

**PATTERN OF URBANIZATION AND THE  
SPATIAL DISTRIBUTION OF ECONOMIC  
ACTIVITIES IN ANDHRA PRADESH: 1961-81**

Dissertation submitted to Jawaharlal Nehru University  
in partial fulfilment of the requirements  
for the Degree of

**MASTER OF PHILOSOPHY**

**C. RAMACHANDRAIAH**

**CENTRE FOR THE STUDY OF REGIONAL DEVELOPMENT**

**SCHOOL OF SOCIAL SCIENCES**

**JAWAHARLAL NEHRU UNIVERSITY**

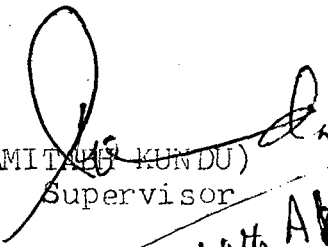
**NEW DELHI—110067**

**1986**

C E R T I F I C A T E

This is to certify that the dissertation entitled : "PATTERN OF URBANIZATION AND THE SPATIAL DISTRIBUTION OF ECONOMIC ACTIVITIES IN ANDHRA PRADESH: 1961-81", submitted by Sri C. Ramachandraiah, in fulfilment of the six credits out of the total of twenty-four credits for the award of the Degree of Master of Philosophy (M.Phil.) of the University, is a bonafide work to the best of our knowledge and may be placed before the examiners for evaluation.

  
(N.K.PREMI)  
Chairman


  
(AMIT KUNDU)  
Supervisor

The 14th April, 1986

## ACKNOWLEDGEMENTS

I express my sincere thanks to Dr. Amitabh Kundu, Associate Professor in the Centre for the Study of Regional Development, for supervising and guiding the present work. I am deeply indebted to him for sparing time for me whenever I demanded of him, for his constructive criticisms and valuable suggestions which have been of immense help during the course of the study.

My sincere acknowledgements are also due to Shri Muralidhar, Computer Programmer in the School of Social Sciences, who has helped in processing the data. I am also obliged and thankful to various authorities, my friends and others who have been helpful in various ways in bringing out this study in the present form.

  
(C. RAMACHANDRIAH)

NEW DELHI

8th April, 1986.

## C O N T E N T S

CHAPTER	TITLE	PAGE
	ACKNOWLEDGEMENTS	
	LIST OF TABLES	
	LIST OF FIGURES	
I	INTRODUCTION	1- 24
II	THE MACRO ECONOMIC SCENARIO OF THE STATE OF ANDHRA PRADESH	25- 59
III	THE SPATIAL PATTERN OF URBAN GROWTH IN ANDHRA PRADESH	60-107
IV	THE SPATIAL STRUCTURE OF INDUSTRIAL ACTIVITIES IN ANDHRA PRADESH	108-137
V	SPATIAL VARIATION IN AGRICULTURAL DEVELOPMENT AND PATTERN OF URBANIZATION IN ANDHRA PRADESH	138-168
VI	SPATIAL VARIATIONS AND INTERDEPENDENCIES OF THE INDICATORS OF DEVELOPMENT IN ANDHRA PRADESH	169-200
VII	CONCLUSIONS	201-223
	APPENDICES	224-243
	BIBLIOGRAPHY	244-249

## LIST OF TABLES

TABLE	TITLE	PAGE
1.1	Basic Information about the Districts of Andhra Pradesh-1981.	12
2.1	Changing Male Workforce Structure in India and Andhra Pradesh:1961-81.	48
3.1	Decadal Variation and Percentage of Urban to Total Population in Andhra Pradesh and India : 1901-81.	61
3.2	Number of Towns in each Size Class and their Percentage to total Towns-Andhra Pradesh: 1951-81.	66
3.3	Number of Towns in each Size Class and their Percentage to total Towns-India:1951-81.	67
3.4	Distribution of Population by Size Classes- Andhra Pradesh and India : 1951-81.	68
3.5	Growth Rates of Population in Cities/Towns of Different Size Classes during 1961-71 and 1971-81 in Andhra Pradesh.	72
3.6	The Levels and Growth of Urbanization in the Districts of Andhra Pradesh : 1961-81.	74
3.7	Percentage of Cities/Towns Growing at more than Fifty and Less than Ten Percent during 1961-71 and 1971-81.	87
3.8	Select Demographic Indicators for the Districts of Andhra Pradesh : 1961-81.	92
4.1	Male Workforce Participation in Manufacturing Sector in India and the Districts of Andhra Pradesh : 1961-81.	114
4.2	Registered Factories in the Organised Sector in Andhra Pradesh-District-wise Distribution : 1978-79.	127
4.3	Growth of Large and Medium Industries in Andhra Pradesh : 1971-82.	128
5.1	Select Indicators of Agricultural Development in Andhra Pradesh : 1962-65.	146

5.2	Select Indicators of Agricultural Development in Andhra Pradesh : 1970-73.	151
5.3	Select Indicator of Agricultural Development in Andhra Pradesh : 1980-83.	157
6.1	Composite Indices for Select Indicators for the Districts of Andhra Pradesh : 1981.	186
6.2	Regionwise Distribution of Districts by their Levels of Development in Andhra Pradesh : 1981.	188
6.3	Regionwise Number of Districts by their Levels of Development in Andhra Pradesh : 1981.	189
6.4	Andhra Pradesh : Distribution of Taluks by their Levels of Development and Regions (1969-70).	192

## LIST OF FIGURES

FIGURE	TITLE	PAGE
1.1	Andhra Pradesh : Administrative Divisions (Districts) - 1981.	13
3.1	Decadal Variation of Urban Population in Andhra Pradesh and India : 1901-1981.	62
3.2	Andhra Pradesh : Urban Growth Rate (1971-81) and Percentage of Urban to total population 1981.	76
3.3	Andhra Pradesh : Towns Growing by more than Fifty per cent during 1961-71.	81
3.4	Andhra Pradesh : Towns Growing by Less than Ten Per cent during 1961-71.	82
3.5	Andhra Pradesh : Towns Growing by more than fifty per cent during 1971-81.	84
3.6	Andhra Pradesh : Towns Growing by less than Ten per cent during 1971-81.	85
3.7	Andhra Pradesh : Declassified Towns-1961.	95
3.8	Andhra Pradesh : New Towns - 1961.	97
3.9	Andhra Pradesh : Declassified Towns - 1971.	98
3.10	Andhra Pradesh : New Towns - 1971.	100
3.11	Andhra Pradesh : New Towns - 1981.	101
4.1	Andhra Pradesh : Percentage of Non-Household (NH) to total Male workers -1961.	116
4.2	Andhra Pradesh : Percentage of Non-Household (NH) to total Male workers-1971.	118
5.1	Andhra Pradesh : Agricultural Productivity per hectare : 1962-65.	147
5.2	Andhra Pradesh : Agricultural Productivity per Male Agricultural Worker : 1962-65.	149
5.3	Andhra Pradesh : Agricultural Productivity per hectare : 1970-73.	152
5.4	Andhra Pradesh : Agricultural Productivity per Male Agricultural Worker : 1970-73.	154

5.5	Andhra Pradesh : Agricultural Productivity per hectare : 1980-83.	159
5.6	Andhra Pradesh : Agricultural Productivity per Male Agricultural Worker : 1980-83.	161
6.1	Andhra Pradesh : Levels of Development (Based on Aggregative Composite Index)-1981.	190
6.2	Andhra Pradesh : Development Regions (Based on Thirty Variables) : 1969-70.	194



CHAPTER - I

---

INTRODUCTION

---

1.1 The pattern of the spatial organisation of the economy through a system of urban nodes and subnodes is generally a reflection of the sectoral interrelationships and reveals the level and structure of economic development. The emerging pattern of urbanization should, therefore, be analysed in the context of the regional economy. It would, therefore, be expedient to analyse the process of economic development and its manifestations in relation to the process of urbanization in the historical context.

1.2 WESTERN EXPERIENCE AND THE THIRD WORLD REALITY

1.2.1 The process of urbanization, considered, in the demographic sense, as the increase in the proportion of population living in urban areas to the total population, is a worldwide phenomenon taking place at different rates in different countries. It is supposed to have gained momentum first in the Western countries after Industrial Revolution. The increasing pace of industrialisation and the consequent shift of population from the primary to the

manufacturing sector has resulted in the concentration of population in space - in towns and cities. The process of urbanization was associated with industrialisation and was considered to be instrumental in promoting economic development in Western countries. Therefore, the mobility of population from rural to urban areas is looked upon as the horizontal response to the vertical shift of population from primary to the secondary and tertiary sectors. The "depopulation" of rural areas is, therefore, considered 'a sign of economic modernization' and 'the growth of cities a boon to progress'.<sup>1</sup> Hence, in Western countries, the urbanization process was understood in terms of the nation's economic development.

Similar kinds of analyses, through Western models, have sought to justify the rapid growth of urban population in the Third World countries as a sign of economic development. It has been argued that the process of urban industrial development in the West and in the underdeveloped countries today are the same and that "the history of the West from the nineteenth century onwards is being reiterated in the underdeveloped countries today".<sup>2</sup>

---

1. Davis, Kingsley and Golden, H.H. (1954-55): "Urbanisation and the Development of Pre-Industrial Areas", 'Economic Development and Cultural Change', Vol.3, pp.6-26.

2. Reissman, Leonard (1964): "The Urban Process, cities in Industrial Societies", Glencoe, Illinois, p. 158.

It is also said that "the cities of the Third World are usually healthier than their rural hinterlands and are almost as healthy as cities in the most advanced countries".<sup>3</sup> Basically two view points prevail among the scholars analysing the process of urbanization in the Third World countries. One, the cities are 'enclaves' surrounded by a hostile peasantry, and the second, the cities are the centres of modernisation which act as the catalysts for economic growth, the centres from which the benefits of modernization flow outwards to revitalise the stagnating agricultural sector.<sup>4</sup> Those who hold the second view regard the process of urbanization in the Third World as identical to that in the Western capitalist countries after Industrial Revolution.

1.2.2 The urban centres are expected to act as 'strategic vertices' in the spatial organisation of the economy to promote overall socio-economic development. However, the increasing pace of urbanization in the Third World countries, India being no exception, in recent times and the spatial structure of urban centres in these countries are not providing a viable basis for rapid economic development.

---

3. Berry, B.J.L.(1973): "The Human Consequences of Urbanization" Macmillan, Great Britain, quoted in Sunil Munshi, "The nature of Indian Urbanization - A Review", Geographical Review of India, Vol. 37, No.4, p. 294.

4. Mc Gee, T.G.(1971): "The Urbanization Process in the Third World-Explorations in search of Theory", Bell & Sons Ltd., London, p. 13.

4

This has generated controversies among the scholars working in the area of urbanization and economic development. The validity of the Western theories, in relation to the urbanization process in the Third World countries, has been questioned by a section of the scholars. The basic argument has been that the very nature of the economic development in the Third World countries is distorted because of the centuries of colonial exploitation by the imperialist powers. The spatial organisation of urban centres in these underdeveloped countries, including India, has often been articulated in accordance with the exploitative requirements of the colonial powers.

1.2.3 Most of the primate cities of the Third World today grew as 'enclaves' integrated more closely with the economy of the colonial powers (England in the case of India) than with their national economies. In these underdeveloped Third World countries, "the national market, which is the off-spring of the forced intrusion of the metropolitan capital accumulation process, is not the symbiotic result of interlacing local, regional and subregional markets from the base upwards. The system of exchange between the metropolitan economy and the colonial/dependent economy acts more like a cantilever bridge from whose various arms the enclaves hang down creating vortexes of exchange in the

colonial/dependent economy, interconnected by a tenuous currency and transport network. Through these vortexes the surplus is siphoned off partly to the metropolitan economy, the rest getting impounded in the enclave itself".<sup>5</sup> The urban agglomerations in the dependent/colonial economies are regarded as 'foreign trade outlets' which act as 'outposts of the metropolitan economy'.<sup>6</sup>

The foregoing observations would explain, broadly, the nature of relationship between a dependent/colonial economy and a metropolitan economy (i.e, that of the colonial power). The process of urbanization in the underdeveloped countries is termed "pseudo-urbanization"<sup>7</sup> where utter poverty, lack of civic amenities and weak economic base are some of the characteristics of towns and cities in these countries.

### 1.3 INDIA: PRE-INDEPENDENT SCENE

1.3.1 The centuries of British imperialist exploitation has thwarted economic development of India and did not permit the emergence of a self-reliant industrial sector. The

---

5. Chattopadhyay, B. and Moonis Raza (1975): "Regional Development: Analytical Framework and Indicators", Indian Journal of Regional Science, Vol.7, No. 1, p.16.

6. Ibid., p. 17.

7. Mc Gee, T.G. (1967) : The Southeast Asian City, London

destruction of handicrafts industry and breaking of symbiotic links between agricultural and manufacturing sectors has led to the deindustrialisation of the country or, at best, only a stunted growth of industrialisation was permitted. "The ruin of millions of artisans and craftsmen was not accompanied by any alternative growth of new forms of industries" in India, whereas in England, "the ruin of the old-handloom weavers was accompanied by the growth of the new machine industry".<sup>8</sup> Exploitation of Indian raw materials for the economic development of England was a continuing process throughout the period of colonial rule. Several factors like, the forced export of more than 70 per cent of the accumulated wealth of India by the East India Company in order to help the industrial development of England, the deliberate destruction of the craft industries and the subsequent forcing of the artisan class back to the land and the exclusion of the native capitalist class from building railways, tram-ways, exploiting mines and other industries etc., have further hampered the economic development of India.<sup>9</sup> One of the several results of that process was the decay and destruction of the old populous and manufacturing

---

8. Dutt, R.P.(1947): "India Today", Manisha Pub., Calcutta, p. 119.

9. Roy, M.N. (1971): India in Transition, Nachiketa Pub., Bombay, pp. 20-21 & 26-27.

towns like Dacca (described by the British as the 'Manchester' of India), Murshidabad and Surat within a few years.<sup>10</sup>

1.3.2 The process of colonial exploitation of India has resulted in an extremely inefficient organisation of space with four large urban agglomerations - Calcutta, Bombay, Madras and Karachi - dominating the territorial organisation of urban settlements. These four urban agglomerations are considered to have served as focal points of suction mechanism during the British rule. The establishment of main railway lines by the British in India considering the 'extent of political and commercial advantages' has firmly established the hegemony of the nodal port cities in the system of territorial organisation. The large urban centres have retained extreme parasitism over the regional economy and the process of underdevelopment in the vast rural hinterlands has accentuated over the years in the country. The migration of people from rural to urban areas was, therefore, not due to the vertical mobility of workforce, but was in the nature of out-migration from rural areas to urban centres which did not have the capacity to sustain them. The healthy process of rural-urban interaction in India has been struck by the 'twin processes of denudation

---

10. Dutt, R.P.(1947): op.cit., pp. 119-120.

of workforce in the villages and its forced induction into the large cities'.<sup>11</sup> Taking the given socio-economic situation as a premise and equating the Europe of hundred years ago with India or Third World today is an attempt at justifying all deformations and problems of urbanization in the Third World countries as signs of economic development.

#### 1.4 INDIA: POST INDEPENDENT SCENE

1.4.1 After Independence, the changes that have taken place in the political and economic structure of the country have not significantly altered the organisation of urban settlements in space. It has been argued that the strategy of Green Revolution and the concentrated public investment in selected pockets in the country, notwithstanding the emergence of certain prosperous pockets, has sharply accentuated the regional disparities within the space economy and the assumption of propagation-through percolation and diffusion-of growth impulses from centre to the periphery has become totally invalid in the Indian context.<sup>12</sup> The larger urban centres tend to attract, benefitting from the economies of agglomeration, more industries, trade, transport

---

11. Moonis Raza and Habeeb, A: "Characteristics of Colonial Urbanization - A Case Study of the Statellitic "Primacy" of Calcutta (1850-1921)", in Alam, S.M. & Pokshishevsky, V.V.(1976) (Ed): 'Urbanization in Developing Countries', Indo-Soviet Collaborative Volume, Osmania University, Hyderabad, Andhra Pradesh, p. 188.

12. Chattopadhyay, B. and Raza, M : op.cit., p. 22.



9

and communication etc., towards them. It is also argued that the large urban centres in the underdeveloped regions 'appear like sparse monadnocks' over a 'flat peneplaned investment surface of India'.<sup>13</sup> Such polarization of economic activities has further accentuated the cleavage between the developed and underdeveloped regions in the country.

1.4.2 Larger urban centres have been growing faster while the medium towns and the smaller ones have either stagnated or decayed overtime. The proportion of urban population in large urban centres has been increasing while that of smaller towns is declining leading to serious distortions in the spatial organization of urban settlements in the country. This type of urban growth that has been taking place in the weak economies of the Third World countries has been termed as "urban accretion". This is defined as "the distorted growth of urban centres in relation to their own economic bases on the one hand and to the regional economy on the other".<sup>14</sup>

It is, therefore, important to understand the difference in the dynamics of urban processes in India from that of Western countries. Once the theoretical premise,

---

13. Munshi, S.K.(1984): "India: Resource, Regions and Regional Disparity", Peoples Pub. House, New Delhi, p.81.

14. Kundu, A. and Moonis Raza (1975): "Urbanization and Regional Development in India", India and The Soviet Union, Allied Pub., New Delhi, p. 111.

for analysing the urban process in a former colony and a developing country like India, is enunciated, the study may focus on the organisation of space through a system of urban settlements and the pattern of urbanization in the context of the regional economic base-chiefly that of industrial and agricultural. The present study has been taken up with special reference to Andhra Pradesh in the light of the foregoing theoretical understanding.

