881-1947). It is a period when entirely new towns were not founded, but with the changes that took place in administrative boundaries and with the construction of railways, greater importance and easier accessibility was imparted to villages and other settlements lying along the railways. In this period, in the Kurukshetra region, only Gharaunda and Narwana came into existence.

Jauhari\textsuperscript{42} in his next paper “Sutlej-Yamuna Divide: A Study in Post Partition Growth of Small Towns from Pre-existing Rural Settlements” mentioned that this post partition period is marked by a rapid growth and expansion of a large number of urban centres. The primary factor, which has been instrumental in bringing about this development, is the rehabilitation of the displaced persons. This is primarily due to two factors. Firstly, more persons left the divide than came into it after partition. Secondly there was an unequal replacement of population of the urban and rural settlements. This period marks the rise of a number of small towns from pre-existing rural settlements more especially, those along the railway lines. The growth of urban settlements since the time of partition can be considered in two periods. (i) 1947-1951 (ii) 1951-1961. During first period, a large number of new towns came into existence.

which reveal the immediate effect of partition on urbanisation. Although the second period also witnessed the emergence of a few new towns, yet it shows more the stabilising influence on the 1947-51 urban centres. It reveals how far the measures adopted by way of expediency were in accordance with the more fundamental influence exerted by the setting of towns and the environmental potentialities of the region to sustain fresh urban growth. It has been observed that roads and railways have helped in establishment of most of the towns of post-partition period, which have grown from pre-existing rural centres. The specific reasons for the development of certain old existing villages rather than the others are primarily related to (i) ease of transport (ii) better commercial opportunities (iii) the growth of non-agricultural population with the settling down of non-cultivating people and (iv) establishment of new industries. Jauhari has observed that railways have been responsible for most of the ‘mandi’ towns of Sutlej-Yamuna Doab while roads and railways are responsible for trade and commerce functions of Doab. As two-thirds of the towns of Doabs are engaged in this activity. It was partition that brought about a combination of several functions at individual centres on a larger scale and thus gave them real urban character. The largest of these towns-Yamunanagar has benefited from its old established industries and a favourable situation near the forest resources and transport facilities, both of which are of great advantage to its newly developing industries. This large-scale growth of small towns, however, is significant as it demonstrate the tendency of growing modernisation in this region. These towns have brought closer the people of rural centres and urban areas socially, culturally and economically.

Jauhari in his next paper : “Post-Partition Expansion of Pre-existing Towns in the Sutlej-Yamuna Divide (A Study in the Development of Urban Fringe and Suburbs)” has stated that the Sutlej-Yamuna Divide has witnessed vast areal expansion of a fairly large number of old existing towns and cities. This new growth has however, been rapid in the fringe areas where residential suburbs, civil station, suburban area and commercial suburbs have been instituted owing primarily to (i)

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rehabilitation of displaced persons and (ii) changing political and economic situation since the time of partition. It is the eastern half of the Divide with better water facilities and greater security that has made notable progress. Half of the new residential townships are situated in a narrow belt close to the old west bank of the river Yamuna. This zone has the advantage of having some of the trunk roads and broad-gauge railway line which connects it with the two major ports of India - viz., Calcutta and Bombay. The extension of irrigation facilities has caused the establishment of new 'mandies'.

In several developing countries, including socialist China, there has been a growing interest in the direction of development of small towns. Prof. Fei Hsiao Tung and others have emphasised the development of small towns, which have a vital bearing on the overall solution of the country's emerging problems of population, employment, commodity production and circulation. This concept was felt as early as 1930's in China, but in India, this realisation came with the beginning of the Sixth Plan period (1980-85) when the national planners decided to take the population load off the large cities through planned growth of the smaller cities. Though as early as 1963, the problems of physical planning and socio-cultural development of small and medium towns was felt by the Town and Country Planning Organisation which is revealed in an TCPO article. The problems of development are not endogamous to their own process at the local level but stem from the imperatives of socio-economic development which are sought to direct and control the process of urbanisation in India".

D.S. Meshram and A. Qaiyum (1992) have analysed "The Trend and Pattern of Urbanization in India", as revealed by the Indian Census 1991. After analysing the data, the authors have concluded in favour of a deliberate policy of locating industries in the backward regions, provision of basic infrastructure in the towns of such regions, and ensuring a reasonable level of urban services.

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The role of small and medium towns in controlling large-scale migration from rural areas to already congested big urban areas has been highlighted by B.B. Shah (1981)\textsuperscript{47} with reference to Gujarat. G.Singh (1983)\textsuperscript{48} has also highlighted the role of small and medium towns in checking the migration of rural population to the larger cities by providing employment generation while discussing the integrated development of the towns and cities of Punjab. Almost the same view has been expressed by R.Shankar (1981)\textsuperscript{49} when he says that, the development of small and medium towns can be a very effective tool for depolarising the already bloated and unmanageable metropolis and other big cities. He emphasises that the development should take into account, the broader perspective of population growth, urban growth and its impact, resource constraints, energy shortages, increasing poverty and unemployment and concomitant developmental problems and challenges facing our country. Prof. Mandalia and Vishwanitter (1981)\textsuperscript{50} have also stressed on the development of small and medium towns for their positive role in national development, analysing the development of these towns during the five-year plans.

The brief review of the central place literature in India has been undertaken to highlight the fact that the spatial distribution of small and medium towns in India serves mainly as central places for the surrounding region. Therefore the development of small and medium town is of great importance both in terms of regional and national interest.