## 1.5 THE STUDY AREA

1.5.1 The state of Andhra Pradesh was formed on 1st November, 1956 as a result of the struggle for the re-organisation of Indian States <sup>on</sup> a linguistic and cultural basis. Earlier to this, in 1953, the Telugu speaking districts of Coastal Andhra and Rayalaseema were separated from the erstwhile Madras State to form Andhra State with 11 districts. In 1956, the erstwhile Hyderabad State was trifurcated into Telangana, Marathwada and Karnataka areas and nine Telugu speaking districts of Telangana were merged with the Andhra State to form an enlarged Telugu Linguistic State of Andhra Pradesh, with 20 districts, on 1st November 1956. Later on, three more districts were formed within the state. These are Ongole (later named Prakasam) on 2nd February, 1970, Rangareddy on 15th August, 1978 and Vizianagaram on 1st June, 1979. The state is located between

12°14' - 19°54' N Latitudes and 76°50' - 84°50' E Longitudes. At present, there are 23 districts in the state with a combined area of about 2,74,814 sq.kms. and a population of 53,592,605 (in 1981). Accounting for about 8.37 per cent of the geographical area and 7.82 per cent of total population, Andhra Pradesh is the fifth largest state in the country.

The three distinct socio-economic regions of Andhra Pradesh, Coastal Andhra, Rayalaseema and Telangana consist of 9, 4 and 10 districts respectively at present. The names of the districts are Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore in Coastal Andhra; Chittoor, Cuddapah, Ananthapur and Kurnool in Rayalaseema; and Mahabubnagar, Rangareddy, Hyderabad, Medak, Nizamabad, Adilabad, Karimnagar, Warangal, Khammam and Nalgonda in Telangana. The basic information regarding area, population, density, sex ratio and literacy rate for the districts is given, as per 1981 census, in Table 1.1. Bay of Bengal in the east, the states of Tamil Nadu in the South, Karnataka in the South-west and West, Maharashtra in the North-west and North, and Madhya Pradesh and Orissa in the North form the boundaries of Andhra Pradesh (Fig.1.1).

1.5.2 The three principal regions of Andhra Pradesh - Coastal Andhra, Rayalaseema and Telangana - are characterised by different socio-economic and cultural backgrounds. As they were associated with different patterns of social and political

TABLE 1.1 : BASIC INFORMATION ABOUT THE DISTRICTS OF ANDHRA PRADESH:1981

Name of the District	Area in sq. kms.	Total Population	Density of Population	Sex Ratio	Literacy rate
1. Srikakulam	5,837	1,902,941	326	1032	24.64
2. Vizianagaram	6,539	1,809,688	277	996	23.13
3. Visakhapatnam	11,161	2,522,313	226	990	27.72
4. East Godavari	10,807	3,701,714	343	993	35.12
5. West Godavari	7,742	2,856,999	369	992	37.65
6. Krishna	8,727	3,041,949	349	976	41.43
7. Guntur	11,391	3,427,081	301	973	36.25
8. Prakasam	17,626	2,456,543	139	994	27.39
9. Nellore	13,076	2,006,447	153	977	31.89
10. Chittoor	15,152	2,746,847	181	966	31.60
11. Cuddapah	15,359	1,927,682	126	960	30.99
12. Ananthapur	19,130	2,618,239	137	935	27.08
13. Kurnool	17,658	2,404,358	136	963	28.42
14. Mahbubnagar	18,432	2,446,548	133	984	18.95
15. Rangareddy	7,493	1,579,862	211	956	29.96
16. Hyderabad	217	2,240,508	10,325	922	55.95
17. Medak	9,699	1,827,588	188	980	21.36
18. Nizamabad	7,956	1,679,277	211	1013	21.91
19. Adilabad	16,128	1,638,130	102	980	18.97
20. Karimnagar	11,823	2,436,075	206	994	21.99
21. Warangal	12,846	2,301,374	179	967	23.84
22. Khammam	16,029	1,744,966	109	952	20.79
23. Nalgonda	14,240	2,275,476	160	970	21.81
ANDHRA PRADESH	2,75,068	53,592,605	195	976	29.72



Fig 1.1

divisions of former states in the pre-reorganisation stage, they have also integrated distinct patterns of economic organisation and the distribution of productive forces in space. The reorganisation of states and the consequent transfer of large areas from one state to another has necessitated a complete reorientation of the administrative, social and economic alignments of the territories involved. Every State in the peninsular India has "lost" and "gained" sizeable number of towns and the state of Andhra Pradesh has "gained" the largest number of towns in aggregate in this process.<sup>15</sup>

1.5.3 In the post-reorganisation phase, the prime task of the Government and Planning authorities was to articulate the economic organisation of space among the three regions that have been combined to form the State. Whereas Coastal Andhra has rich alluvial tracts - particularly in Krishna and Godavari Deltas - under perennial canal irrigation, Rayalaseema and Telangana are dry cultivation areas but have sizeable quantities of mineral deposits. These two regions have remained underdeveloped over the years and the disparities between the three regions have not been reduced. As economic

---

15. Khan, W and Wanmali, S.: "Impact of Linguistic Reorganisation of States on City-Size Distribution in Peninsular India", in 'Economic and Socio-Cultural Dimensions of Regionalisation', An Indo-USSR Collaborative Study, Census of India, 1971, Centenary monograph No. 7, p. 453.

inequalities give rise to political instabilities, the state of Andhra Pradesh was rocked by separatist movements threatening its very unity and integrity. The secessionist movements were launched twice - once in 1968-69 demanding the separation of Telangana and again in 1972-73 for separate Andhra (including Coastal Andhra and Rayalaseema) - alleging nepotism in appointments in the Government Services for people belonging to one particular region. Also, as late as in 1983-84, similar kind of movement was unsuccessfully sought to build up in Rayalaseema demanding its separation. In all these movements, the persistent regional disparity among the regions in the state was made the basis by the divisive forces to breed hatred and bloodshed against the peoples of the component regions. It is high time that a comprehensive regional development policy, focussing on the organisation of space economy centered around a hierarchy of urban nodes and subnodes, is framed for the state. For this, it is felt that the spatial analysis of urban processes vis-a-vis the levels and nature of economic development among different regions in the state would be an important area of investigation.

## 1.6 OBJECTIVES OF THE STUDY

1.6.1 In the light of the foregoing analysis, with respect to the state of Andhra Pradesh, the present study has been taken up with the following objectives:

- a) to examine the nature and level of economic development of Andhra Pradesh in relation to the other major states and the country as a whole in terms of certain selected socio-economic development indicators;
- b) to analyse the spatial pattern of urban growth and identify areas of rapid urban growth and the density of towns as well as large villages i.e., with population five thousand and above;
- c) to examine the levels of industrial development in terms of male workforce participation rate in the manufacturing sector, the urban industrial base and the spatial distribution of large and medium industries;
- d) to find out the levels of agricultural development in terms of irrigated area, productivity per hectare and per male agricultural worker, and to analyse the pattern of urban growth vis-a-vis the levels of agricultural development; and
- e) to analyse the inter-district disparities among the indicators of development, the nature and extent of interrelationships of the dimensions of development and to examine the levels of development at the district level in the state.



## 1.7 METHODOLOGY

1.7.1 The study covers the period of sixties and seventies. The methodology followed and the indicators selected are discussed in detail in each chapter separately. The coefficient of variation has been worked out for different indicators of development for the years 1961, 1971 and 1981 to analyse the spatial variations and their changes overtime. The correlation coefficients are worked out to find out the extent and nature of interrelationships and their changes for selected indicators during the period of investigation. To examine the levels of development in the state, Composite Indices have been constructed for selected dimensions of development for 1981. Pie diagrams and choropleth techniques are used in representing the data on the maps. The district is taken as the basic unit for analysis.

1.7.2 Changes in the structure of only male workforce has been examined. Also, for the analysis of productivity per agricultural worker, only males were considered. This is to make the data of 1961 comparable with that of 1971 and 1981, since 1971 census adopted a more rigorous definition of worker which excluded a person, participating in economic activities not as his/her "main activity"<sup>from</sup> the category of workers. This led to the decline in the number of workers from 1961 to 1971. The decline was more significant in

respect of female workers specially in agriculture, since it had a higher share of part-time workers. Hence, to avoid serious problems of comparability of workforce structure, only male workforce has been considered in the analysis.

## 1.8 SOURCES OF DATA

1.8.1 The figures for different aspects of socio-economic development for Andhra Pradesh and all-India are taken from the individual studies of several scholars in the related fields, Statistical Abstracts of India and Andhra Pradesh for 1982 and Andhra Pradesh Year Book- 1984 published by the Data News Features from Hyderabad. The sources are also given in the Footnotes in the appropriate sections. Census Volumes of 1961, 1971 and 1981 have been the principal sources for indicators relating to urbanization and male workforce participation in industrial categories. However, the non-availability of Economic Tables for Andhra Pradesh for 1981 is a serious limitation in the study. As a result, comparisons could not be made for all industrial workforce categories for 1981. Also, the density of villages with population 5000 and above (per 1000 sq. kms) for 1981 has not been worked out due to the non-availability of General Population Tables for 1981.

Since the 1961 Census does not separate out the Household industries from others, the 'workshop-cum-dwellings' given in Table E-I of 'Housing and Establishment Tables', (Part IV-B) of 1961 are taken as household industrial units. Also, in 1961 census, the registered units are not separated from others. Therefore, the number of registered factories given in Part IV-A(ii) - 'Report on Industrial Establishments' of 1961 are taken as registered manufacturing units. However, separate figures for registered and household units are available in 1971 census.

The figures for registered factories in the organised sector for 1978-79 and the gross irrigated area and gross cropped area for different time periods for Andhra Pradesh are taken from the state Statistical Abstracts. Different issues of Data Andhra Pradesh, a fortnightly journal published from Hyderabad, are the main sources for the number and growth of large and medium industries from 1971-82, and also for the figures for agricultural development from 1956 to 1983-84 in the state.

1.8.2 The figures for agricultural productivity for 1962-65 and 1970-73 are collected from the Jawaharlal Nehru University - Planning Commission (JNU-PC) Project Study on the district-wise performance of Indian Agriculture at average prices of 1970-73. The values of agricultural productivity for 1980-83 have been computed at the same prices,

by collecting the data for individual crops from several issues of 'Agricultural Situation in India', published monthly by the Ministry of Agriculture, Krishi Bhawan, New Delhi. Seventeen important crops were selected for Andhra Pradesh in JNU-PC study. The figures for the same crops are collected for 1980-83 also. The crops considered in the analysis are Cereals - Rice, Wheat, Jowar, Bajra, Maize and Ragi; Pulses - Gram and Tur; Oil Seeds - Groundnut, Rape and Mustard, Sesamum, Linseed and Castor seed; and Cash crops - Sugarcane, Tobacco, Cotton and Mesta. The data for the districts of Srikakulam and Visakhapatnam and for Guntur, Prakasam, Nellore and Kurnool are clubbed together in JNU-PC study since there were some boundary changes among these districts during the period of analysis. Similar procedure is adopted for 1980-83 also for easy comparability over the years. The Vizianagaram district is clubbed with Srikakulam and Visakhapatnam districts since it is formed out of these two districts.

## 1.9 PLAN OF THE STUDY

1.9.1 The study has been organised in seven chapters. Chapter I gives an understanding of the historical perspective of the process of urbanization in relation to the western experience and the realities in the Third World countries with special reference to India. The objectives of the

present study have been outlined in the context of the spatial inequalities in development among the three principal regions of Andhra Pradesh. The methodology followed in the study, sources of the data, the problems of comparability and limitations in the analysis etc., are also briefly discussed in this chapter.

1.9.2 In the Second Chapter, the economic development of Andhra Pradesh vis-a-vis India and its position in relation to the other states in the country has been examined. This is based on several indicators relating to socio-economic development for sixties and seventies. The changes in the structure of male workforce, and the growth and composition of National/State Income have also been examined in relation to each other. The analysis given in this chapter would help in understanding the nature and level of economic development in the state as well as the country during sixties and seventies.

1.9.3 Chapter III deals with the analysis of the spatial patterns of urban growth from 1961 to 1981 in the state. The decadal variation of urban population and its percentage to total population has been examined from 1901 to 1981 in relation to that of the country. An analysis of the spatial distribution of urban centres growing by more than fifty per cent and less than ten per cent during 1961-71 and 1971-81

DISS  
307.76095484  
R1406 Pa  
  
TH1951

TH-1951  
N8  
Diss  
M6



has been attempted in this chapter. Also, the spatial distribution of the declassified and new towns in 1961, 1971 and 1981 has been examined at the district level in the state. The density of urban centres as well as the villages with 5000 population and above per 1000 sq. kms. has also been analysed.

1.9.4 In Chapter IV, the male workforce participation in the manufacturing sector - i.e., household and non-household industry - for 1961 and 1971 has been analysed. However, for 1981, only household manufacturing workforce could be considered due to the non-availability of data, as mentioned above. The number of manufacturing units per thousand population, the size of the units and the proportion of the manufacturing units using electricity etc., have also been examined in this chapter. For all the above indicators, the concentration of economic activities in the urban areas of the districts is also analysed. Finally, the growth of large and medium industries, the capital investment and employees per thousand population from 1971 to 1982 is also given for the districts of Andhra Pradesh.

1.9.5 The levels of agricultural development in Andhra Pradesh has been the main focus of analysis in Chapter V. The agricultural development for the state as a whole, has also been studied in terms of the area under food grains,

food grain production, per capita availability of food grains, the cultivable area, the net area sown, net area irrigated, area under different sources of irrigation, the dependence on agriculture and the ratio of agricultural to non-agricultural workers (male and females). The agricultural development has been measured at the district level in terms of the percentage of gross irrigated area to gross cropped area, and agricultural productivity per hectare of gross cropped area as well as per male agricultural worker for 1962-65, 1970-73 and 1980-83. An attempt has been made in this chapter, to analyse the levels of urbanization, fast growing and stagnating urban centres and declassified and new towns vis-a-vis the levels of agricultural development at the district level in the state.

1.9.6 In Chapter VI, an analysis of the changing average values and the magnitude of inter-district disparity (in terms of the coefficient of variation) among the selected indicators for the three periods of time is presented. Also, the nature and extent of interrelationships among these indicators has been examined by working out correlation matrices separately for 1961, 1971 and 1981. By taking a few indicators considered in the analysis for 1981, an attempt has been made to find out the levels of development, among the districts in the state, by constructing composite indices.

1.9.7 Finally, in Chapter VII, the conclusions and propositions, emerging in the light of the study, are given. Broad suggestions are made in this chapter regarding the measures to be taken to improve the lot of the underdeveloped regions and the spatial organisation of urban centres in the state of Andhra Pradesh.



CHAPTER - II

---

THE MACRO ECONOMIC SCENARIO OF  
THE STATE OF ANDHRA PRADESH

---

2.1 An analysis of the economic development of Andhra Pradesh and its position in relation to the other states in the country in terms of certain socio-economic development indicators has been presented in this chapter. The indicators referred to in this analysis relate to the growth of per capita income, State Domestic Product (SDP), Industrial and Agricultural development, plan allocations by the Centre during different plan periods, financial assistance on the recommendations of the Finance Commissions, Institutional Finance Assistance and the social infra-structural facilities like Banking, Power, Health, Transport and Education etc. Finally the growth and composition of SDP, the structure and shifts in male workforce during sixties and seventies has also been examined in relation to the change in the sectoral composition of income.

The analysis here is based on the macro level studies of several scholars on different sectors and aspects of economic development. However, some of the indicators have been constructed by taking the data directly

from the Statistical Abstracts. The study generally covers the period of sixties and seventies depending on the availability of information and research studies. In certain cases the values for only terminal years are discussed due to lack of similar data for earlier periods. In most of the cases the position of Andhra Pradesh is given from above in relation to fifteen major states in the country. Wherever the rank of the state is given in relation to all other states, it is mentioned in the concerned section. In a few cases where the position of Andhra Pradesh could not be ascertained in relation to the other states, the state's average is compared with the all-India average. An attempt has thus been made in this chapter to give a synoptic view of the development of Andhra Pradesh in relation to other states and that of the country over time.

## 2.2 GROWTH OF PER CAPITA STATE DOMESTIC PRODUCT (SDP)

2.2.1 A recent study<sup>1</sup> on the state level growth performance shows that the per capita SDP of Andhra Pradesh at constant prices of 1960-61 was Rs.284 (10th rank among 15 states analysed) in 1960-63 which increased to Rs.304 (11th rank) in 1970-73 and to Rs.345 (10th rank) in 1978-81. The figures

---

1. Singh, A.K: "Inter-State Disparities in levels and rates of growth of Income in India: 1951-81", in Mishra, G.P. (1985): "Regional Structure of Development and Growth in India", Vol. I, Ashish Pub., New Delhi, pp. 53-67.

in all-India are Rs.310, Rs.349 and Rs.389 respectively for the corresponding time periods. Throughout this period the per capita SDP of Andhra Pradesh at constant prices has been less than that of the national average. Another study<sup>2</sup> also shows that the per capita income of Andhra Pradesh is less than that of the national average for the period 1979-82. At constant prices of 1970-71, it was Rs.666 (7th rank) which was slightly less than that of the national average of Rs.697. At current prices it was Rs.1339 (9th rank), much less than that for all-India of Rs.1564 in 1979-82.

A yet another study<sup>3</sup>, based on the data collected from National Council of Applied Economic Research (NCAER), Central Statistical Organisation (CSO) and State Statistical Bureau (SSB) for the period from 1950-51 to 1975-76 also confirms the above conclusion. It shows that the position of Andhra Pradesh has not changed overtime in terms of the per capita income. According to this study, at constant prices of 1960-61, the per capita income of Andhra Pradesh has increased from Rs.258 (rank 9th) in 1950-51 to Rs.330 (7th rank) in 1975-76, which was less than that of the national average of Rs.366 in 1975-76, although in 1950-51 it was almost equal to that of the national average of

- 
2. Haque, T.(1985): "Regional Disparities in Economic Growth" Mainstream, Vol. 24, No. 9-10, pp.16-18.
  3. Mathur, Ashok (1980): "Sectoral Income Disparities in India (1950-1975): An Inter-regional analysis", Occasional Papers No. 27, CSRD/JNU, New Delhi.

Rs.253. At current prices, the per capita income of Andhra Pradesh was Rs.314 (7th rank) in 1960-61 and Rs.919 (6th rank) in 1975-76. The above analysis makes it clear that there has not been a significantly high growth in the per capita income of the state and its position has not changed overtime in relation to the other states in the country.

In yet another study<sup>4</sup> of per capita SDP at current prices from 1960-61 to 1979-80 also it is shown that though there has been an increase in the per capita income of Andhra Pradesh overtime, and its position has not changed significantly. The per capita income of Andhra Pradesh at current prices has increased from Rs.275 (10th rank) in 1960-61, to Rs.584 (9th rank) in 1970-71 and to Rs.1002 (8th rank) in 1979-80. All through this period the per capita income of Andhra Pradesh was less than that of the national average. The all-India figures for corresponding years are Rs.307, Rs.638 and Rs.1214 respectively. The growth rates of per capita income at current prices for most of the states have declined in the seventies as compared to the sixties. For the country as a whole it has declined from 158.86 per cent during sixties to 90.28 per cent during

---

4. Hemalatha Rao: "Inter-State Disparities in Development in India", in Mishra, G.P. op.cit., pp. 68-101.

seventies. For the state of Andhra Pradesh it has decreased from 112.36 per cent (7th rank) in the sixties to 71.57 per cent (13th rank) in the seventies. It seems that the decline in the growth rates was sharper in the developed states than ~~that~~ in the backward states.

2.2.2 The annual compound growth rate of State Domestic Product (SDP) of Andhra Pradesh at constant prices of 1960-61 has increased from 2.57 per cent (13th rank) during 1960-63 to 1970-73 to 3.67 per cent (6th rank) during 1970-73 to 1978-81. In the sixties the growth rate of SDP of Andhra Pradesh was less than that of the national average of 3.41 per cent per annum, but in the seventies it has recorded a slightly higher growth rate than that of the national average of 3.62 per cent. Taking the period 1960-63 to 1978-81 as a whole, the position of Andhra Pradesh stands at 10th rank in the country with 3.05 per cent growth rate which is less than that of the national average of 3.40 per cent.

### 2.3 INDUSTRIAL DEVELOPMENT

2.3.1 An analysis of the data relating to per capita industrial output for 16 states suggests that the magnitude of inter-regional disparities in Industrial development

---

5. Bajpai, B.K: "Inter-Regional Industrial Disparities in India", in Mishra, G.P: op.cit., pp. 269-281.

which was 73 per cent (in terms of coefficient of variation) in 1969 was reduced to 67 per cent in 1977. The ratio of per capita industrial output of Andhra Pradesh to that of India has recorded a slight improvement from 61.80 per cent in 1969 to 63.49 per cent in 1977 but its position has declined from 9th to 10th rank in the country during the same period. This clearly indicates the general backwardness of Andhra Pradesh in industrial development in relation to other states of the country.

In another study<sup>6</sup>, the structure of industries belonging to the ASI Census Sector has been analysed in terms of three indicators viz., proportion of industrial units, employment and value added - for the periods 1961, 1968 and 1978. It is observed that the proportion of Andhra Pradesh has increased only marginally over the years. An inter-state analysis of the Registered industries (ASI Factory Sector) for the year 1978-79 also reveals that the position of Andhra Pradesh in terms of its share in the number of units, employment and value added in the national totals is more or less similar to that of industries belonging to ASI Census Sector.

---

6. Kundu, Saikumar and Lokesh Bhat: "The Pattern of Industrialisation in India - An analysis of the changing Rural-Urban scenario during 1961-78", in Mishra, G.P: op.cit., pp. 314-330.

## 2.4 AGRICULTURAL DEVELOPMENT

2.4.1 Gross value of crop output per hectare in Andhra Pradesh has increased from Rs.311 (8th rank) in 1962-63 to Rs.695 in 1972-73 and to Rs.1550 (7th rank) in 1980-81.<sup>7</sup> There has been an increase in absolute terms in the productivity per hectare of Andhra Pradesh overtime. However, its position in relation to other states has remained more or less the same. The Jawaharlal Nehru University - Planning Commission (JNU-PC) study<sup>8</sup> on the 'performance of Indian Agriculture' also confirms this level of agricultural development of Andhra Pradesh. At average prices of 1970-73, the value of agricultural output per hectare in Andhra Pradesh was Rs.1070 (7th rank) in 1962-65 and Rs.1094 (8th rank) in 1970-73. These values were higher than the corresponding figures of Rs.853 and Rs.973 for all-India at both the time periods. The choice of the time periods was made to capture the changes brought about by technological innovations introduced in green revolution. The years 1962-65 are supposed to represent pre-green revolution period and 1970-73 represents a period by which new technology is supposed to have made a big headway in Indian agriculture. During this period the total cropped

---

7. Mishra, V.N: "Some aspects of Inter-State disparities in Gross value of crop output per hectare: 1960-61 to 1980-81", in Mishra, G.P: op.cit., pp. 148-159.

8. Mishra, G.S; and Alag, Y.K: (1979): "Performance of Indian Agriculture: A districtwise study", JNU-PC Project; Sterling, New Delhi.

area and output in the state have recorded negative annual compound growth rates of -0.32 and -0.06 per cent respectively. The output per hectare has increased only by 0.27 per cent per annum in the state. For India as a whole, the annual compound growth rates for area, output and output per hectare were 0.29, 1.95 and 1.66 respectively during the period 1962-65 to 1970-73.

According to another study<sup>9</sup>, during the years 1975-76 and 1976-77, agricultural output in Andhra Pradesh per agricultural worker was Rs.1546 (10th rank) as opposed to the national average of Rs.2016. During the same period, in terms of power consumption for agricultural purposes as percentage to total consumption, Andhra Pradesh held 5th position with 21.58 per cent which was higher than that of the national average of 14.59 per cent.

In the country fertiliser consumption was 36.6 kgs. per hectare of gross cropped area in 1982-83 while it was 53 kgs. per hectare (rank 4) in the state. In the same year, the per capita consumption of fertiliser was 13.2 kgs. in the state (4th rank) and 9.3 kgs. in the country. In terms of energised pumpsets per 100 hectares of area irrigated in 1981-82, Andhra Pradesh ranked 5th with a figure of 25 while

---

9. Hemalatha Rao: op.cit., pp. 74-75.



the figure was only 14 for the country as a whole. In the same year, diesel pumpsets per 100 hectares of area irrigated were 8 in Andhra Pradesh (rank 6) and 9 in the country. In Andhra Pradesh in 1981, there were only 1.63 tractors per 1000 hectares of cultivated area (rank 9) as against the figure of 3 for the country as a whole.

## 2.5 CENTRAL PLAN ASSISTANCE

2.5.1 An analysis of plan allocations by the Centre to States indicates that the percentage share of Andhra Pradesh has not increased much overtime. During the First plan period (1951-56) Andhra Pradesh has received Rs.61.00 crores (6.93 per cent) of Central assistance. The amount received during successive plan periods was Rs.91.17 crores (9.00 per cent) during the Second plan (1956-61), Rs.220.49 crores (8.77 per cent) during the Third plan (1961-66), Rs.161.50 crores (8.85 per cent) during the period of three Annual plans (1966-69), Rs. 240 crores (6.86 per cent) in the Fourth plan (1969-74), and Rs.464.03 crores (7.71 per cent) during the Fifth plan period (1974-79).

2.5.2 The Central per capita assistance to State plan outlays and the relative position of Andhra Pradesh will give a better picture than the absolute figures. During the First plan, the per capita plan assistance received by Andhra Pradesh was Rs.18.98 (10th rank <sup>among 17 states</sup>) which was less than

the figure for the national average of Rs.23.75. During the Second plan the corresponding figure for the state was Rs.27.81 (8th rank) and during the Third plan, it was Rs.58.33 (10th rank). During both these plans, it was slightly higher than that of the national average of Rs.26.16 and Rs.55.03 respectively. During the three Annual plan periods also, Andhra Pradesh had received higher per capita central assistance of Rs.39.46 (10th rank) than that for all-India (Rs.36.28). During the Fourth plan, the position of Andhra Pradesh has slumped to 14th rank with a figure of Rs.53.97 which was less than that of the national average of Rs.63.09. During the Fifth plan, the per capita plan outlay received by Andhra Pradesh was Rs.94.49 (9th rank) which was only slightly less than the all-India figure of Rs.96.64.<sup>10</sup> This analysis further reveals the hollowness of the claims of encouraging balanced regional development or that of giving higher shares in the Central assistance to the backward states. The position of Andhra Pradesh in relation to other States has not changed significantly over the years. Its per capita values have been more or less the same as those of the national average over the period examined in the above analysis.

---

10. Thimmaiah, G: "Inter-State Disparities in Financial Allocations by the Centre", in Mishra, G.P. and Joshi, A. (1985) (Ed): 'Regional Structure of Development and Growth in India', Vol.II, Ashish Pub., New Delhi, pp.69-105.

2.5.3 However, the plan outlay of Andhra Pradesh has been substantially increasing since 1973-74. The State's plan outlay which was only Rs.89.36 crores in 1973-74, has been stepped upto Rs.147.47 crores in 1974-75, to Rs.204.85 crores in 1975-76, to Rs.295.92 crores in 1976-77 to Rs.356.04 crores in 1977-78 and to Rs.458.72 crores in 1979-80. During the Sixth plan period of 1980-85, the state has undertaken plans of Rs.467 crores in 1980-81, Rs.530 crores in 1981-82, Rs.631 crores in 1982-83, Rs.874 crores in 1983-84 and Rs.978 crores during 1984-85.<sup>11</sup> The State Government has submitted to the Planning Commission a draft plan of Rs.7500 crores for Seventh plan and Rs.1170 crores for the annual plan 1985-86.<sup>12</sup>

It seems that Andhra Pradesh, despite being a backward state, may have to generate more resources for its own plan outlays since there has been not much increase in the percentage allocation of the Central assistance.

## 2.6 FINANCE COMMISSIONS' ALLOCATIONS

2.6.1 On the recommendations of the Second Finance Commission (1957-58 to 1961-62), per capita Financial resources transferred to Andhra Pradesh was Rs.26.48 (8th rank among all the states) which was

---

11. "Economic Development of Andhra Pradesh under Five Year Plans", Data Andhra Pradesh, Vol. 7, No. 10, May 15-31, 1984, p. 2030.

12. "Annual plan: 1985-86", Data Andhra Pradesh, Vol. 8, Nos.17 & 18, September 1-30, 1985, p. 2419.

more or less the same as that of the national average of Rs.26.75. During the Third Finance Commission (1962-65 to 1965-66) Andhra Pradesh has received the per capita assistance of Rs.33.94 (8th rank), which was slightly more than the figure of Rs.30.39 for all-India. On the Fourth (1966-67 to 1970-71) and Fifth (1969-70 to 1973-74) Finance Commissions' recommendations, per capita assistance received by Andhra Pradesh was Rs.65.08 and Rs.77.99 respectively and the position of Andhra Pradesh remained at 8th rank during both the periods. During the Sixth Finance Commission (1974-75 to 1978-79), the position of Andhra Pradesh has gone down to 12th rank with a per capita assistance of Rs.162.69 and during the Seventh Finance Commission (1979-80 to 1983-84), its position has further gone down to 15th rank with a corresponding figure of Rs.294.54.<sup>13</sup> The position of Andhra Pradesh in terms of per capita assistance received from the Centre has gone down overtime which once again demonstrates the backwardness of the state and relatively less attention paid to it in relation to other states.

## 2.7 INSTITUTIONAL FINANCE ASSISTANCE

2.7.1 Institutional Financing is undoubtedly playing an important role in the promotion of industries. Looking at

---

13. Thimmaiah, G: op.cit., pp.80-87.

the Institutional Financial Assistance Sanctioned, the share of Andhra Pradesh has gone up from 3.35 per cent during 1969-74 to 7.70 in 1980-81. The share of the state in terms of Disbursals by these Institutions has also increased from 3.79 per cent to 5.67 per cent during the same period. But the position of Andhra Pradesh in terms of per capita Assistance Sanctioned and Disbursed has gone down during this period. The per capita assistance sanctioned to Andhra Pradesh has increased from a figure of Rs.18.73 in 1976-77 to Rs.35.28 in 1980-81. However, the position of the state has declined from 7th to 8th rank during the same period. The corresponding figures for all-India were Rs.15.31 in 1976-77 and Rs.34.33 in 1980-81. During both these time periods the figures for Andhra Pradesh were slightly higher than the corresponding figures for all-India. Per capita assistance disbursed to Andhra Pradesh has increased from a figure of Rs.7.39 in 1976-77 to Rs.18.68 in 1980-81. However, its position has gone down from 11th to 12th rank during the same period. At both the time periods the figure for Andhra Pradesh was less than that of the national average of Rs.9.49 and Rs.23.66 respectively.<sup>14</sup>

---

14. Asthana, P: "Institutional Finance for Industry and Regional Disparities in India", in Mishra, G.P: op.cit., pp. 351-360.

## 2.8 SOCIAL INFRASTRUCTURAL FACILITIES<sup>15</sup>

2.8.1 BANKING - The growth of Banking facilities indicates the extension of organised credit to the developing sectors of the economy. Banking system is not spatially widespread in the country as well as the state. By March 1982, there were 12 banks per 1000 sq.km. in the country and 11 in the state. At the end of March '82, there were 5.5 banks per lakh of population in the country whereas in Andhra Pradesh there were 5.4 banks per lakh of population ranking 8th among the states in the country. Banking system is more wide-spread in Urban areas when compared to rural areas. In September 1982, there were 3.9 rural bank offices per lakh of population in Andhra Pradesh (6th rank) and the figure was more or less the same as that of the all-India average of 3.82. In urban areas there were 11 banks (7th rank) per lakh of population in Andhra Pradesh against the national average of 12.2 banks. In terms of per capita deposits, the amount was Rs.408 in the state (rank 9) and Rs.610 in the country in 1981. In terms of per capita advances in 1981, Andhra Pradesh had an amount of Rs.295 (9th rank) which was less than that of the national average of Rs.405.

There is wide disparity between rural and urban areas in terms of the number of banks per lakh of population -

---

15. The figures for Social infrastructural facilities are mostly taken from Statistical Abstracts of India and that of Andhra Pradesh for 1982; and Andhra Pradesh Year Book - 1984, published by Data News Features, Hyderabad.

the proportion is much higher in urban areas in the country and the state as well. The amount for per capita deposits and per capita advances is much less in the state when compared to the figures for the country as a whole.

2.8.2 HEALTH - The performance of this vital sector of social development is very poor in India. The number of doctors registered with State Medical Councils in the country in 1980 was 2,55,138 i.e. 38 doctors per lakh of population in 1982. The state of Andhra Pradesh ranked 8th with 41 doctors per lakh of population having a total of 21,487 doctors registered in the State Medical Council in the same year. In terms of the number of doctors per 100 sq.km., the figure was 7.8 for the country as well as the state in the same year. In January 1982, there were 63 hospital beds per lakh of population in the state and it held 8th position in the country. The corresponding figure for all-India was 70. Andhra Pradesh stood at 8th rank with a figure of 2.2 hospital beds per 1000 sq.km. in 1982 which was almost the same as the figure of 2.1 for the country as a whole. According to the Budget estimates 1982-83, per capita State Govt. expenditure on health (excluding that by Central Govt. and Private agencies) was Rs.31 (7th rank) as opposed to the national average of Rs.29. Thus in terms of spatial distribution and ~~in~~ proportion to population, facilities regarding health services are very poor in the country as well

as the state and both are having similar levels of health services.

2.8.3 POWER - Modernization and technical advancement very much depends upon the assured and adequate supply of power. Modern industrial development and rationalisation of agricultural sector is very much related to the advancement of the power sector. By the end of March 1982, per capita power consumption was 116 units of Kwh in the state (rank 10 among all the states) which was much less than the national average of 141 units. However, the rural electrification programmes seem to be at higher pace in the state. The position of the state was 7th with 71 per cent of its villages being electrified whereas in the country only 51 per cent of the villages were electrified in 1982. The state had about 92 per cent of its rural population covered by electricity and held 5th rank whereas the corresponding figures was 70 per cent for the country as a whole in 1982. Except in the case of per capita consumption, the state has better position than that of the country in terms of other indicators related to the power sector. In this context it is worthwhile to mention that there are only four states in the country - Punjab, Haryana, Kerala and Tamil Nadu - which have almost cent per cent of their villages electrified and per capita power consumption is the highest, 298 units of Kwh, in Punjab in 1982.



2.8.4 TRANSPORT - Development of transport has a vital role to play in promoting economic development. There were 599 registered vehicles per lakh of population in the country whereas the corresponding figure was only 433 for the state in 1979-80. In terms of registered vehicles per 1000 sq. kms, the figure was 1249 in the country and 844 in the state. In both the above cases the figures for Andhra Pradesh were less than those of the national averages. There was 41 Kms. of road length per 100 sq. km. in the state which is slightly higher than that of the country (36 kms.) in 1980-81. Of the 36 State Road Transport Corporations in the country, the Andhra Pradesh State Road Transport Corporation (APSRTC) came 6th with 92 per cent of its fleet utilisation in 1979-80. There was 19 kms. of railway route length per 1000 sq. kms. in the country while the corresponding figure was 17 Kms. for the state and it held 9th rank in 1980-81. In terms of railway route length per lakh of population the figure was 8.95 Kms. for the country and 8.82 Kms. for the state (7th rank) in the same year. There has been not much difference in the levels of transport development in the country as well as the state.