Even after realising the fact, that small and medium towns should be given more emphasis, it appears that a lot of problems come into their way of development. Therefore writings are also available on the problems of small and medium towns.

S.B. Mukherjee (1963)\textsuperscript{51} has discussed in his paper, the differential growth rate of small and medium towns inside the Calcutta Metropolitan District and the


\textsuperscript{51} S.B. Mukherjee (1963), "Demographic--Economic Aspects of Small and Medium Towns in Calcutta
towns scattered over the state, and the planning problems associated with it. He has pointed out that, the demographic-economic features of such towns in the CMD are determined by the pattern of industrialisation in contrast to the rest of the state. Therefore he said that, the plans for these towns must fit into and be essential part of the comprehensive plan for the entire metropolitan area, while for other towns, planning has no such constraint.

K.N. Singh and Minati Singh (1981) attempted to analyse the ‘Spacing of Settlements in Lower Ghaghra Doab’, flanked by the rivers Ganga and Ghaghra from north, east and south, comprising the districts of Azamgarh, Ballia and Ghazipur forming a part of the middle of the Middle Ganga Plain, The analysis of hypothetical spacing is based on Christaller’s conceptual hexagonal arrangement of settlements which may be true only in an area of uniform terrain. Variations in the hypothetical spacing of settlements have been computed. The frequency distribution of villages on block level shows gradual decline towards uniformity. The expected nearest neighbourhood distance computed block-wise on the basis of Poisson probability distribution (rE=1/2d) reveals the range from 0.24 to 0.60 which is in accordance with the hypothetical spacing. It may be observed here that the hypothetical and expected spacings do explain the average inter-settlement distances in the blocks. This aspect of distribution is clearly explained by the index of randomness. The distribution in more than half of the blocks appears to be leading towards uniformity. While the blocks of the western margin with lower nearest neighbourhood distances present near random distribution.

The theme that ‘the theoretical basis of transportation of density into spacing is provided by an ultimate development of a polygon into a cycle’ has been analysed by Mukerjee for the state of Rajasthan in India. The results have been compared to the other states of India. The size and rural density have also been taken into consideration. The result reveals that spacing of villages is subject of continuous increase from east to west due to the increasing pressure of physical restraints. This is
evident from the western part of the State, which is a desert, where villages have grown in large size but in compact form.

Arthur Getis (1964)\(^5\) has studied the land-use pattern within cities. He tried to answer the questions, "what significant changes in commercial land-use patterns have occurred in the last 60 years?". Although no attempt was made to explore the effect of transportation technology, it is felt that this variable is a major determinant of these patterns. Grocery store locations in the city of Lansing Michigan, for the time periods 1900, 1910, 1920, 1930, 1940, 1950 and 1960 were used to indicate commercial land-use patterns. Patterns are described for each period with the use of nearest neighbour methods. As a check on some of this work, a quadrant method, based on the Poisson distribution (as it is nearest neighbour technique), was used. In the formative stages of a settlement, there is a period when the community fills its empty areas with homes and, appropriately, a rather haphazard, random pattern of commercial land-use develops, only to become more grouped as population densities increase. The original random pattern was not caused by the same phenomena as the random pattern, which obtains now. The first is an initial city form evolving from the single shopping area of the village, whereas the expected pattern is a transitional form, standing between the grouped pattern of the pre-automobile period and the dispersed or even pattern of the mature period of adjustment to the automobile’s influence.

### 1.8.2 Functional Characteristics

The functional characteristics of urban centres are determined to a fair degree by the quantum of the urban work force in various occupations as well as the processes associated with that. The process of urbanisation has been fairly brisk in Haryana, particularly in the last few decades. The total urban population has been changing continuously. It is generally agreed that the process of urban growth is highly associated with the direct and indirect impacts of non-primary activities in the economy whether expansion of manufacturing industries or the services sector.

Harris made an attempt in identifying the dominant functional characteristics of urban centres and used the proportion of labour force in a particular occupation as the basic criterion during classifications of cities of the United States into different functional types for determining the intensity of its specialisation.

Nelson used almost similar method with a threshold, which could be worked out from mean and standard deviation of the occupational structure data.

Deshmukh and Pawar analysed new towns which have developed after independence in Maharashtra, and which show peculiar occupational characteristics. At present, there are eighty new towns, developed as industrial centres and most of them are concentrated in Thana and Poona districts of Maharashtra. The Marathwada area shows a dominance of primary activity centres and administrative towns. Most of the new towns have developed in western Maharashtra and very few towns have developed in Marathwada and Vidarbha areas. Industrial and economic development of Western Maharashtra is responsible for the growth of more new towns as compared with the other two areas. The investigation shows that areas economically developed have more shares of new towns and percentage share of all types of towns in western Maharashtra is very high as compared to other two regions. Marathwada and Vidarbha areas have agrarian base and industrial development has yet to make its mark. Marathwada area has only dominance of primary activity and diversified centres. In Vidarbha area, mining towns are more dominating.

Classification of towns, by the dominant functions they perform, is a useful elementary technique on the basis of which their role in economic development can be analysed in depth. Pothana in his study ‘Functional Classification of Towns in Andhra Pradesh’ has analysed the Census data on workers which are grouped under nine broad industrial categories and was taken as the basis for identifying the predominant function/functions that each town performs. He analysed that (a) the

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majority of the small towns are agriculture in nature and even among the bi-functional category of small towns, agricultural is coupled with trade and service functions; (b) the majority of medium towns are household industry and trade and commerce centres; (c) The majority of cities are bi-functional; (d) the occupational nature of a town is not related to its size. for. towns of a given size are equally distributed over all these categories.

Urbanization, as defined in India generally, brings about major changes in the occupation structure of an economy. As a result of this, a spatial reordering of occupations comes about, due to the shift of the work force from rural to urban. Pothana\(^59\) analysed these changes in occupational structure in Andhra Pradesh, and made an attempt on the basis of the Census data for nine industrial categories of workers for the period between 1961 and 1971. In the first part of this study, the agricultural sector consists of the first two categories (I and II) and the remaining categories are grouped under non-agricultural sector. In the second part of this study, an attempt is made to analyse the work force data in rural areas as well as in the agricultural sector.

R.N. Singh and Sahab Deen (1982)\(^60\) in their study of eastern Uttar Pradesh, analysed that the manufacturing towns make one-third of the total number of urban centres. It is not surprising to find considerable range of variations in the intensity of their specialisation. Specialisation in manufacturing is more a characteristics of our medium and small sized urban centres than of large cities. This does not mean, of course, that manufacturing is unimportant in our large towns and cities. But they have developed so many other activities that the percentage of persons occupied in manufacturing ordinarily is not great enough to bring them into the manufacturing category.

Reddy (1982)\(^61\) analysed the functional transformation of Secunderabad cantonment. The whole area at one time was quite with no obvious signs of urban

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activities, and was mostly used for residential and agricultural purposes. There were no signs of other activities like trade (except petty shops), industrial enterprises and even the availability of general services were inadequate. Residents of these areas had been agitating for a considerable time to release the restrictions imposed by the cantonment authorities on the use of land. It was in July 1970 that the cantonment authority passed the Building Relaxation Act, since then the cantonment area has been a centre of hectic activity. Immediately after the relaxation, a number of entrepreneurs formed co-operative societies with the intention of constructing houses for residential purposes. Along with residence a number of shops and office premises have been constructed. Industrial, commercial, educational and cultural, medical and financial activities have also taken place. The above functional changes in the cantonment have resulted in tremendous increase in land values.

Seetharaman (1985)\(^6^2\) analysed the occupational structure of small towns as revealed by the working population. There are thirty-two urban centres in Tanjore district of Tamilnadu, of which, twenty-two are small towns. To bring out the underlying dimensions of the occupational structure and their hierarchical grouping, the Factor Analysis with Principal Component solution is employed. The factor scores can be computed and small towns can be grouped on the basis of the occupational structure. The transformation of rural service centre both in time and space due to the concentration of commercial, transportation and professional service gives rise to the development of urban centres. The increasing intensity of such processes over a landscape leads to urbanisation. Urbanisation brings with it regional prosperity as the provision of infrastructure facilities stimulates the development of locally available resources, thus increasing regional income and employment levels.

\(^6^3\) Rao divided his paper into three sections. Section I deals with the study of occupation characteristic and economic base of the city. Industries have been taken up in Section II and Section III examines the commercial land use and structure. In the first part, he has analysed thoroughly the nine industrial classification as well as

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broad categories of occupations of Warangal city and other class I towns of Andhra Pradesh. Rao observed the comparatively weak economic base of Warangal might be because of its low level of industrialisation. However, Warangal’s “Index of Economic Base” is higher than that of all urban areas of the state. Rao further pointed out that Warangal has surplus workers in only two industries viz., textiles and leather. In the rest of the industries and services, the city does not have surplus workers. This clearly substantiates the earlier conclusion that the economic base of Warangal is very weak.

Shahi (1989)\(^4\) endeavoured to look into the functions that the urban centres perform and to analyse their functional character by size class. Further, the urban centres of the study area have been classified into five functional categories on the basis of functional specialisation and functional hierarchy in order to bring out the comparative specialisation with regard to the population size of a particular town and in relation to the whole set of towns. In addition, a sixth category of ‘diversified towns’ has also been given which includes those towns that don’t qualify to be classified in any specific functional category.

Ujagir Singh (1965)\(^5\) analysed the distributional pattern, demographic structure and classification of cities of the Ganga plain. He observed that most of the cities are riverine towns standing either on the Ganga or its tributaries. He estimated that more than two thirds of the cities are commerce and trade centres, about two thirds fall in the category of transport centres and less than 50 per cent of the cities are the service centres. Thus, most of the cities are multi-functional.

Ujagir Singh (1962)\(^6\) studied the geographical background, occupational structure and zonal distribution of functions of ‘KAVAL’ towns, and a comparative analysis of functional aspects of urban centres in Uttar Pradesh. Except for Varanasi which lies in the middle Ganga plain on the northern bank of the Ganga, all ‘KAVAL’ towns are situated in the upper Ganga plain on the Southern bank of the

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Ganga and its two large tributaries the Yamuna and Gomti; thus easily accessible from the south consisting of a variety of landscape producing different crops and raw material. Endowed with all such geographical advantages of site and situation, the ‘KAVAL’ towns have grown into large urban centres. Advantages of geographical location of Lucknow in the centre of Uttar Pradesh has made it a natural capital of the state while Kanpur is like an oasis in the industrial desert of Uttar Pradesh. Among 5 cities, Kanpur with 42 per cent of population engaged in industry is the only industrial city. Lucknow, the capital of Uttar Pradesh with 48.8 per cent engaged in services is an administrative centre. Agra and Allahabad, the old capital cities where about 40 per cent of people are engaged in services etc. are also administrative centres. Varanasi with 34.4 per cent in industry, 24 per cent in trade and 31 per cent in service is multi-functional town.