2.8.5 EDUCATION - According to 1981 census, the percentage of literate to total population was 36 in the country and 30 in the state (10th rank among the 15 states considered in

the analysis). The literacy rate both among the males (39 per cent) and females (20 per cent) in the state is less than that of 47 per cent for males<sup>and</sup> 25 per cent for females in the country. By September 1980, the percentage of children, between age groups 6-11, enrolled in the primary classes was 83 in the country and 84.8 in the state (rank 8). The percentage of enrolment in upper primary classes was 40 in the country and the state stood at 14th rank with a figure of 30 per cent. The per capita state Budget expenditure on education was Rs.56 in the state (10th rank) while it was Rs.57 for the country as a whole in the year 1982-83. Percentage of Budget expenditure on education to total Budget (Revenue) was 27 in Andhra Pradesh (5th rank) which was slightly higher than the figure of 24.3 per cent for the country as a whole in 1982-83. While the country itself is having low per cent of literate population, the state still lags behind in this respect. The rate of enrolment slumping down so drastically from primary to secondary school level in the country as well as the state indicates an alarmingly high drop-out rate. No development programmes will meet with success without the will of the people which can be generated only through proper education.

## 2.9 GROWTH AND COMPOSITION OF NATIONAL/STATE INCOME<sup>16</sup>

2.9.1 The National Income of the country at constant prices of 1970-71 has increased from Rs.24,360 crores in 1960-61 to Rs.34,519 crores in 1970-71 and to Rs.49,802 crores in 1981-82 recording a growth rate of 104 per cent during the two decades period. At current prices, the National Income has increased from Rs.13,347 crores in 1960-61 to Rs.34,519 crores in 1970-71 and to Rs.120,913 crores in 1981-82, recording an impressive growth rate of 806 per cent during 1960-61 to 1981-82.

Regarding the composition of the National Income, there has been a shift from the primary to the secondary and tertiary sectors of the economy. At constant prices of 1970-71, the percentage share of the primary sector in the country has come down from 57 in 1960-61 to 42 per cent in 1981-82 whereas the figures for secondary and tertiary sectors have increased from 17 to 21 per cent and 26 to 37 per cent respectively during the same period. The share of primary sector came down from 52 to 40 per cent in the country at current prices, while the figures for secondary and tertiary sectors had gone up from 19 to 23 per cent and 29 to 37 per cent respectively during 1960-61 to 1981-82.

---

16. Income figures for India and Andhra Pradesh are taken from their respective Statistical Abstracts of 1982.

There has been a sectoral diversification of economic activities overtime in the country towards secondary and tertiary sectors though agriculture and allied activities continue to contribute major share of the Income. Due to weak manufacturing base in the country, the share of secondary sector continues to be low and during the two decadal period there has not been a significant increase in the proportion of secondary sector in the National Income.

2.9.2 The State Income of Andhra Pradesh, at constant prices of 1970-71, has increased from Rs.1,892 crores in 1960-61 to Rs.2,523 crores in 1970-71 and to Rs.3,896 crores in 1981-82 and has recorded a growth rate of 106 per cent during 1960-61 to 1981-82. At current prices, it has gone up from Rs.983 crores in 1960-61 to Rs.2,523 crores in 1970-71 and to Rs.8,336 crores in 1981-82 recording a growth rate of 748 per cent during the two decadal period. However, the growth rate of the Income of Andhra Pradesh is less than that of the National Income at current prices during the same period.

There was a shift in the shares from agricultural and allied sectors to secondary and tertiary sectors during the sixties and seventies in the state. The percentage share of primary sector in the State Income came down from a figure of 62 in 1960-61 to 52 in 1981-82 at constant prices of 1970-71. The share of secondary sector has

increased from 11 to 15 per cent and that of tertiary sector increased from 28 to 33 per cent during the same period. At current prices, the percentage share of primary sector had declined from 59 to 54 per cent during 1960-61 to 1980-82 while the corresponding figures for secondary and tertiary sectors had increased from 13 to 17 per cent and 28 to 30 per cent respectively during the same period. Nevertheless, the economy of the state still continues to be primarily agriculture oriented.

In the light of the above discussion, it becomes clear that the economy of the state of Andhra Pradesh is more dependent on the primary sector than that of the country as a whole. The percentage decline in the share of the primary sector is much more in the country than that in the state during the last two decades. Though the secondary sector contributes higher share of Income in the country than that in the state, there has been not much difference in the percentage increase in the share of secondary sector overtime in the country as well as the state. The share of tertiary sector in the Income is also higher in the country than that in the state.

## 2.10 CHANGING STRUCTURE OF MALE WORKFORCE

2.10.1 While examining the percentage change in the structure of male workforce (Total and Urban), the data for all workforce categories could not be analysed for 1981

since the non-availability of Economic tables. Only the percentage share of cultivators, agricultural labourers and household workers are given for 1981 taking the data from the Union Primary census abstract. However, the figures for workforce categories for 1961 and 1971 are taken from the General Economic Tables of the census volumes of the respective years. Adjustments have been made between ISIC of 1961 and NIC of 1971 according to the modifications suggested in a working paper.<sup>17</sup> Modifications in the present analysis are done only for workforce categories VII (Trade and Commerce) and IX (other services) of ISIC of 1961. For comparability of VII (Trade and Commerce) of 1961 with that of 1971, workers in minor groups of 840 and 882 are added and those in minor group 697 are subtracted in 1961. For other services (category IX), workers in minor groups of 840 and 882 are subtracted and those in 697 are added in 1961 to make the figures comparable with those of 1971. The figures for Household (H) male workforce are taken directly from Divisions 2 and 3 (Manufacturing, Processing, Servicing and Repairs) of ISIC of 1961 which are comparable with those of NIC of 1971.

2.10.2 The number of total male main workers in the country has grown by 15.46 per cent during the sixties from a figure 1,29,171 thousands in 1961 to 1,49,146 thousands in 1971 and by 16.74 per cent during the seventies with the number

---

17. For more details, see Kundu, A.(1986): "Analysing the structural changes in the Indian Economy - Certain avoidable anomalies in the usage of the population census data", Working Papers, CSRD/JNU, New Delhi.

of male workers reaching to 1,74,115 thousands in 1981. In Andhra Pradesh, the number of male workers has increased by 13.39 per cent during the sixties from a figure of 11,299 thousands in 1961 to 12,812 thousands in 1971 and by 18.86 per cent during the seventies taking the number of male workers to 15,228 thousands in 1981.

2.10.3 The share of cultivators in the total workers has declined from 51.45 to 46.24 per cent during sixties and to 43.77 per cent during seventies in the country. The corresponding figures have been low for Andhra Pradesh during the three points of time considered in the analysis. In the state, the share of cultivators in total workforce declined from 41.19 to 37.35 per cent during sixties and to 36.68 per cent during seventies (Table 2.1). Andhra Pradesh had higher percentage share of agricultural labourers than that of the country. The proportion of agricultural labourers has increased during sixties and slightly declined during seventies in the country as well as the state. The proportion of agricultural labourers had increased from 13.41 to 21.25 per cent during the sixties which slightly declined to 19.77 per cent during the seventies in the country as a whole. In Andhra Pradesh, it has <sup>increased</sup> from a figure of 21.72 to 27.73 per cent during sixties and declined to 26.61 per cent during seventies. The percentage of male agricultural labourers has been higher in urban areas in the state when compared to that in the country as a whole

TABLE 2.1 : CHANGING MALE WORKFORCE STRUCTURE IN INDIA AND ANDHRA PRADESH : 1961-81

Workforce Categories	INDIA						ANDHRA PRADESH					
	1961		1971		1981		1961		1971		1981	
	Total	Urban	Total	Urban	Total	Urban	Total	Urban	Total	Urban	Total	Urban
I. Cultivators	51.45	5.56	46.24	5.21	43.77	5.26	41.19	7.41	37.35	5.88	36.68	4.89
II. Agricultural Labourers	13.41	2.21	21.25	4.66	19.77	4.74	21.72	5.16	27.73	7.08	26.61	7.42
III. Livestock, Forestry, Fishing, Hunting and Plantations, Orchards and Allied activities	3.70	1.99	2.36	1.63	-	-	6.48	2.09	4.24	1.74	-	-
IV. Mining and Quarrying	0.58	0.79	0.53	1.00	-	-	0.56	1.55	0.60	1.41	-	-
V. Manufacturing, Processing, Servicing and Repairs-												
(a) Household Industry	4.54	5.46	3.37	4.38	3.69	5.46	7.24	8.35	5.09	4.67	5.13	5.78
(b) Non-household Industry.	5.56	22.94	6.61	24.01	-	-	3.43	13.60	4.97	17.23	-	-
VI. Construction	1.41	3.85	1.35	3.57	-	-	1.54	4.29	1.88	5.25	-	-
VII. Trade and Commerce	5.97	20.72	6.36	21.42	-	-	5.92	20.19	6.63	22.14	-	-
VIII. Transport, Storage and Communication	2.29	9.26	2.85	10.76	-	-	2.07	10.12	2.96	12.67	-	-
IX. Other Services	11.09	27.21	9.08	23.34	-	-	9.83	27.24	8.54	21.92	-	-
Total	100.00	100.00	100.00	100.00			100.00	100.00	100.00	100.00		



during sixties and seventies. There has also been an increase in the percentage share of male agricultural labourers to total male workers in urban areas overtime in the country as well as the state. The percentage share of cultivators is higher in the country than that in the state, whereas that of agricultural labourers is more in the state than that in the country. Both these categories together, taken as workers engaged in cultivation, constitute more than 63 per cent of total male workforce in 1981 in the country as well as the state.

2.10.4 The share of workforce category III (Livestock, Forestry etc.,) had declined from 3.70 to 2.36 per cent in the country and from 6.48 to 4.24 per cent in the state during 1961-71 and the proportion is more in Andhra Pradesh at both the time periods. However, there has not been a significant change in the proportion of Mining and Quarrying in the total male workforce during the sixties in the country and the state as well.

2.10.5 The proportion of Household (H) manufacturing workers to total male workers came down from 4.54 to 3.37 per cent in the country as a whole and from 7.24 to 5.09 per cent in the state during the sixties. This decline in sixties has taken place in urban areas also - from 5.46 to 4.38 per cent in the country and from 8.35 to 4.67 per cent in the state. However, there has been an increase in the share of H sector to 3.69 per cent in the country and to

5.13 per cent in the state during the seventies. The increase was significant in urban areas in the country as well as the state during seventies. The proportion of H to total male workers in urban areas has increased to 5.46 per cent in the country and to 5.78 per cent in the state by 1981.

2.10.6 The percentage share of male workers in Non-household (NH) industry to total male workers is low in the state as compared to that in the country. However, there has been an increase in the share of NH sector during sixties in the country as well as the state. The share of NH workforce has increased from 5.56 to 6.61 per cent in all-India and from 3.43 to 4.97 per cent in the state during sixties. However, the increase in the share of NH to total male workers in urban areas is more significant in Andhra Pradesh (from 13.60 to 17.23) than that in all-India (from 22.94 to 24.01) during the sixties.

2.10.7 The share of workers in Construction (category VI) to total workers had slightly declined in the country while there was a slight increase in the state during the sixties. The percentage share of workforce categories VII and VIII (i.e. Trade and Commerce; and Transport, Storage and Communication) in the total workforce had increased while that of the category IX (Other Services) had gone down during the sixties in the country as well as the state.

More than 57 per cent of male workforce in 1961 and more than 55 per cent in 1971 in urban areas, in the country as well as the state, is accounted for by the three workforce categories of VII, VIII and IX which largely constitute the tertiary sector of the economy. In the light of the foregoing analysis of <sup>the</sup> structure and shifts in the male workforce overtime, it can be said that the economic development of the state of Andhra Pradesh is somewhat lower than that of the country as a whole.

## 2.11 CONCLUSIONS

In the light of the empirical analysis done above, the following generalisations can be made which are of considerable importance regarding the pattern of economic development of Andhra Pradesh and its position in relation to other states in the country.

2.11.1 The position of Andhra Pradesh remains below average in terms of the growth rate of SDP with 3.05 per cent per annum as opposed to the national average of 3.40 per cent during the period from 1960-63 to 1978-81. There has been no significant change in the position of Andhra Pradesh in terms of per capita income overtime. Several studies indicate that the per capita income of Andhra Pradesh has remained below the national average over the period of investigation. At current prices the position of Andhra Pradesh was 10th rank in 1960-61 with the per capita income figure of Rs.275 and 9th rank in 1979-82 with the corresponding figure of Rs.1339.

2.11.2 The position of Andhra Pradesh in terms of the ratio of per capita industrial output of Andhra Pradesh to that of India has declined. Its relative position came down from 9th rank in 1969 to 10th rank in 1977. The share of Andhra Pradesh in terms of the number of industrial units, employment and value added of industries belonging to ASI census sector has been increasing only marginally during 1961 to 1978.

2.11.3 In terms of gross value of agricultural output per hectare the position of Andhra Pradesh has improved from 8th rank with Rs.311 in 1962-63 to 7th rank with Rs.1550 in 1980-81. According to the Jawaharlal Nehru University - Planning Commission (JNU-PC) study on Indian agriculture, the output per hectare at average prices of 1970-73 has increased only marginally from Rs.1070 in 1962-65 to Rs.1,093 in 1970-73; whereas its relative position has declined from 7th to 8th rank during the same period. This indicates that the new technologies introduced in agriculture did not have much impact to make a breakthrough in agricultural development of Andhra Pradesh. In terms of output per worker, Andhra Pradesh occupied the 10th position with the figure of Rs.1,546 against the national average of Rs.2,016 in 1975-77. With 21.58 per cent of the power being consumed for agricultural purposes, Andhra Pradesh held 5th rank in this regard against the national average of 14.59 per cent.

2.11.4 There has not been much change in the percentage share of Andhra Pradesh in the Plan allocations by the Centre during different plan periods. It was 6.93 per cent during the First Plan and 7.71 per cent during the Fifth Plan. The position of Andhra Pradesh in terms of per capita central assistance to State plan outlays was 10th during the First Plan period with the figure of Rs.18.98. However, in the Fifth plan the corresponding figure was 94.49 and the state occupied the 9th position. The per capita values of Central plan assistance have been more or less the same as that of the national averages. This reveals the hollowness of the repeated assertions that the backward states have received a higher central assistance in per capita terms. On the other hand, the State plan outlay of Andhra Pradesh has been substantially increasing since 1973-74. It has increased from Rs.89.36 crores in 1973-74 to Rs.978 crores in 1984-85 and to about Rs.1,170 crores for the year 1985-86.

2.11.5 The position of Andhra Pradesh has gone down from 8th to 15th from Second Finance Commission to Seventh Finance Commission period in terms of the per capita Financial Resources transferred to Andhra Pradesh by the Centre. In terms of per capita Institutional Finance Assistance sanctioned to Andhra Pradesh, its position has gone down from 7th with a figure of Rs.18.73 in 1976-77 to 8th with the corresponding figure of Rs.35.28 in 1980-81. It was slightly higher than that of the national average of Rs.15.31 and Rs.34.33 at both

the time periods. Per capita Institutional assistance disbursed has increased from Rs.7.39 in 1976-77 to Rs.18.68 in 1980-81, but its position has declined from 11th to 12th during the same period.

2.11.6 The country and the state have more or less the same number of banks, 5.5 and 5.4 respectively, per lakh of population in 1982. However, a wide disparity exists between rural and urban areas in this respect - urban areas have larger number of banks per lakh of population in both all-India and Andhra Pradesh. In terms of per capita deposits and per capita advances, Andhra Pradesh had lower amounts than those of the country.

2.11.7 Number of doctors per lakh of population in 1980 is very low in the state (41) and also the country (38). In terms of the number of doctors per 100 sq. Kms., hospital beds per lakh of population, and also per capita expenditure on health there is not much difference in the values for the country and the state.

2.11.8 Except with respect to per capita power consumption where Andhra Pradesh had less than that of the national average and holds 10th rank, the situation in the power sector in the state is relatively better than that in the country as a whole. About 71 per cent of villages are electrified in the state and it holds 7th rank. The state had about 92 per cent of the rural population covered by

electricity in 1982 and occupied the 5th position. In the country as a whole only 51 per cent of the villages were electrified and 70 per cent of rural population were covered by electricity in 1982.

2.11.9 In terms of registered vehicles per lakh of population and per 1000 sq. kms., the state had less number of vehicles than that in the country in 1979-80. For other indicators like road length per 100 sq. kms., railway route length per 1000 sq. kms. and per lakh of population, the values for the country as well as the state are low and more or less the same. However, Andhra Pradesh State Road Transport Corporation (APSRTC) had recorded 92 per cent of its fleet utilisation holding 6th rank among 36 State Road Transport Corporations in the country in 1979-80.

2.11.10 In the field of Education, the state holds 10th rank with only 30 per cent literate population, against the figure of 36 per cent for the country as per the 1981 census. The enrolment rate which is above 80 per cent at the Primary school level, ~~in both~~, came down drastically to 40 per cent in the country and 30 per cent in the state (14th rank) at upper Primary school level. The state holds 10th rank in terms of per capita expenditure on education. However, it holds 5th rank in terms of percentage of Budget expenditure on education to total Budget in 1982-83. The

scenario in the field of education appears disheartening in the country as well as the state.

2.11.11 There has been more or less similar growth rates of income in the state (106 per cent) and the country (104 per cent) during 1960-61 to 1981-82 at constant prices of 1970-71. However, at current prices the State Income had grown by 748 per cent while the National Income grew by 806 per cent during the same period. The share of primary sector came down from 57 to 42 per cent in the country at constant prices while in the state the figure declined from 62 to 52 per cent during the same period. The proportion of secondary sector at constant prices has gone up from 17 to 21 per cent in the country and 11 to 15 per cent in the state. The share of the tertiary sector had gone up from 26 to 37 per cent and 28 to 33 per cent in the country and the state respectively during 1960-61 to 1981-82 at constant prices. At current prices also similar trends in the sectoral shifts in the National and State Incomes can be observed.

The economy of the State of Andhra Pradesh is more dependent on the primary sector than that of the country as a whole. The decline in the share of primary sector is much more in the country when compared to that in the state. The percentage increase in the share of secondary sector in the country as well as the state are at similar rates



although the state of Andhra Pradesh had low proportion of its income generated in the Secondary sector. This shows that the State of Andhra Pradesh is having a relatively weaker manufacturing base compared to the country. The proportion of tertiary sector is also higher in the National income than that in the State Income and the percentage increase in the share of tertiary sector is higher in the country during 1960-61 to 1981-82.

2.11.12 A major chunk of male workforce of about 63 per cent are engaged in Agriculture in 1981 in the country as well as the state. While the share of cultivators is more in the country, the share of agricultural labourers is more in the state. The percentage share of male cultivators to total male workers has been declining in the country and the state during sixties and seventies. The percentage share of male agricultural workers increased during the sixties but declined slightly during the seventies in the country as well as the state. However, the percentage share of male agricultural labourers to total male workers in urban areas has increased in the country as well as the state during sixties and seventies. There has been a decline in the share of workforce category III (Livestock, Forestry etc.) during the sixties in state as well as the country. The proportion, however, happens to be higher in case of the state. No significant change seems to have occurred in the share of Mining and Quarrying to total male workforce during 1961-71 in the country and the state.

2.11.13 Male workforce in Household (H) industry forms a low component in the total male workforce and its importance has further declined during sixties. However, no such change was discernible in the seventies. The H activities increased in urban areas in the country as well as the state during the seventies. There has been an improvement in the manufacturing sector which is reflected in terms of the increase in the share of non-household (NH) industry to total male workforce in the state and also in the country during sixties. The weak manufacturing base of Andhra Pradesh is indicated in its low share of workforce in NH sector when compared to that in the country.

2.11.14 The share of male Construction workers in the total male workforce had declined slightly in the country, but increased in the state during sixties. While the share of workforce in Trade and Commerce, and Transport, Storage and Communication have increased, that of other Services had declined in the state as well as the country during the sixties. The three workforce categories of VII, VIII and IX, which constitute the tertiary sector of the economy, account for about 55 per cent of male workforce in urban areas in 1971 in the state as well as in the country.

2.11.15 From the foregoing analysis of different socio-economic development indicators for Andhra Pradesh and all-India, it becomes obvious that the position of the state

has been low and it has not changed much over the years in relation to other states. The structure and nature of economic development of the state resembles broadly that of the country as a whole. The values of the selected indicators suggest that the economy of the state is somewhat less developed than the country. That is why the state of Andhra Pradesh is generally considered to be among the less developed states in the country. In most of the dimensions of development, it is very much among the backward states although in a few aspects it can be ranked among the moderately developed states. The outcome of the present analysis underscores the need for a higher central assistance to the state and also for an increase in the state plan outlays to gear up the economic development of the state.

CHAPTER - III

---

THE SPATIAL PATTERN OF URBAN  
GROWTH IN ANDHRA PRADESH

---

The process of urbanization must be viewed in the context of the nature of economic development in a given region. The structure of the economy of the state of Andhra Pradesh reflects a low level of development as discussed in Chapter II. The urbanization pattern in the state is characterised by marked regional variations which date back to the formation of the state itself. Since the reorganisation of Indian States led to the transfer of a large number of areas from one state to the other, the pattern of urbanization in Andhra Pradesh, as it is today, comprises the elements of former urban systems of erstwhile Madras and Hyderabad States.

3.1.1 The level of urbanization in Andhra Pradesh (in terms of the percentage of urban to total population) has been less than that in the country since 1901 except in 1951 (Table 3.1). In the state 9.65 per cent of population were living in towns in 1901 as against 10.84 per cent in the country as a whole. In 1951, whereas 17.29 per cent of population were urban in the country, 17.42 per cent of

TABLE 3.1 : DECADAL VARIATION AND PERCENTAGE OF URBAN TO TOTAL POPULATION IN ANDHRA PRADESH AND INDIA: 1901- 1981

Year	ANDHRA PRADESH		INDIA	
	Decadal percentage variation	Percentage of urban to total population	Decadal percentage variation	Percentage of urban to total population
1901	-	9.65	-	10.84
1911	+17.68	10.09	+ 0.35	10.29
1921	+ 1.03	10.21	+ 8.27	12.58
1931	+23.17	11.13	+19.12	11.99
1941	+36.07	13.43	+31.97	13.86
1951	+47.86	17.42	+41.35	17.29
1961	+15.76	17.44	+26.41	17.97
1971	+33.98	19.31	+38.23	19.90
1981	+48.26	23.25	+46.02	23.73

Source : Figures upto 1971 are taken from Census of India, 1971  
Andhra Pradesh, Part VI-A Tow Directory, p. 10.

# DECADAL VARIATION OF URBAN POPULATION IN ANDHRA PRADESH AND INDIA: 1901 - 1981

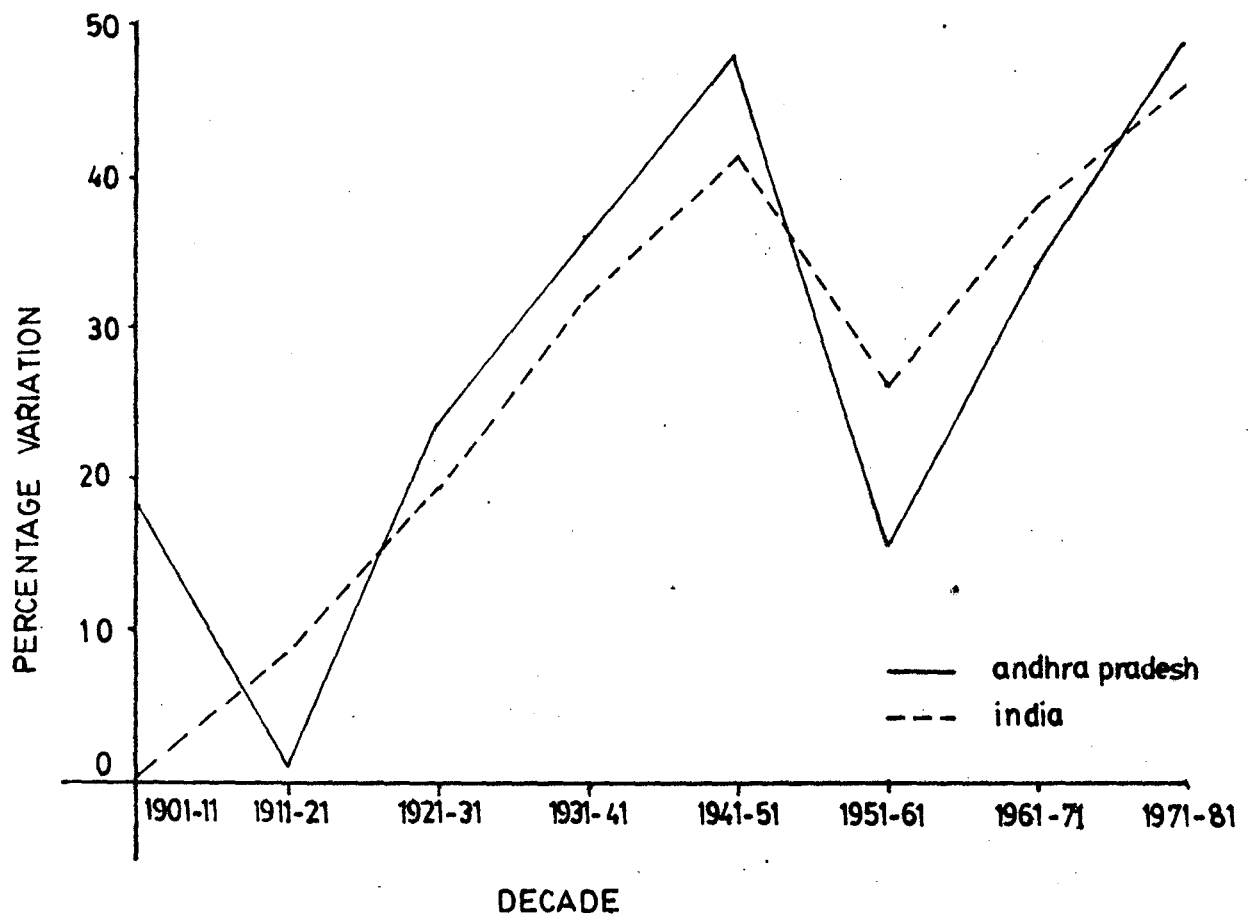


Fig 3.1

population were living in urban centres in the state. In 1981, the percentage of urban to total population is 23.25 in Andhra Pradesh and 23.73 in the country. On the whole, the state as well as the country are more or less on par with each other in terms of the level of urbanization.

3.1.2 Looking at the decadal variation of urban population, Andhra Pradesh had recorded higher percentage growth than that of the country in all decades since 1901 except during during 1911-21, 1951-61 and 1961-71 (Fig.3.1). The low growth of urban population during 1911-21 for Andhra Pradesh and India is attributed to the influenza epidemic in 1918 which claimed the lives of considerable number of people all over the country. In spite of that there was a slight increase in the percentage of urban population during that decade which indicates that there might have been a large scale migration of population from rural to urban areas. The high growth rate of urban population during 1941-51 both in Andhra Pradesh and India was mainly due to the loose application of census definition of town by different census commissioners by which a large number of over grown villages were also classified as towns. Besides this, incentives provided to the Indian industry due to Second World War and large scale influx of refugees when the country was partitioned are also supposed to have contributed to the high growth of urban population during 1941-51.<sup>1</sup>

---

1. Petrov, Victor. (1985): "India: Spotlight on Population - A Demographic Outline", Progress Pub., Moscow, p.206.

In Andhra Pradesh, the definition of town seems to have been applied more arbitrarily in 1951 by which the percentage variation of urban population during 1941-51 for Andhra Pradesh is much higher (47.86) than that of the national average (41.33). A rigorous definition of 'town' and a stricter application of it in 1961 resulted in the declassification of a large number of towns and a sharp fall in the growth of urban population in the country as well as the state. The decline in the growth of urban population in Andhra Pradesh from a figure of 47.86 per cent to 15.76 per cent is much steeper than the corresponding figures for India from 41.33 to 26.41 per cent during 1941-51 to 1951-61. This indicates that in Andhra Pradesh in 1951, the town definition was more loosely applied by which there was such a steep decline in percentage variation in 1961 due to stringent definition and application of the town. However, there is no decline in the percentage of urban to total population in 1961 both in India and Andhra Pradesh. During 1961-71, the growth rate of urban population in Andhra Pradesh was 33.98 per cent, which was more than double the rate of 15.76 per cent in the earlier decade. For the country, the percentage growth of urban population has increased from 26.41 during 1951-61 to 38.23 in 1961-71. The decade 1971-81 has witnessed a phenomenal rate of urbanization in the country. The state of Andhra Pradesh



had recorded a higher growth rate of urban population (48.26) than that of the national average of 46.02 per cent during 1971-81.

3.1.3 In Andhra Pradesh, the number of cities/towns in the upper three categories (class I, II and III) have been increasing since 1951 whereas that in the lower three categories (class IV, V and VI) have been declining (Table 3.2). The percentage of cities/towns in the upper three categories to total number of towns has also increased from 17.18 in 1951 to 58.98 in 1981. A similar trend can be observed for all-India also. There has been an increase in the number of towns in the upper four categories and decline in the lower two categories in the country during 1951-81. The percentage of urban centres in the upper four categories to total urban centres has increased from 39.38 in 1951 to 70.04 per cent in 1981 in the country (Table 3.3). The increase in the number of urban centres in upper size categories and the decline in the lower size categories overtime in Andhra Pradesh and the country indicates that the towns in the lower categories might be rapidly growing and getting promoted into the higher size classes.

3.1.4 Looking at the composition of urban population by different size-classes, the share of cities (class I) has gone up from 32.52 per cent to 53.69 per cent in Andhra Pradesh and from 44.31 to 60.37 per cent in the country

TABLE 3.2 : NUMBER OF TOWNS IN EACH SIZE CLASS AND THEIR PERCENTAGE TO TOTAL TOWNS -ANDHRA PRADESH:  
1951-81

Size class	1951		1961		1971		1981	
	Number of towns	Percentage to total	Number of towns	Percentage to total	Number of towns	Percentage to total	Number of towns	Percentage to total
Class I	6	2.06	11	5.19	13	6.28	20	8.55
Class II	10	3.44	8	3.77	17	8.21	30	12.82
Class III	34	11.68	50	24.06	59	28.50	88	37.61
Class IV	81	28.18	71	33.49	76	36.71	64	27.35
Class V	114	39.86	70	33.02	38	18.36	28	11.97
Class VI	33	14.78	2	0.47	4	1.93	4	1.71
All Classes	278	100.00	212	100.00	207	100.00	234	100.00

TABLE 3.3 : NUMBER OF TOWNS IN EACH SIZE CLASS AND  
THEIR PERCENTAGE TO TOTAL TOWNS - INDIA:  
1951-81

Size Class	1951		1961		1971		1981	
	Number of towns	Percentage to total	Number of towns	Percentage to total	Number of towns	Percentage to total	Number of towns	Percentage to total
Class I	74	2.60	102	4.38	145	5.73	216	6.66
Class II	95	3.34	129	5.54	178	7.03	270	8.32
Class III	330	11.60	449	19.23	570	22.52	739	22.77
Class IV	621	21.84	732	31.41	847	33.46	1040	32.29
Class V	1146	40.30	739	31.72	641	25.33	742	22.87
Class VI	578	20.32	179	7.68	150	5.93	230	7.00
All Classes	2844	100.00	2330	100.00	2531	100.00	3245	100.00

Note : Figures for all-India exclude the states of Assam and Jammu & Kashmir.

TABLE 3.4 : DISTRIBUTION OF URBAN POPULATION BY SIZE  
CLASSES- ANDHRA PRADESH AND INDIA:1951-81

		CLASS						Total
		I	II	III	IV	V	VI	
Andhra Pradesh	1951	32.52	12.75	16.73	20.31	15.38	2.31	100.00
	1961	42.66	8.48	24.24	15.82	8.74	0.06	100.00
	1971	48.36	13.35	20.92	13.41	3.78	0.18	100.00
	1981	53.69	16.17	20.95	7.32	1.75	0.12	100.00
India	1951	44.31	9.95	15.79	13.79	13.04	3.12	100.00
	1961	50.77	11.00	17.41	13.00	7.03	0.79	100.00
	1971	26.21	11.24	16.32	11.20	4.57	0.46	100.00
	1981	60.37	11.65	14.35	9.52	3.61	0.50	100.00

Note : Figures for all-India exclude the states of Assam and Jammu & Kashmir.

from 1951 to 1981 (Table 3.4). The percentage share of class II and class III towns also has slightly been increasing in Andhra Pradesh while that of the lower three categories has been declining. The percentage distribution of urban population by different size-classes reflects the structure of urban growth. In Andhra Pradesh 8.55 per cent of urban centres (class I) account for about 54 per cent of urban population whereas in the country 6.66 per cent of urban centres (class I) account for more than 60 per cent of the total urban population in 1981. The above analysis indicates the 'top-heavy' nature of the urban structure of Andhra Pradesh and India with a few large urban centres having a larger share of urban population at the apex with a weak base at the below. In the country, this top-heavy nature is even more conspicuous.

This also indicates the highly distorted nature of urban settlement pattern, due to hypertrophy of large urban centres, in the country. This is the direct outcome of the colonial rule of concentrating investments and administrative and political power in a few large urban centres. It has also been noticed that the pattern of urban and metropolitan development in Independent India has not been much different from that during colonial times because, 'the control of monopolistic production and finance capitalism on metropolitan economy has continued even after Independence'.

The dualism in the economic structure of India, wide inter-regional disparity in levels of development, inadequacy of linkages between the urban and their surrounding rural areas, dysfunctional development of urban centres and misconceived developmental strategies and policies of private and public sectors etc., are considered to be some of the important factors for such a highly distorted settlement system in the country.<sup>2</sup> In such situations, the organisation of space economy gets concentrated around a few large urban centres, with growth impulses getting impounded in them, leaving behind vast rural hinterlands in 'submarginal subsistence'.

3.2.1 The growth rates of urban centres by size categories have been estimated by a method different from that used in the census.<sup>3</sup> In this method, growth rates are calculated

---

2. Alam, S.M. (1980): "Distortions in Settlement System of India", Geographical Review of India, Vol. 42, No. 4, pp. 305-322.

3. Suri argues that the 'Instantaneous Method' (mostly used in the census) should not be used for examining the relationship between the growth of urban centres and their population size. This method involves the classification of towns according to their population at the time of each census and measures the changes in each class regardless of the number of towns included in it. Instead, the 'Continuous Method' classifies urban centres at a point of time (a Census, for instance) and measures the changes in the population of various size classes of towns, without changing the composition of the classes. By applying the continuous method, he observes that the results for 1951-61 do not support the hypothesis of a positive relationship between size and growth of towns during the decade. See Suri, K.B. (1968) : "Towns : Size, Economic Structure and Growth", Economic and Political Weekly, Vol. 3, August 10, pp. 124-151.

by keeping the urban centres in each size category, the same in the base year irrespective of their shifts in the terminal year. To compute growth rates during 1961-71 and 1971-81, the size classifications in 1961 and 1971 respectively should be taken as the bases. It must be ensured that no declassified town is excluded from the analysis and that the (rural) population figures of all such towns are added to the terminal year population while computing the growth rates. However, in the present analysis, since the population figures for the two towns declassified in 1981 (Piduguralla in class IV and Chittivalasa in class V of 1971)<sup>4</sup> are not available, their population figures are excluded from their respective size classes in the base years during 1971-81. The growth rates, as computed by this method, are given in Table 3.5.

It may be noticed from the Table 3.5 that the growth rates during 1971-81 are higher than those of the preceding decade for all the categories of urban centres in Andhra Pradesh. The cities (with population one lakh and above) have registered very high growth rate during sixties as well as seventies. The growth rate for cities is significantly higher than all other size categories in the sixties,

---

4. Since the General Population Tables of 1981 for Andhra Pradesh are not yet published, the names of declassified towns are not available. However, when the list of towns of 1971 is checked with that of 1981, the above mentioned two towns were found missing in 1981. Therefore, these two are considered declassified towns in 1981.