Nigam (1964)\textsuperscript{67} analysed the growth of Lucknow and showed the tendency to the segregation of function into separate regions. The chief business area lies in its inner zone, while the residential area has a tendency to occupy the peripheral position. The administrative area suitably occupies the middle zone. Educational Institutions are generally located in the middle and outer zones. The industrial concerns have formed a separate region in the southwest. The cantonment with its barrack-quarters covers an extensive area in the suburban zone in the south. Hospitals are located in the middle zones towards the west. Agricultural area has enveloped the whole city covering even the outer zone in the west, and the Suburban north and south. In addition, Lucknow has all the other functions that a big city performs. Thus Lucknow is a diversified city, i.e. it is at once a state capital, a regional military headquarter, a University town and a large service centre.

Sharma (1978)\textsuperscript{68}, has studied the town of Chamba which has been administrative-cum-trade centre right from the time of its founder Raja Sahil Verman in early 10\textsuperscript{th} century A.D. to the present day. The rate of growth of population was slow up to 1951, the reasons being the lack of medical facilities, outbreak of


epidemics and the two World Wars, lack of transport means and unwillingness on the part of Rajas, who ruled the then Chamba state. The substantial growth of population in the last two decades has posed several problems. With the increase in population, there has been no corresponding increase in civic amenities. The town faces an acute shortage of drinking water as the source and quantity of water are the same as they were nine hundred years ago. The author suggested that from the viewpoint of morphology, four distinct functional zones including cultural and residential zones might be identified in the town. Improvement in the existing transport routes, linking the town with several tourist resorts in the vicinity of the town as well as with places situated in the remote tribal areas of Pangi and Brahmaur sub-tahsil will help the development of the town. The establishment of such industries in the town as woollen textile industry, match industry, horticulture industry and varnish and paint industry will strengthen the economic base of the town.

Gosal (1958)\(^6^9\) has disallowed the generalisation that rural population in India is synonymous with agricultural population. The proportion of rural non-farm population varies widely from region to region, as do also the causal factors, which produce these variations. Wherever there is a prevalence of cash crops, they have stimulated the developments of numerous rural cottage and processing industries such as those based on cotton, sugarcane, oil seeds, rice, wheat, coconut, tobacco and jute. Similarly plantation industries, particularly those connected with tea and coffee has made a significant impact on the occupational structure of the rural people of the areas where they are progressing. Also important in supporting non-agricultural population in rural areas is many handicrafts and cottage industries. In most cases, such industrial activity is based on locally produced raw material. Though in varying degree, all the highly urbanised and industrialized areas, especially those having large cities, are those having a high proportion of rural non-farm population. Growing industrial cities not only provide a market for the products of cottage industries which can be carried on in the country-side but also offer possibilities of employment to those living in the nearby villages. It must be noted that it is only the larger and industrial cities which have made a significant impact on the occupational structure of

the ruralities, rather than the smaller towns, which may be functioning mainly as service centres or agricultural markets. Under the national five-years plans, the central and state governments are giving great encouragement, in the form of loans and grants, to the development and expansion of non-agricultural activities in the rural areas. The completion of numerous multi-purpose river valley projects which will extend irrigation, supply hydroelectric power, develop fishing and recreation industry, will certainly bring in numerous changes in the occupational structure of the people living in the countryside.

Singh (1973)\(^ {70}\) studied the physiography and functional morphology of Unnao town. Unnao is a medieval town, whose origin dates back to about 8th century A.D. Industrial development started after the first World War and now many more industries have been added on the industrial landscape of the town, particularly towards its west, i.e. on the Kanpur side. Unnao is growing as a satellite of Kanpur, the industrial capital of Uttar Pradesh. Milk, vegetable and grain - all the products of Unnao district are directed to Kanpur through railways and roads.

Deo\(^ {71}\) observed that the industrial development and urbanisation in Chotanagpur brought about manifold and complex changes in the agricultural economy and land-use pattern. A large number of urban settlements came into existence, agriculture has been brought to the level of commercial farming, particularly in the villages within the sphere of influence of large urban centres.

### 1.8.3 Infrastructural Development

During the past few years, particularly since 1951, there has been a rapid growth in urban population and in the number of urban settlements in India. This has caused tremendous strain on existing amenities and deterioration in the quality of life in towns and cities. A number of studies has dealt with the urban problems and their effective solution. As a result, there has been a steady increase in publications in recent years dealing with various facets of urbanisation in India.\(^ {72}\)


Debal Singh\textsuperscript{73} (1980) in his paper determined the relative significance of rural settlements by taking into account fifteen central services. These fifteen functions were arranged in order of importance into four groups, viz. A, B, C and D. All functions falling in a particular group were awarded score values in order of relative significance, group wise. Thus all services in group A, relatively less important were awarded a value of 1 each, those of group B value of 2 each and so on. All the fifteen services were worked out for all the 2761 inhabited rural centres. To acquire the status of central place, a settlement must score at least two points. Thus, 430 rural settlements out of a total of 2761 could qualify as service centres.