TABLE 3.5 : GROWTH RATES OF POPULATION IN CITIES/TOWNS OF DIFFERENT SIZE CLASSES DURING 1961-71 AND 1971-81 IN ANDHRA PRADESH

	CLASS					
	I	II	III	IV	V	VI
a)*	41.38	19.12	31.21	27.74	28.18	14.98
b)	45.61	44.66	42.02	47.02	36.93	18.52
**a)	37.10	30.49	33.41	30.03	31.52	(V & VI)
b)	45.98	45.64	43.24	46.38	37.78	"

Notes: a) 1961-71 and b) 1971-81

\* Figures are taken from Kundu, A(1983): "Theories of City Size Distribution and Indian Urban Structure - A Reappraisal", Economic and Political Weekly, Vol. 18, No. 31, p. 1362.

\*\* Average growth rates. Source: Ibid., p. 1364.



and, in the seventies, it is only next to that of class IV towns. The growth rates for class II, III and IV towns were significantly higher in the seventies when compared to sixties. The acceleration in the growth rate for towns in class II category is far higher than other categories from sixties to seventies. However, the growth rates for class V and class VI towns have been relatively less than the other size classes during seventies in the state. The average of the growth rates in different size classes also shows that the cities/towns in all size categories have grown faster in the seventies than in sixties. Also, the variations in growth rates among different size classes have narrowed in seventies when compared to sixties. The average figures also suggest that the towns in class IV category have recorded higher growth rate than other size classes during seventies. However, the increase in the average growth rate, from sixties to seventies, for towns in class V and VI categories is relatively less when compared to other size classes in the state.

3.2.2 At the district level also, in almost all the districts the growth rate of urban population has increased from sixties to seventies. The percentage of urban to total population in 1981 and the growth rate of urban population during the seventies reveal that even atleast a relatively uniform pattern does not exist in the state (Table 3.6).

TABLE 3.6 : THE LEVELS AND GROWTHS OF URBANIZATION  
IN THE DISTRICTS OF ANDHRA PRADESH:1961-81

Name of the District	Percentage of urban to total population			Population growth rates			
	1961	1971	1981	1961- 71		1971- 81	
				Total	Urban	Total	Urban
1	2	3	4	5	6	7	8
1. Srikakulam	8.74	9.24	11.14	13.68	34.71	7.51	32.73
2. Vizianagaram	-	13.87	16.02	-	-	14.00	31.71
3. Visakhapatnam	18.03	25.39	31.58	18.45	48.15	23.76	52.93
4. East Godavari	18.54	19.23	22.20	17.97	22.78	19.90	38.47
5. West Godavari	15.87	17.71	20.84	19.54	33.97	20.33	41.60
6. Krishna	23.51	27.25	32.65	19.71	38.98	22.00	46.13
7. Guntur	20.83	24.98	27.60	22.03	31.63	20.48	33.08
8. Prakasam	-	11.07	14.20	14.65	29.27	27.97	64.05
9. Nellore	11.00	15.59	20.79	14.97	25.82	23.27	64.39
10. Chittoor	11.47	13.56	16.82	19.11	39.12	21.14	50.23
11. Cuddapah	13.20	14.18	19.41	17.43	26.32	22.22	67.32
12. Ananthapur	17.40	17.77	20.26	19.68	22.04	23.78	41.12
13. Kurnool	19.23	20.30	24.52	26.05	22.28	21.30	46.51
14. Mahabubnagar	10.04	8.97	10.92	21.31	8.72	26.63	54.12
15. Rangareddy	-	-	24.00	-	-	42.43	141.55
16. Hyderabad	62.18	65.88	100.00	35.20	43.43	33.16	33.19
17. Medak	7.73	8.51	11.84	18.53	31.43	24.50	73.18
18. Nizamabad	14.51	15.94	19.28	28.92	40.64	27.87	54.65
19. Adilabad	15.49	15.92	19.34	27.41	31.14	27.15	54.48
20. Karimnagar	7.06	10.72	15.72	20.65	83.23	24.04	81.96
21. Warangal	14.10	13.43	17.26	20.38	15.42	23.01	58.08
22. Khammam	12.14	13.59	16.79	29.46	53.91	27.38	57.45
23. Nalgonda	9.31	6.69	11.39	16.10	-16.98	25.04	112.93
ANDHRA PRADESH	17.44	19.31	23.25	20.60	33.81	23.19	48.26

The Krishna - Godavari Delta region along with Visakhapatnam appear as a relatively well urbanised region with 20-32 per cent of population living in urban areas in 1981 (Fig. 3.2). The growth rate of urban population is less than fifty per cent in the four delta districts of East Godavari, West Godavari, Krishna and Guntur while it is more than fifty per cent in Visakhapatnam district during seventies. In Rayalaseema as a whole about 20 per cent of population are urban. Chittoor and Cuddapah districts recorded more than fifty per cent urban growth rate in the seventies in this region. The urban scenario seems to be totally different in Telangana. Excluding Hyderabad and surrounding Rangareddy district, in all the districts only about 10-20 per cent of population are urban in 1981 and also, all these districts have witnessed more than 54 per cent of urban growth during seventies. The growth rate of urban population has been very high in Rangareddy (141.55), Nalgonda (112.93)<sup>5</sup>, Karimnagar (81.96), Medak (73.18) in Telangana, Cuddapah (67.32)

---

5. The decline of urban population (by -16.98 per cent) in Nalgonda district during 1961-71 might be due to the decline in the population of Vijayapuri North during sixties. Vijayapuri was classified as 'urban' in 1961 with a population size of 55,300. It was divided into Vijayapur North and Vijayapuri South in 1965 and the latter was transferred to Guntur district. Therefore, Vijayapuri North recorded a negative growth rate of -70.79 per cent during sixties. However, even the combined population of both the towns comes to only 21,311 in 1971 and 25,883 in 1981 and the growth rate works out to be -61.46 and -53.19 per cent during sixties and seventies respectively. Only after an investigation, one can spelt out the reasons for such a drastic decline in the population size of the above mentioned town.

# ANDHRA PRADESH

URBAN GROWTH RATE (1971-81)  
AND PERCENTAGE OF URBAN  
TO TOTAL POPULATION

1981

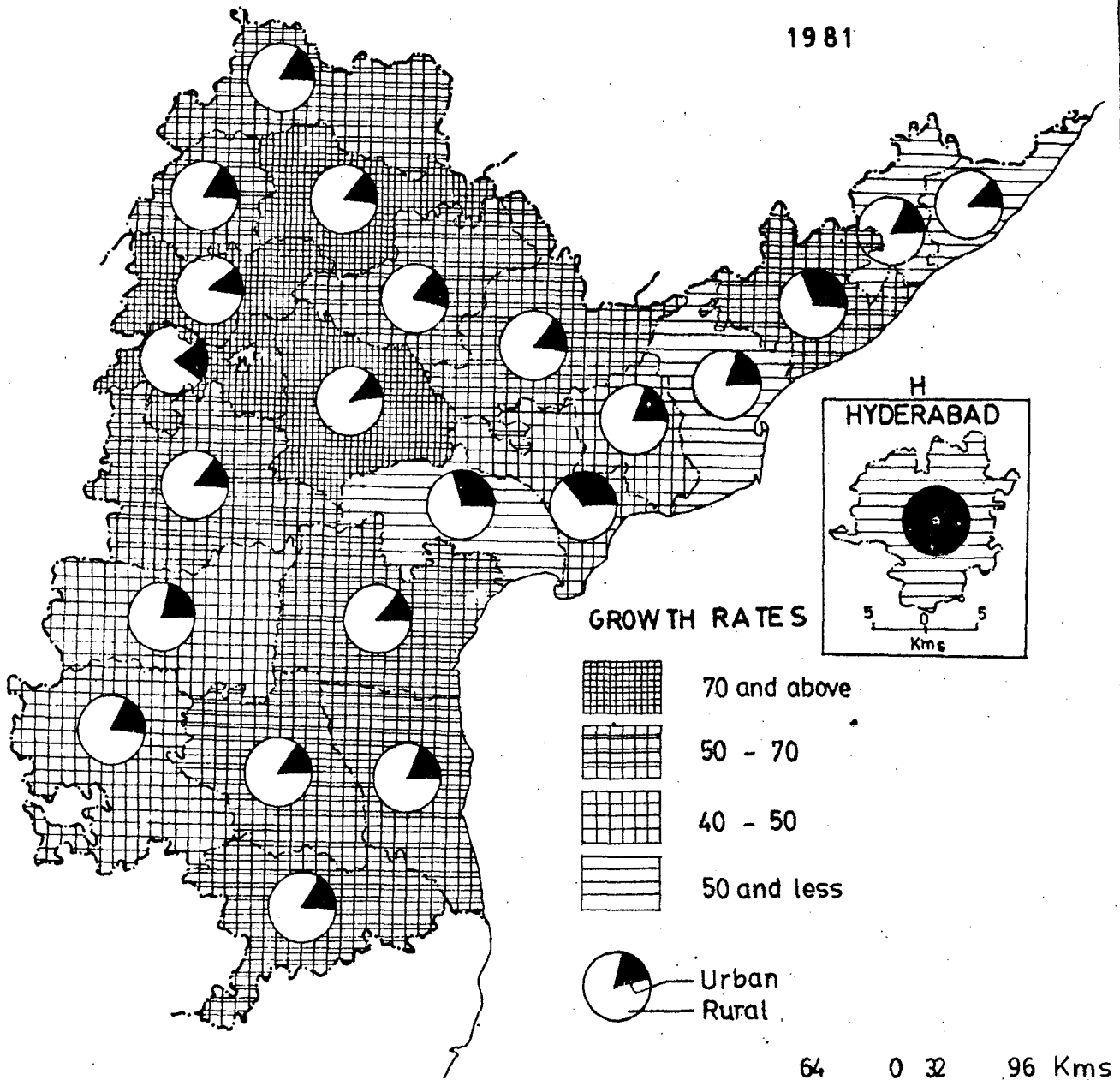


Fig 3.2

in Rayalaseema and Nellore (64.39) and Prakasam (64.05) in Coastal Andhra during seventies in the state. At the regional level Coastal Andhra has recorded higher urban growth rate (36.96) followed by Telangana (35.61) and Rayalaseema (22.22) during sixties. However, during seventies, urban growth rate has been very high in Telangana (52.83) followed by Rayalaseema (49.39) and Coastal Andhra (43.85) in the state. This analysis thus reveals that the rapid growth of urban population has taken place in the backward areas as compared to the relatively developed areas during seventies in the state.

3.2.3. By analysing the towns with a population of 30,000 and above in 1961, the state has been divided into four Urban Regions and it is also stated that these four regions are markedly different in terms of the level of development, structure of the economy and urbanization pattern. The four regions are as follows:<sup>6</sup>

1. The Hyderabad Urban Region comprising all the nine districts of Telangana.
2. The Vijayawada - Guntur Urban Region comprising the Guntur, Krishna, West Godavari and East Godavari districts.

---

6. Alam, S.M.(1968): "A Note on the Re-alignment of the Urban System of Andhra Pradesh", cited in Alam, S.M. and Khan, W. et al (1970): 'Metropolitan Hyderabad and its Region - A Strategy for Development', Ashia Pub. House, New York, p. 6.

3. Visakhapatnam Urban Region comprising the Srikakulam and Visakhapatnam districts and
4. The Kurnool - Nellore Urban Region comprising the four Rayalaseema districts (Ananthapur, Kurnool, Chittoor and Cuddapah) and Nellore district.

It can't be directly said at present whether the urbanization process has been directed on the above lines in the course of the last two decades, since the indicators studied here are different. However, in the light of the present analysis, it becomes obvious that Hyderabad Urban Region has emerged as a highly urbanised pocket in a vast underdeveloped region of Telangana. While the Vijayawada - Guntur Urban Region and Visakhapatnam Urban Region seem to have emerged distinctly, there is no strong evidence of the emergence of the Kurnool - Nellore Urban Region centred around any one or two major urban nodes.

Rayalaseema seems to have a more balanced and decentralised urban settlement pattern when compared to Telangana and Coastal Andhra in the state. There is no any large urban centre that can act as a nodal point to stimulate economic development in Rayalaseema. The presence of three giant Metropolitan cities, Hyderabad in the north, Bangalore in the south-west and Madras in the south might be responsible

for this phenomenon. The largest urban centre in the region, Kurnool, has a population of only 2,06,661 in 1981. There are 14 urban centres with a population of 50,000 and above that account for a substantial proportion of the urban population of the region and are more or less evenly distributed in space. A balanced urban and regional development process can be initiated and is more feasible in this region through comprehensive rural-urban development policies.

### 3.3 SPATIAL DISTRIBUTION OF FAST GROWING AND STAGNATING URBAN CENTRES

3.3.1 To get further insights into the spatial pattern of urban growth in Andhra Pradesh, urban centres with more than fifty per cent growth rate (considered fast growing) and less than ten per cent growth rate (considered stagnating) in the base years during 1961-71 and 1971-81 are identified and their spatial distribution analysed. There are 16 urban centres identified as fast growing during 1961-71. A good number of these towns are located in the underdeveloped districts of Rayalaseema and Telangana regions.<sup>7</sup> There are three towns each in Khammam and Karimnagar districts, two each in Chittoor and Ananthapur districts and the remaining

---

7. For the names of rapidly growing and stagnating urban centres and their growth rates during 1961-71, see Appendices I-A and I-B respectively.

towns are scattered. Location of three fast growing towns in Khammam, one each in Nalgonda, Guntur, Krishna and West Godavari districts adjacent to each other, gives an impression of concentration of fast growing urban centres during 1961-71 in this part of the state (Fig. 3.3). While rapid growth of Visakhapatnam might be due to massive industrialisation programmes through public sector investments, that of Tirumalai and Tirupati in Chittoor district are due to their religious importance. Besides being a religious centre, Tirupati is also an important educational centre next to only Hyderabad in the state. The rapid growth of other towns may be attributed to the poverty induced rural-urban migrations in the backward districts. The 15 stagnating towns during 1961-71 are highly scattered and are reported from the backward districts of Telangana and coastal Andhra regions (Fig 3.4). The two stagnating towns of Narsipatnam and Madugula are in close proximity to rapidly growing Visakhapatnam city, Kosigi and Narayanpet are under the influence of Metropolitan Hyderabad (whose growth rate in the sixties is + 43.83 per cent) and Kothagudem in Khammam district is associated with the fast growing towns of the district. Bellampalle and Kagaznagar NMA are the other two stagnating towns closer to each other in Adilabad district. Kothagudem and Bellampally are the old mining towns that have been stagnating since the concentration of mining activities have been shifted towards new