OECD (1983)\textsuperscript{74} has asserted that deployment of urban infrastructure, particularly the physical facilities and services on which urban growth depends, may be used deliberately as instruments for steering urban growth in time and space and at both the national and local levels. Servicing urban development adequately and at reasonable cost involves the provision of infrastructure in a way which will reduce some of the adverse consequences of rapid urban growth. In the United Kingdom, national expenditure on road building in the north-east and in Scotland has had this propulsive intention. The British new towns, which involve concerned attempts to provide modern and integrated infrastructure in select urban locations, are another example. In Canada, the federal government has tried to ensure that new access roads are provided to developing areas. Moreover in 1974, Canada launched a programme of ten year “General Development Agreement”: between federal and provincial governments with the intention of relating federal expenditures on infrastructures such as water supply, sewerage and highways, to common regional or urban objectives. Over 100 such agreements have been signed.

Problems of urban poverty and unemployment, of inadequacy of housing and urban infrastructure, have been recorded throughout the history. What most distinguishes the current urban problems of the developing countries is their scale and intensity. The severity of the problems reflects primarily the rapidity of overall


population growth and the acute shortage of resources with which to equip the
additions to urban population. The proliferation of squatter settlements and slums,
and the rising backlog in urban services, have been accompanied by growing
recognition that "development" implies much more than just expansion of output. Yet
with few exceptions, measures so far undertaken have signally failed to reverse those
trends or produce more efficient patterns of growth.  

Iyer and Jain (1979) have calculated centrality by having the commercial
activity as the primary central function of the service centre and found out the
hierarchical class. There is scope for the numerous smaller centres to develop into
higher classes. Larger urban centres are seen diversified distinctly. This
diversification is noticed as the large centres have numerous activities or functions to
render whereas the smaller ones have less important functions due to which the larger
centres occupy a higher order.

Misra (1986) examined the hierarchical pattern of service centres in the
Hamirpur district, which is a part of the Bundelkhand region of the state of Uttar
Pradesh. He has assigned the weightages to the functions not in terms of number but
in terms of its order of hierarchy. Therefore higher the level of functions and the
functional hierarchy, higher will be the centrality of the place having those functions.
Settlement-Index has been calculated by multiplying functional centrality value and
occurrence of a function in a service centre. As per settlement index, 4-tier hierarchy
of service centres in the region is identified which partially conforms to Christaller's
marketing principle (k = 3). While the service centres of first and second order
perform almost all categories of services, the number as well as the quality of services
goes on declining in case of third and fourth order centres. The coefficient of
correlation test shows that there is high degree of positive relationship between
population size and settlement index on the one hand and settlement index and
number of functions on the other. The spatial distribution based on hierarchical group
reveals that large centres are widely spaced and small centres are closely spaced.

75 World Bank (1972), "Urbanization", World Bank, p.3.
Tiwari, Rawat and Pandey (1983)\textsuperscript{78} identified the existing central place systems and their hierarchical organisation in distinct physiographic units of the study area by applying a most sophisticated statistical technique (i.e. Principal Component Analysis) of ranking. It also brings out the facts that distribution of centrality in service centres is governed by peculiar physio-climatic conditions of the study region. Main emphasis has been laid down to investigate and compare the patterns of central place systems, and standards of various services and functions associated with them in two different parts of the study area.

Shahi (1989)\textsuperscript{79} made an attempt to examine the rank-size relationship and hierarchy of urban centres in the study area. Urban centres are believed to have certain relationships, which are supposed to be constant under ideal theoretical conditions. Certain rules have been formulated in this regard. Shahi examined the validity of such theoretical formulations in respect of the urban centres of the study area during 1901-'71. The primacy of Ahmedabad and the dynamic aspect of the rank order of forty largest urban centres selected on the basis of two indices: Absolute Centrality Index (A.C.I.) and Size Index (S.I.). The towns of the region have been categorised into six discrete grades of hierarchy on the basis of these two indices.

Despande (1970)\textsuperscript{80} provides correlation between size of population and social provision in the settlement of Buldana District. The variation in social provision is due not only to population size, but also due to other factors known as service function of the settlement. The amount of variation in social provision has been measured, scores for social provision for each settlement have been compiled. Only the villages with population under 1400 are considered for analysis. For the analysis of relationship between population size and social provision, correlation coefficient is used. It is evident that they are in sufficient variation in social provision unexplained


by population differences to admit of the existence of service function factor of
differential settlements.

Governments in underdeveloped areas tend to use Western consultants to
devise new urban water schemes and the consultants fees are often paid for by
W.H.O. It is calculated that research and consultancy fees for a full fledged urban
water scheme will cost approximately 3 million dollars, but many of these expensive
reports were never implemented as they were far too expensive and too ambitious for
local conditions. For example, the cost of the water scheme for Calcutta is estimated
at 455 million dollars, while Dacca has shelved the plans of Ralph M. Parsons and
Company (Los Angeles) because the suggested scheme, while being engineeringly
correct, was far beyond the financial capability of city.

Provision for water, sanitation, drainage and the safe disposal of wastes are
obviously central to good housing and living conditions and to health. They and
certain other forms of infrastructure are also central to prosperous economies - for
instance roads, ports and railways electric power and telecommunications. If
consideration is given only to what might be termed ‘economic infrastructure’ that
does not include education and health care, the services associated with it usually
account for between 7 and 11 per cent of a country’s G.D.P. The share usually
increases with income. Transport and communications generally represents the
largest sector in low-middle and high-income countries and its share generally
increases with higher per capita income. Investment in infrastructure was found to
represent around 20 per cent of total investment in a sample of low-and middle-
income countries and to account for 40 to 60 per cent of public investment.

The quality of infrastructure and service provision within any city or country
has become increasingly important in attracting new investment. The capacity to
attract industries or service enterprises that can operate successfully in international
markets is particularly dependent on high quality infrastructure, especially in the

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83 Ibid.
rapid and cost-effective handling of freight and sophisticated telecommunications system.  