# ANDHRA PRADESH

TOWNS GROWING BY MORE  
THAN FIFTY PER CENT

1961-71

Kms 64 0 32 96

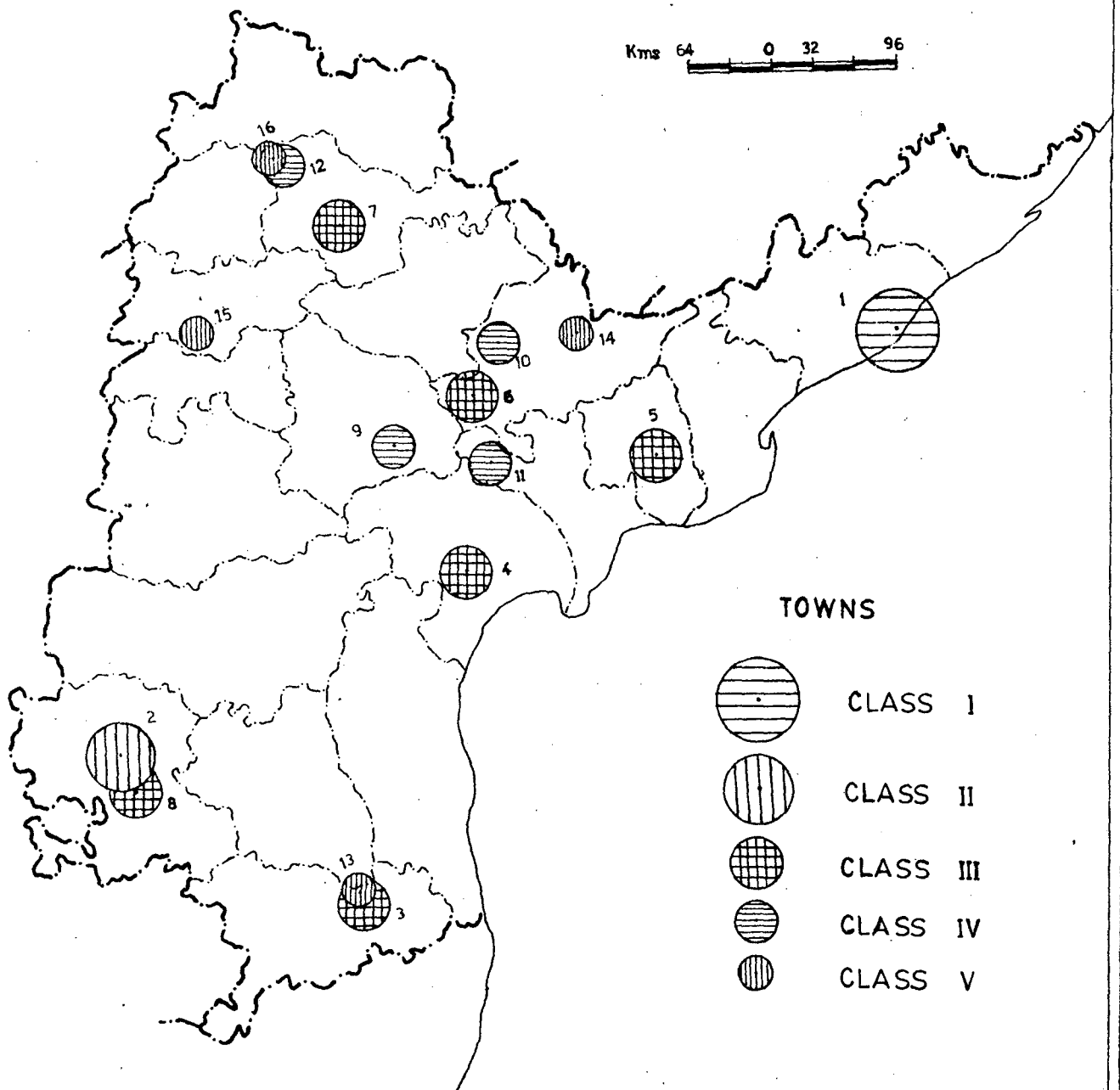


Fig 3.3

# ANDHRA PRADESH

TOWNS GROWING BY LESS  
THAN TEN PER CENT

1961-71

64 0 96 Kms

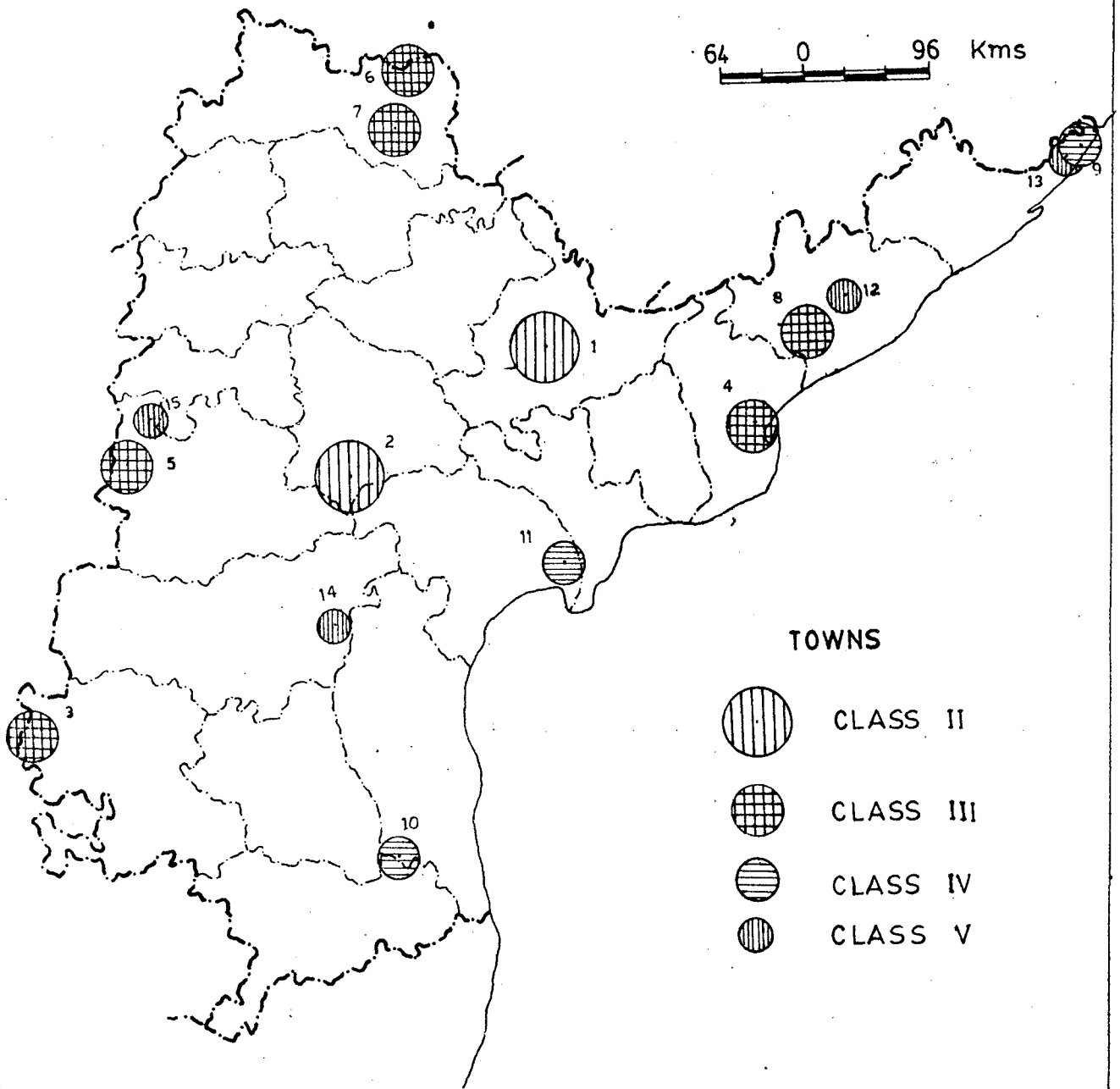


Fig 3.4

mining centres like Mandawarri and Godavari Khani which are growing rapidly in Telangana region in the state.

3.3.2 The situation is significantly different in the seventies when the number of fast growing urban centres has increased<sup>8</sup> to 62 from 16 in the sixties and the spatial spread of these centres has also increased significantly (Fig. 3.5). There is a relatively high incidence of these centres in the adjacent areas in Adilabad - Karimnagar districts, Khammam - Nalgonda districts, Prakasam - Guntur districts and Cuddapah - Ananthapur districts. Also, another concentration of these urban centres may be observed in Medak and Mahabubnagar districts which fall on either side of Hyderabad Metropolitan city. The whole of Telangana along with four adjacent districts of Prakasam, Guntur, Krishna and West Godavari in Coastal Andhra seems to be emerging as a region of rapid urban growth in the state. In the south-western part of the state in Rayalaseema, bordering Karnataka state, another area of concentration of fast growing urban centres seems to be emerging. Concentration of these centres around large cities other than Hyderabad is not observed.

There are only nine stagnating urban centres (Fig. 3.6) in seventies, two each in Adilabad, Visakhapatnam

---

8. For the names of rapidly growing and stagnating urban centres and their growth rates during 1971-81, see Appendices II-A and II-B respectively.

# ANDHRA PRADESH

TOWNS GROWING BY MORE  
THAN FIFTY PER CENT

1971 - 81

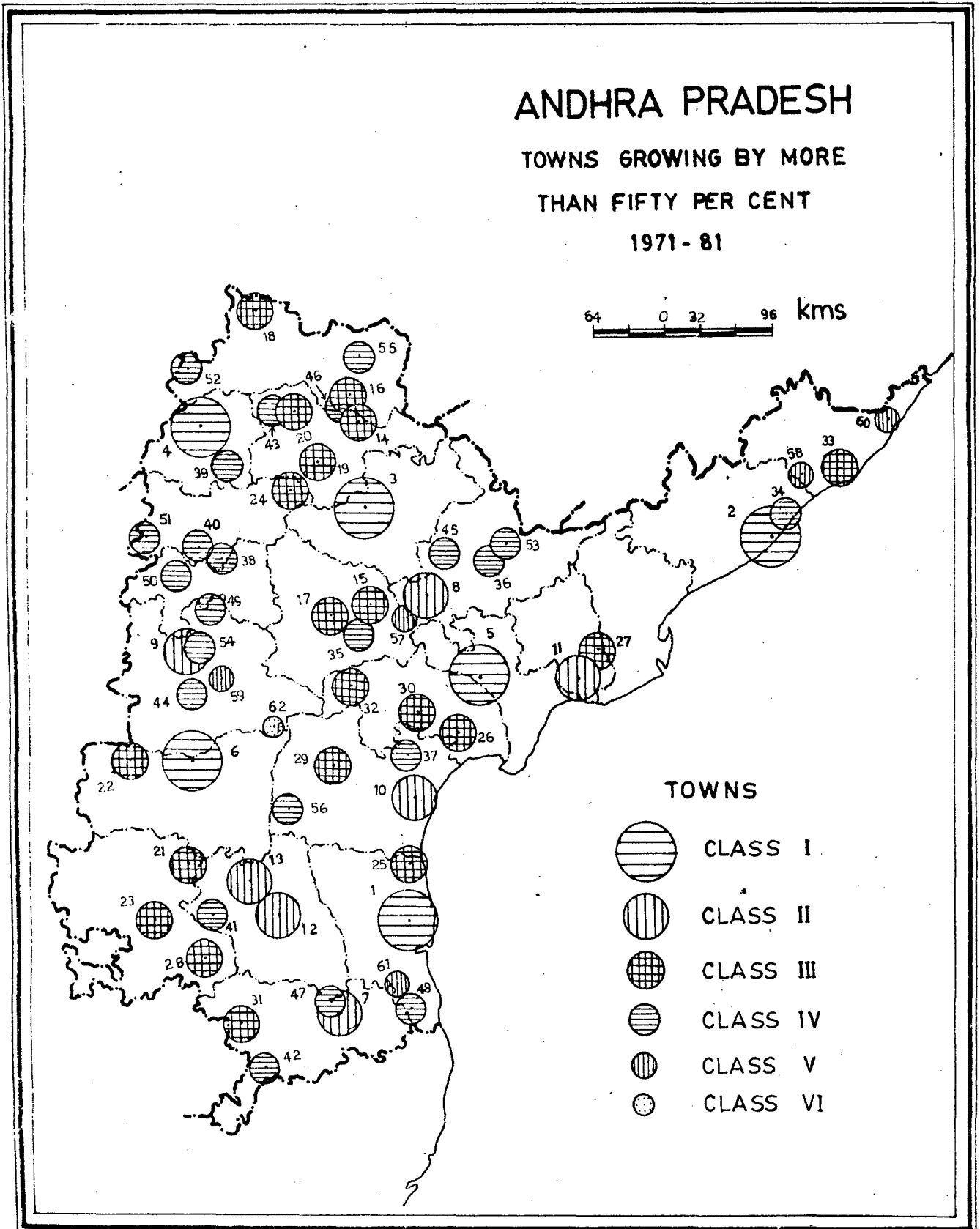
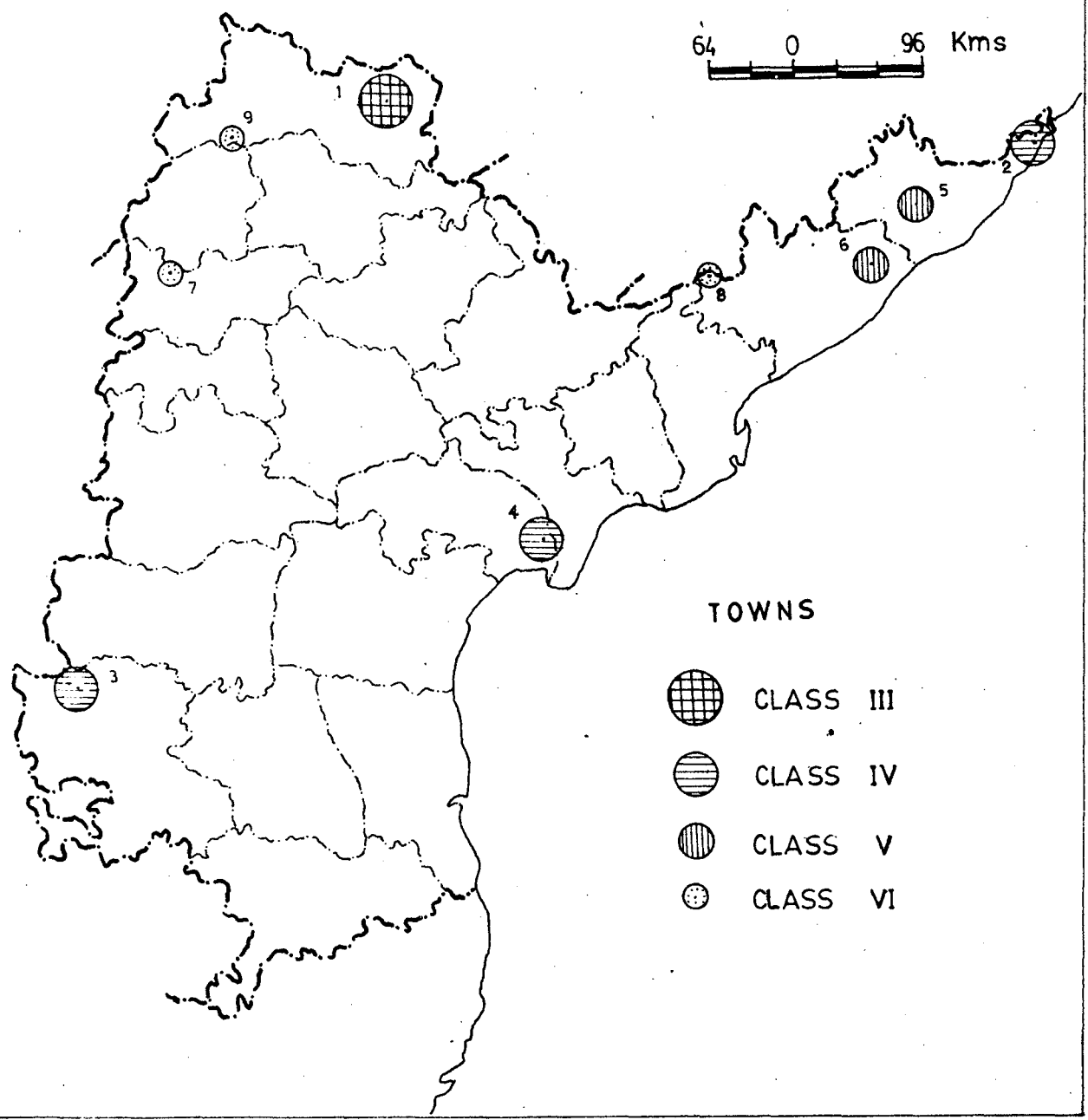


Fig 3.5

# ANDHRA PRADESH

TOWNS GROWING BY LESS  
THAN TEN PER CENT  
1971-81



## TOWNS





-  CLASS III
-  CLASS IV
-  CLASS V
-  CLASS VI

Fig 3.6

and Srikakulam districts and one each in Ananthapur, Guntur and Medak districts. All these urban centres are highly scattered. There is a clear absence of any kind of association between fast growing and stagnating urban centres during the seventies. The above analysis indicates that there was a limited dispersal of growth impulses from larger urban centres to lower order growth centres in the seventies leading to the rapid growth of a large number of isolated towns.<sup>9</sup> In view of the low level of economic development and general backwardness of Andhra Pradesh, such a rapid urban growth will have serious implications in terms of plan formulations for urban development.

3.3.3 The percentage of fast growing and stagnating urban centres to total urban centres in different size-classes in the base years during 1961-71 and 1971-81 in Andhra Pradesh are calculated to get better insights into the nature of urban growth. During 1961-71, 16 urban centres (7.55 per cent) have recorded a growth rate of more than fifty per cent (Table 3.7). During sixties, there was a moderate growth rate (33.81 per cent) of urban population in the state. The situation is markedly different in the

---

9. Nagaraj observes that, 'agglomeration factor' - a factor arising out of togetherness of towns in a cluster - made a better performance than isolated towns only during the sixties in Andhra Pradesh whereas during seventies isolated towns played major role in urban growth. See Nagaraj, K. (1983): "Urbanization in Andhra Pradesh and Tamil Nadu: A Comparative picture for 1961-81". Madras Inst. of Development Studies, Madras.

TABLE 3.7 : PERCENTAGES OF CITIES/TOWNS GROWING AT MORE THAN FIFTY AND LESS THAN TEN PERCENT DURING 1961-71 AND 1971-81

			CLASS					
			I	II	III	IV	V&VI	Total
Andhra Pradesh	A	a)	9.09	12.50	11.71	5.63	5.63	7.55
		b)	46.15	41.18	33.90	30.26	14.29	30.00
	B	a)	0	25.00	11.76	4.23	5.63	7.08
		b)	0	0	1.69	3.95	11.90	4.35
I India*	A	a)	22.55	14.17	12.93	11.56	12.66	12.95
		b)	32.41	18.96	19.26	15.09	17.34	18.07
	B	a)	4.90	5.83	6.92	7.70	11.25	8.62
		b)	2.06	2.29	5.69	6.79	11.00	7.17

Note : a) 1961-71                      b) 1971-81

A. With more than Fifty percent growth rate - fast growing.

B. With less than Ten percent growth rate - stagnating.

\* The all-India figures are taken from Kundu, A. "Urbanization and Organisation of space - The trends in the Indian economy and their implications for planning", paper submitted to Bi-national Indo-Soviet seminar on 'problems of migration in the process of urbanisation'. 18-23 Sept., 1984. Centre for Area Studies, O.U., Hyderabad.

\* All-India figures exclude the states of Assam and Jammu & Kashmir.

seventies when Andhra Pradesh had recorded an accelerated growth of urban population (48.26 per cent). As many as 62 urban centres (30 per cent) were identified as fast growing including 25 centres which recorded more than 70 per cent growth rate during seventies. The percentage of fast growing towns has increased significantly in all the size categories in the seventies as compared to sixties and the percentage increase in class I and class II categories is relatively very high. The per cent of fast growing urban centres declines with decrease in the size class both during sixties and seventies.