As the World Development Report 1994 on Infrastructure for Development noted, "Surveys of prospective foreign investors over a wide range of countries show that the quality of infrastructure is an important factor in ranking potential sites for location of direct investment." All the countries or regions that have had the most success in attracting enterprises that have a role within the increasingly globalized world economy have also greatly improved the range and quality of their infrastructure.

In theory, demand for infrastructure accompanies economic growth so the two can support each other. What has proved difficult for most governments is developing the institutional means to ensure that the two go together. This includes the means to raise the funds for infrastructure investment, to ensure sufficient funding for operations and maintenance and to develop the capacity within municipalities, cities and regions to make the best choices over which forms of infrastructure receive priority in each location and how best to charge those who benefit from such investment. It is also difficult to predict how demand will change for many forms of infrastructure, although large infrastructure investments require many years for their planning and construction. Overestimation of future growth in demand can prove very expensive, as for instance, new power stations whose full capacity is not needed or industrial estates that remain empty. But there are also large costs from underestimating growth in demand for instance where power and water shortages hold back the economic growth of a city or region.

There are also the more serious problems for cities and countries that have not enjoyed economic prosperity. Most cities of the Southern Hemisphere experienced deterioration in their infrastructure over the last 10-15 years as little or no new infrastructure was constructed and much of the existing infrastructure deteriorated through inadequate provision for maintenance. Yet these are also cities with the greatest need to improve the quality and coverage of infrastructure and services both

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84 Ibid.
85 Ibid.
to attract new investment and to improve living conditions for their population. But effective demand may be low, the resources available to city and municipal authorities very inadequate\(^87\) and there is a lack of technical and institutional experience in funding, constructing, operating and maintaining infrastructure.

In addition, most of the countries in the South that have undergone economic problems during the last 10-15 years also underwent structural adjustment that was often accompanied by a marked deterioration in infrastructure and a cut in provision for its maintenance.\(^88\)

Capital spending on investment is often among the first items to be cut with operations and maintenance not far behind. Despite the long-term economic costs of doing so and the substantial employment benefits from well-organised labour-based approaches, this is less costly politically than cutting incomes or public employment.\(^89\)

Deshmukh\(^90\) attempted to highlight the relationship between the sizes of settlements and social provisions in the different natural regions of the Buldana district. In the social provisions, he included six services namely public utilities, transport and accessibility, commercial services, professional services, places of assembly and social organisations. He concluded that sizes of settlements are not the only decisive factor but one of the several geographical factors, which may influence or determine the standard of social provisions and consequently the basis of service centre.

L.S. Bhat and others (1976) \(^91\) contributed one of the important study i.e., "Micro Level Planning: A case study of Karnal area, Haryana-India". The study is based on 23 variables. Depending upon the selected variables for the service and facilities, correlation matrix and principal component analysis method have been attempted for the ranking of the settlements.

\(^87\) Ibid.
\(^88\) Ibid.
\(^89\) Ibid.
Wanmali \(^{92}\) in "Regional Planning of Social Facilities: An Examination of Central Place Concepts and their Applications - A Case study of Eastern Maharashtra", has examined the central place concepts and their application for the planning of social facilities in the towns of Vidarbha and Nagpur Metropolitan Region. Two approaches to the study of hierarchy have been identified here. One involves the assessment of goods and services available in the central places while the other involves the identification of the extent of the complementary region and the degree of dependence of the latter on the central place. The study on Vidharbha takes the former approach, while that on Nagpur Metropolitan Region combines both.

J. Singh (1981) \(^{93}\) has suggested that the vital role played by the small and medium towns for multifaceted development of our rural areas be by the provision of various infrastructural facilities in them in hierarchical manner. The small and medium towns thus generate a chain of continuous spatial interaction between the centres of different orders and their dependent settlements.

The importance of small and medium town as central places in India initiated only recently in 1955 when R.L. Singh's \(^{94}\) work on 'Urban Hierarchy in the Umland of Banaras' was published. He first drew the attention to the fact that rural settlements not only function as central places for their surrounding areas, but also have a definite life history as they pass through the various stages of evolution.

M.L. Soni's \(^{95}\) study: 'Hierarchy of Service-Centres in the Umland of Lucknow' also reveals the same pattern, as the small market centres are more numerous and closely spaced in the umland. The umland of Lucknow is an agricultural area and the service centres exist mainly because of their function as central places for the exchange of goods and services, each for its local trade area. The study of central places in western India by J. Diddee (1984) \(^{96}\) covering the four districts of Bhima basin also shows the same pattern. Out of 2411 settlements, 220


settlements were identified as central places based on the functional organisation. The 
lowest order settlements, the small market centres were highest in number but they 
served the smallest area and population. Moreover, lack of diversification in the 
economic base emerged as the single most potent factor, leading to stagnation of the 
small and medium sized central places. This in turn has not only precluded the 
development of a true hierarchy of centres but has also had a depressing effect on the 
rate of multiplication of functions and functional units.

Bhargava and Das Gupta (1981)\(^7\) while discussing the development 
problems and prospects of small and medium towns in Uttar Pradesh, suggest that the 
role of local authorities, inadequate finance and infrastructure have acted as the 
hindrance to development of small and medium towns. Haldar (1981)\(^8\) has pointed 
out, that the development problem of small and medium towns in Bengal is due to 
lack of emphasis on the “Local Self Government System” and inefficiency and 
bankruptcy of the municipal authorities, and neglect of planning and development has 
进一步 accentuated the process of “polarisation” in the city of Calcutta.

The inability of the local bodies to take up town planning and development 
activities because of financial constraints has been pointed out by S. Singh (1983).\(^9\) 
Vaidya and Mukundan (1989)\(^10\) in their discussion they have assessed the 
infrastructural requirements in relation to population and economic growth, financial 
resources available and organisational capability of the small and medium towns to 
cater to the needs of the fast growing urban population equitably and efficiently.

To tackle the problems of fast growing cities and towns in the country, Fifth 
Five-Year Plan (1974-79) formulated central schemes for a proper development of 
large cities. A central scheme called, Integrated Urban Development Programme 
(IUDP) was prepared by the Government of India. This scheme was initiated towards,

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\(^{86}\) J. Diddee (1984), “Central Places in Western India”, University of Poona, Pune.  
Medium Towns of Uttar Pradesh”, Institute of Town Planners, India (ITPI) Journal, Vol. No.109, 1981, 
p. 28-37.  
\(^{98}\) B.B. Haldar (1981), “Small and Medium Town Development in West Bengal in the Sixth-Plan”, 
\(^{99}\) Shamsher Singh (1983), “Growth and Development Problems of Small and Medium Towns in India 
Town in Metropolitan Region - A Case Study of Madras”, ITPI, Journal, Vol.8, No.2 (140), Dec. 1989, 
p.31-38.
achieving among others, a greater viability for small and medium towns to enable them grow in tune with the concern spelt out by the Govt. The failure of IUDP has been analysed by C.S. Chandrasekhar (1981). He observed that, though the programme was called Integrated Urban Development Programme, the scope of integration appeared to be confined within the boundaries of an individual city or town and not integration of the overall settlement system in an area or situation.

The Task Force also in its report (1977) expressed a strong need for the strategies to endeavour to avail local resources, skills and investments in developing small and medium towns. In the Sixth Plan, a new scheme named “Integrated Development of Small and Medium Towns Scheme”, was launched on country-wide basis to exploit the relatively favourable potentialities (physical and economical) of some of these towns and to build them up as growth centres, so that, they could not only stop the migration of the rural poor to large cities, but also provide central services to their hinterland and, thus lead to the balanced development of the whole district and the region. But, even this scheme could not make a big headway.

Edelman and Banerjee (1994) have assessed the progress of small and medium towns, under the IDSMT scheme since its inception in the light of experiences of three towns in the state of Karnataka. After assessing the development of Magadi, Ramanagaram and Tiptur they were of the opinion that, the programme has had mixed results and can be improved further. However, there have been some real achievements at project objectives and quality of life, that is, infrastructure has been provided in many towns and this led to some improvements in the quality of life in those municipalities.

Raj Nandi (1985) in his study of Karnal town has highlighted some of the aspects of the administrative machinery, which appear to have impeded its

effectiveness in the execution of the IDSMT schemes in the towns. Though there have been some developments in the town, chronic shortage of money and management skills have hindered the expected development of the scheme.

Wishwakarma, Prakash and Panday\footnote{R.K. Wishwakarma, Ajay Prakash and H.B. Pandey (1985), “Evaluation and Impact of Integrated Development of Small and Medium Towns Programme”, Centre for Urban Studies, Indian Institute of Public Administration, New Delhi.}, in their study, have highlighted the major gain of the IDSMT scheme, to the township of Sri Ganganagar in the improvement of physical environment, socio-economic status of the town including services and amenities, which have been upgraded. Besides increased public investment which has created employment, basically at the grass-root levels has also worked as the push factor in raising the per-capita income and thereby helping the urban poor to come out from the poverty line. Apart from Sri Ganganagar, Trichur municipality also experienced a totally changed environment of the town after the implementation of the IDSMT scheme; but as the authors points out that in both the cases, inadequacy of funds was the biggest constraints faced by the project management, secondly, late receipt of the matching grant from the state government has also been a financial constraint in the project management. Other problems included the legal, administrative and technical for the project management.

All the above studies expressed the same view i.e. the lack of financial resources, have been the major constraint in the implementation of housing and related infrastructure programme. Further even when investment is made, it is generally considered a one-time affair. The gap between the demand for and the supply of urban services grows, as the user community tends to grow whereas the supply of the services does not grow even at the same pace. A vicious circle emerges, where low level of financial resources lead to widening gap between demand and supply, which in turn leads to financial losses and further setbacks in financial flows.

To study and analyse the financial needs of municipalities to cope with the increasing need for infrastructural facilities, Zakaria Committee for the first time presented its report in 1963, and suggested an increased annual expenditure for the maintenance of civic services.
The National Institute of Urban Affairs study of the financial resources of the urban local bodies (1983)\textsuperscript{106} paradoxically showed that the municipalities had in the aggregate, revenue surplus as to the common belief of the deficit budget.

In 1988, the National Commission on Urbanisation (NCU) also focussed on the inadequate flow of financial resources into the urban infrastructure sector. Because of the emphasis on lack of financial resource for small and medium town development, a first serious attempt was made to ensure adequate constitutional obligation through the 74\textsuperscript{th} Constitutional Amendment Act, so that democracy in municipal government is stabilised. Democratic decentralisation of municipal govt. through the 74\textsuperscript{th} Constitutional Amendment Act has broadened the range of functions and responsibilities of urban government, thereby leading to the development of “Model Contract”, for various municipal services.

Though in a nascent stage, a Financial Institutional Reforms and Expansion (FIRE) programme has been launched to develop a viable infrastructure finance system that will tap the growing capital market with appropriate debt instruments and promote public or private partnerships. The FIRE programmes policy include - promoting a commercially viable infrastructure finance system, increasing private sector participation in the delivery of municipal services and land development, improving the capacity of local governments to plan, operate, maintain and recover costs of services and develop appropriate legal and institutional structures for infrastructure management.

1.8.4 Spatial Interaction

Jayaswal (1963)\textsuperscript{107} analysed Bindki being one of those urban centres in the Ganga-Jamuna Doab, whose unique nodality has since its very inception made the town a flourishing centre of trade and commerce in the region. As a result of changing highways pattern and new techniques in the transportational facilities the town gained a nodal situation superior to the older ones (Kora-Jahanabad and Fatehpur), and consequently making rapid strides has acquired its supremacy.


Obviously the process saw the slowing down of certain towns and even the decay of many others, which is clear from the presence of large number of deteriorated and ghost towns of the district viz., Kora-Jahanabad, Kalyanpur and Khajuna. It thus exhibited an important factor in settlement growth: the fluctuations due to the establishment, removal and reestablishment of the administrative seat from a centre.

Ayyar\textsuperscript{108} examined the pace of urbanisation in the upper Narmada Valley. There were only 11 towns in 1872, 13, towns in 1901, which increased to 22 in 1961. The pace of urbanisation in the area has, however, been more rapid since the end of the last century, due mainly to the great fillip provided by the opening of the railways. This has resulted in high agricultural productivity of the valley and the emergence of service and market centres. He examined that in 15 out of the 22 towns other services, trade and commerce are among the first three occupations.

Sinha\textsuperscript{109} studied the application of research models and discussed the origin and growth of Sirsi town. After discussing the topographical structure he studied the rural-rural-urban migration, rank-size rule, housing, educational facilities, transportation and communication network of the city, functional and occupational aspects of urbanisation. He has also studied the market study including milk supply, interaction and measurement of zones of influence and. He has applied certain quantitative techniques.

Sinha (1970)\textsuperscript{110} examined the factors, which determine the evolution, distribution types and morphology of the rural settlements and the trends of population and occupational structure of the population, which is very much dependent on the intensity of utilisation of natural resources. A correlation of population and settlements with latitudinal zones, relative relief, drainage, texture and slope categories has been attempted. There is a close relationship between settlements and topographical features. The density of population is directly related to the character of land, being least in the upper and forested areas of the upper course of


river and rising steadily in the fertile plains of lower course. Recently as a result of
more employment opportunities in the mining areas of the Bokaro basin and growing
agricultural facilities, more people have been attracted to the region. Due to this,
certain pockets have become patches of changing settlement patterns. The
improvements in communicational facilities have exercised marked changes in the
distributional pattern of rural settlements in the inaccessible areas.

R.S. Mann (1974)\textsuperscript{111}, in his paper 'Functional interpretation of Rural
Settlements in Hansi Tahsil (Haryana)' has identified, mapped, described and
interpreted the hierarchy of rural service centres in Hansi Tahsil (Hisar District),
Haryana. He has tried to know the functional relations of rural settlements. As many
as 42 rural service centres of different orders are identified in the study area.

Kulkarni (1981)\textsuperscript{112} has attempted the urban structure of Nasik city. He has
traced the growth and development, its morphology and functional interaction along
with infrastructural development.

Kankure and Malshe (1986)\textsuperscript{113} has analysed the growth, hierarchy and
functional classification of urban settlements in a relatively less developed region of
Maharashtra namely Marathwada, with high potential for industrialisation/
urbanisation, considering its rich agricultural endowments. The service centres in the
region were mainly rural, as small market towns numbered thirty-seven out of
fifty-two urban centres. There were only few large market towns, sub-regional centre,
regional centre and a single regional centre, which marked the hierarchical order of
urban centres in the region.

The interaction between the central places of the district Nainital, including
two development blocks, one in the hills and the other in the plain have been analysed
by Pandey, Tiwari and Rawat.\textsuperscript{114} They have identified the central place interactions

\textsuperscript{111} R.S. Mann, "Functional Interpretation of Rural Settlements in Hansi Tahsil (Haryana)". Indian
\textsuperscript{112} K.M. Kulkarni, "Urban Structure and Interaction - A Study of Nasik City". Concept Publishing
\textsuperscript{113} K.B. Kankure and P.T. Malshe, "Growth Hierarchy and Functional Classification of Urban
Settlements in Marathwada". in C.S. Yadav (Edit) (1986), "Urban Research Methods, Central Place,
\textsuperscript{114} D.C Panday, P.C. Tiwari and J.S. Rawat, "Central Place Interactions: A Comparative Analysis in
Hills and Plains". in C.S. Yadav (Edited) (1986), "Urban Research Methods: Central Place,
in a three-tier functional hierarchy with the help of the quantitative as well as qualitative techniques, and shown that there were fundamental and marked differentiations in the delineation and nature of the areas of interaction of central places of hills and plains.

The multifaceted studies on small and medium towns and their role in regional and national development, the major constraints of their development and the measures taken by the government to eradicate the hindrances to foster the growth of these towns have been reviewed in the literature cited above. With this background the present study will try to assess the growth and development of small and medium towns in Haryana in terms of spatial distribution, change in functional characteristics, growth of infrastructural facilities and interaction of the selected small and medium towns with other settlements.