3.3.4 The number of stagnating urban centres has declined from 15 (7.08 per cent) in the sixties to 9 (4.35 per cent) in the seventies. While there is no any stagnating town in class I category during both the decades, no stagnating town is observed in the seventies in class II also. There is an increase in the percentage of stagnating urban centres as one goes down in the size classes of the urban centres. A similar trend exists at the all-India level also. The percentage of rapidly growing urban centres has increased from 13 in the sixties to 18 in the seventies, the increase being significant in class I centres from 22.55 to 32.41 per cent. The percentage of stagnating urban centres declined from 9 to 7 from sixties to seventies. While the percentage of rapidly growing urban centres decreases, that of stagnating centres increases with decrease in size classes. This



suggests the possibility of a distinct relationship between the size-class and growth rates of urban centres.<sup>10</sup> Absence or decline of stagnating urban centres in the class I and II categories and a relatively high percentage of fast growing centres in the above two categories confirms the existence and strengthening overtime of top-heavy nature of urban structure and dual pattern of urban growth in Andhra Pradesh and also the country as a whole. It is also observed that the variation in terms of average growth performance of cities is reducing overtime which is considered as an 'evidence of temporal stability in the economic base of cities'. And the increase in disparity in the growth rates of smallest size categories in the seventies is considered to be due to the 'weak and volatile' economic bases of small towns in India.<sup>11</sup>

- 
10. In a study of 'Declining and slow growing urban centres' during 1961-71, Narula observes that only 15 per cent of the cities have grown negatively or slowly, considering slow growth rate as less than the natural growth rate of population in urban areas. The corresponding figures for class II, III, IV, V and VI towns are 15.30, 21.50, 29.02, 40.21 and 50.92 respectively, thus clearly indicating a negative relationship between the percentage of slow or negatively growing urban centres and the average size of the category. For details, see Narula (1981): "Declining, Slow Growing Urban Settlements: 1961-71" in Bhargava, G.(Ed): Urban Problems and Policy Perspectives', Abhinay Pub., New Delhi.
11. Kundu, A.(1983): "Theories of City Size Distribution and Indian Urban Structure - A Reappraisal", Economic and Political Weekly, Vol. 18, No. 31, pp. 1361-68.

3.3.5 For slow growth, stagnation or decline of small and medium sized towns, four approximate causes have been identified;<sup>12</sup>

1. A high proportion of population depending upon agriculture either as cultivators or agricultural labourers,
2. Preponderance of the un-organised household industry sector in the economic structure of town,
3. The low level of economic development of a town's hinterland, and
4. Inferior location of the town vis-a-vis its own hinterland as also other urban centres.

On the whole, the economic structure of the region as well as of each individual city/town may be the relevant factors influencing trends of growth rates during a given period of time.

### 3.4 TOWN DENSITY AND THE ORGANISATION OF SPACE

3.4.1 Town density - defined as number of urban centres per 1000 sq. km. - is less than one in Andhra Pradesh in 1981 which is extremely low. A higher town density is an

---

12. Khan, W., "Growth and Stagnation of Small and Medium Sized Towns in Telangana - An Exploratory Enquiry", in Alam, S.M. and Pokshishevsky, V.V. (1976) (Ed): 'Urbanization in Developing Countries', ~~Indo-Soviet Collaborative~~ Indo-Soviet Collaborative Volume, Osmania University, Hyderabad, p. 376.

indication of better spatial distribution of urban centres. In 1981, only eight districts - Medak and Karimnagar in Telangana and six other districts in Coastal Andhra except Nellore, Prakasam and Visakhapatnam - have their town densities more than one (Table 3.8). Rangareddy - Hyderabad districts together have a town density of only 0.91. All the remaining districts are characterised by low town densities with many of them having below the state average of 0.85. The high percentage of urban to rural population (46.15) and a low town-density (0.81) in Visakhapatnam district in 1981 is due to the fact that Visakhapatnam Urban Agglomeration (UA) alone accounts for about 74.61 per cent of the total urban population of the district. In Hyderabad - Rangareddy and Warangal districts also, where there is low town-density, 96.51 and 84.60 per cent of urban population respectively are concentrated in class I urban centres. Nellore, Cuddapah, Kurnool and Nizamabad are the other districts with low town densities but have more than fifty per cent of their urban population in their respective class I centres. The less urbanised and backward districts of Medak and Karimnagar in Telangana and Srikakulam and Vizianagaram in Coastal Andhra have low percentage of urban to rural population but their town densities are equal to and more than one. This might be due to the distribution of towns in the lower size categories in these districts. The remaining districts are characterised

TABLE 3.8 : SELECT DEMOGRAPHIC INDICATORS FOR THE DISTRICTS OF ANDHRA PRADESH : 1961-81

Name of the District	Percent of urban to rural population			Urban centres per 1000 sq. km.			Villages with population 5000 and above per 1000 sq.km.	
	1961	1971	1981	1961	1971	1981	1961	1971
1	2	3	4	5	6	7	8	9
1. Srikakulam	9.55	11.93	12.88	1.29	1.64	1.89	0.99	1.64
2. Vizianagaram	-	-	19.08	-	-	1.53	-	-
3. Visakhapatnam	22.00	28.08	46.15	0.74	1.09	0.81	1.78	2.11
4. East Godavari	22.75	23.90	28.54	1.29	1.19	1.48	8.22	11.79
5. West Godavari	18.87	21.63	26.32	1.29	1.29	1.42	8.42	11.57
6. Krishna	30.73	37.53	48.47	1.49	1.83	1.72	4.69	6.98
7. Guntur	26.31	33.36	38.11	1.33	1.41	1.32	6.06	9.84
8. Prakasam	-	12.48	16.55	-	0.51	0.62	-	2.72
9. Nellore	12.36	18.75	26.25	0.44	0.54	0.61	1.21	2.14
10. Chittoor	12.96	15.46	20.21	0.86	0.82	0.86	1.06	1.71
11. Cuddapah	15.20	16.54	24.09	0.59	0.52	0.85	1.24	2.15
12. Ananthapur	21.07	21.58	25.40	0.73	0.56	0.58	1.15	2.20
13. Kurnool	23.80	25.49	32.49	0.67	0.53	0.62	0.58	1.70
14. Mahabubnagar	11.16	9.89	12.26	0.76	0.60	0.69	0.33	0.92
15. Rangareddy	-	-	31.57	1.94	2.21	0.91	0.65	1.17
16. Hyderabad	164.38	194.07	-					
17. Medak	8.38	9.33	13.43	0.83	0.83	1.03	0.21	0.83
18. Nizamabad	16.97	18.89	23.89	0.75	0.75	0.88	1.24	2.26
19. Adilabad	18.33	18.97	23.98	0.61	0.68	0.74	0.12	0.37
20. Karimnagar	7.60	12.01	18.65	0.61	0.93	1.02	1.01	2.28
21. Warangal	16.41	15.63	20.86	0.62	0.31	0.31	0.70	2.10
22. Khammam	13.82	16.86	20.18	0.31	0.38	0.44	0.88	1.48
23. Nalgonda	10.26	7.19	12.85	0.56	0.42	0.70	0.70	1.54
ANDHRA PRADESH	21.12	24.00	30.28	0.81	0.81	0.85	1.77	2.91

by low level of urbanization, low percentage of urban to rural population and low town densities. It is obvious that urban population in Andhra Pradesh is concentrated in a few large urban centres and vast rural hinterlands are not served by any urban centre. The poor organisation of urban centres in space and the problem of inadequate 'urban support' to rural economy is prevalent in most of the districts in Andhra Pradesh.

3.4.2 An analysis of the density of large villages i.e., villages with a population of 5000 and above per 1000 sq.km., for Andhra Pradesh district-wise for 1961 and 1971<sup>13</sup> shows that a good number of districts have a fairly high density of these big villages. All the districts have shown an increase in the density in 1971 as compared to 1961. For the state, the density has increased from 1.77 to 2.91 and the number of large villages from 486 to 804 from 1961 to 1971. The Coastal districts of East Godavari, West Godavari, Krishna and Guntur have very high density of large villages. Only Mahabubnagar and Adilabad have less than one large village per 1000 sq. km. The fact that the number of these large villages is nearly three and half times the number of towns in Andhra Pradesh in 1971 indicates that the significance of the criteria of the minimum size and density of population is less binding for classifying

---

13. Information regarding the villages with population 5000 and above in 1981 is not available due to the non-availability of General Population Tables for Andhra Pradesh.

a settlement as urban. It is the economic criterion that is acquiring greater importance since these large villages are characterised by people engaged in primary activities. Inadequate diversification of economic activities will transform many of these large villages into growth centres for a better organisation of space through a hierarchy of urban settlements.

### 3.5 SPATIAL DISTRIBUTION OF DECLASSIFIED AND NEW TOWNS

3.5.1 An analysis of the spatial distribution of declassified and new towns<sup>14</sup> gives further insight into the spatial pattern of urban growth in Andhra Pradesh. The rigorous and strict application of the definition of town in 1961 led to the declassification of as many as 74 towns in Andhra Pradesh (Fig. 3.7). There are only two declassified towns in Rayalaseema, while all the remaining towns are reported from Telangana and Coastal Andhra regions.<sup>15</sup> Eight districts - East Godavari, West Godavari, Krishna and Guntur in Coastal Andhra and Hyderabad, Nizamabad, Karimnagar and Nalgonda in Telangana account for nearly sixty five per cent of the declassified towns in 1961. The Telangana region, Krishna and Godavari delta regions

---

14. A settlement classified as 'urban' for the first time is termed as 'new town' in the present analysis.

15. For the list of declassified and new towns in 1961, see Appendices III-A and III-B respectively.

# ANDHRA PRADESH

## DECLASSIFIED TOWNS

1961

64 0 32 96 Kms

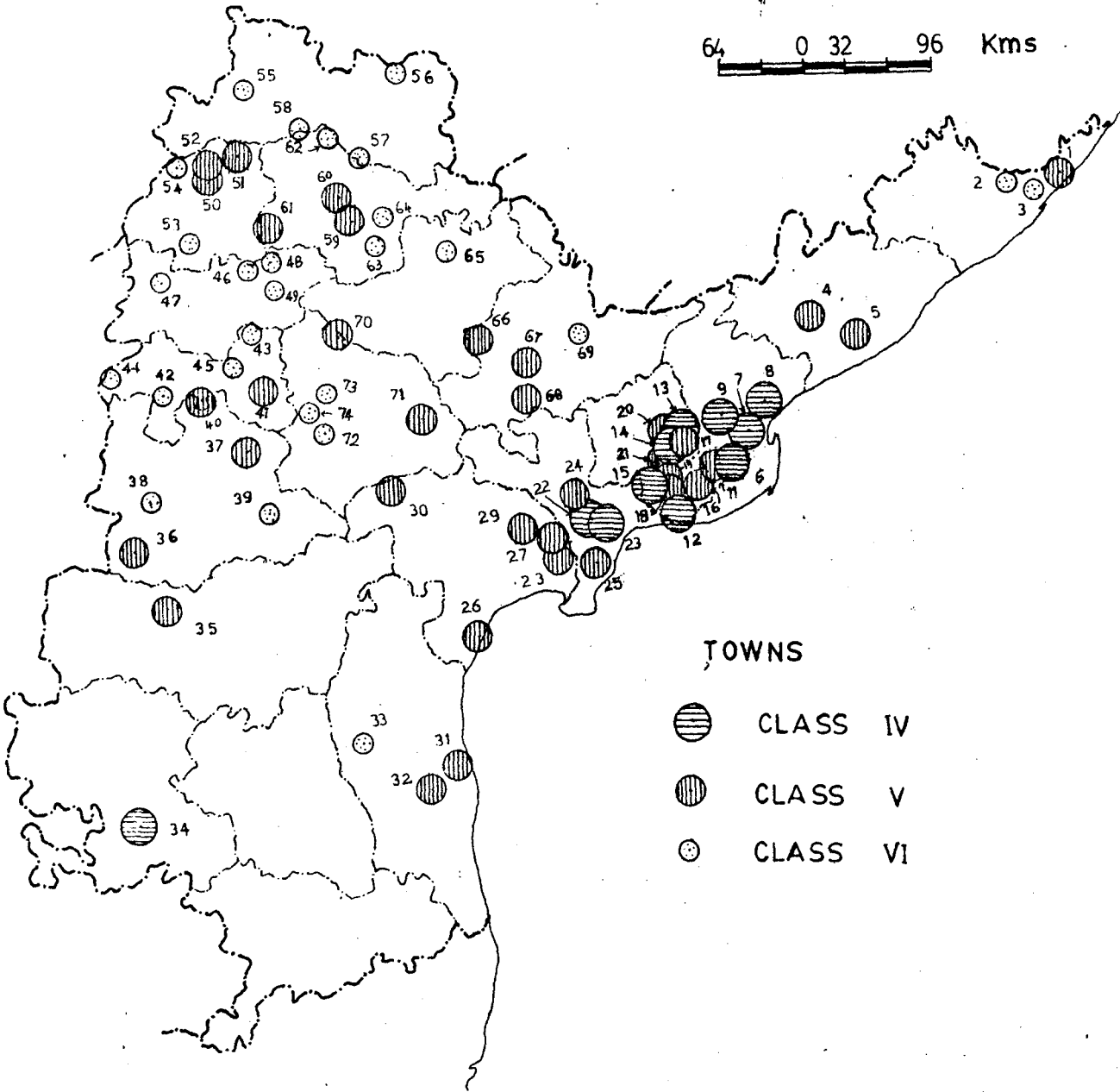


Fig 3.7

seem to have a distinct concentration of the declassified towns. Of the 74 towns declassified in 1961, 12 fall in class IV, 35 in class V and 27 in class VI categories in 1951. Only 10 new towns were identified in 1961, of which five fall in Krishna district alone. Six of these new towns belong to class V and one each to class II, III, IV and VI categories in 1961 (Fig. 3.8).

3.5.2 Altogether 37 towns are declassified in 1971. Of these, 6 towns belong to class IV, 29 to class V and 2 to class VI categories in 1961 (Fig. 3.9). The weak and fluctuating economic bases of a large number of these urban centres might not have ~~not~~ entitled them to continue as towns. There are only 7 declassified towns in coastal Andhra in 1971 as against 33 in 1961. Telangana and Rayalaseema districts account for the rest of the declassified towns. This clearly indicates that small urban centres in the underdeveloped regions of Telangana and Rayalaseema are characterised by more unstable economies than their counterparts in the relatively developed districts of Coastal Andhra. Concentration of these towns can be found in south-western part of the state in Rayalaseema and in the Telangana region.

Totally 40 new urban centres are identified in 1971, of which 8 fall within the jurisdictions of four urban agglomerations in the state. Of the remaining 32 new towns, 15 have emerged in Coastal Andhra (6 in



# ANDHRA PRADESH

NEW TOWNS

1961

64 0 32 96 Kms

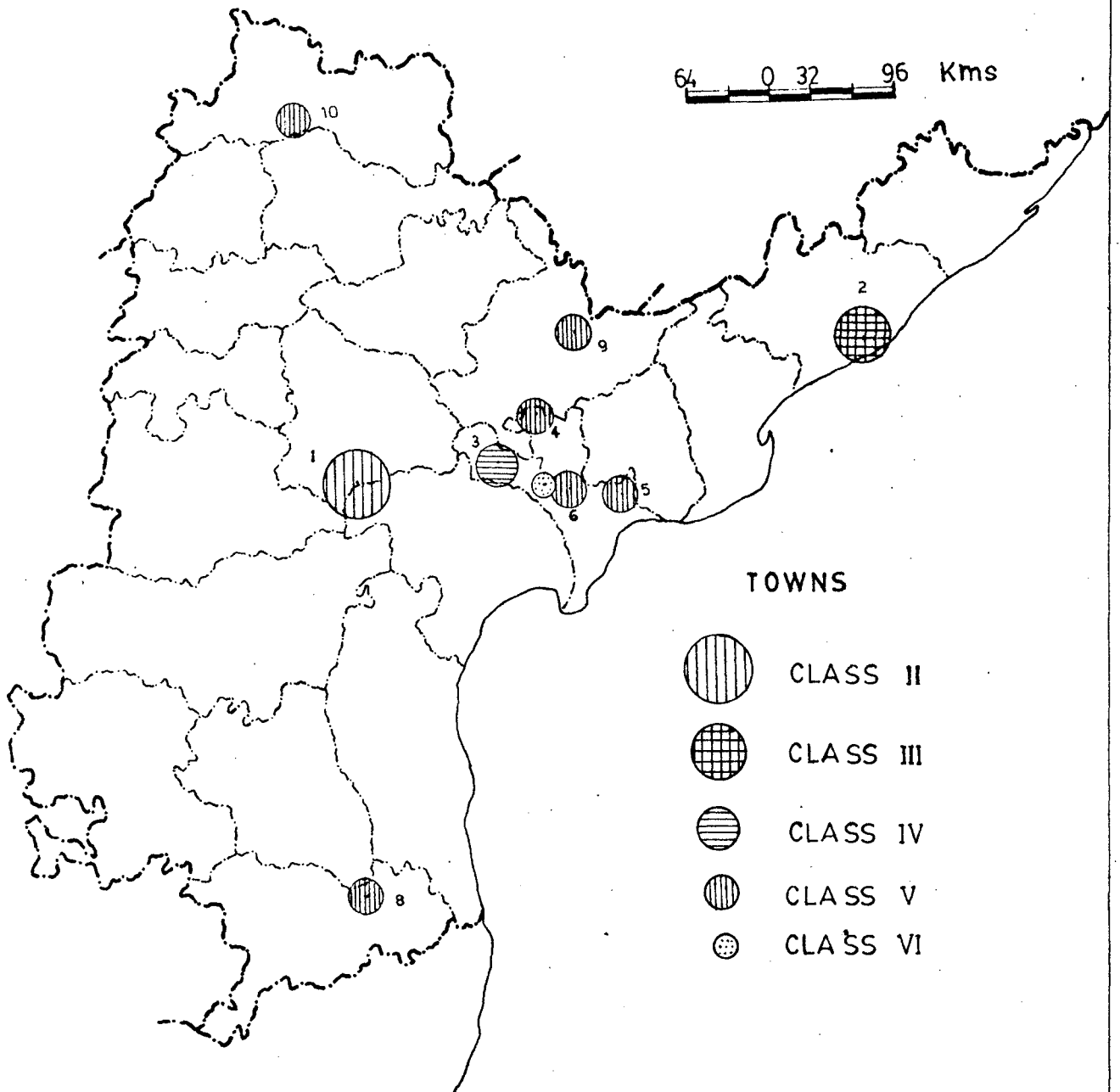


Fig 3.8

# ANDHRA PRADESH

DECLASSIFIED TOWNS

1971

64 0 32 96 Kms

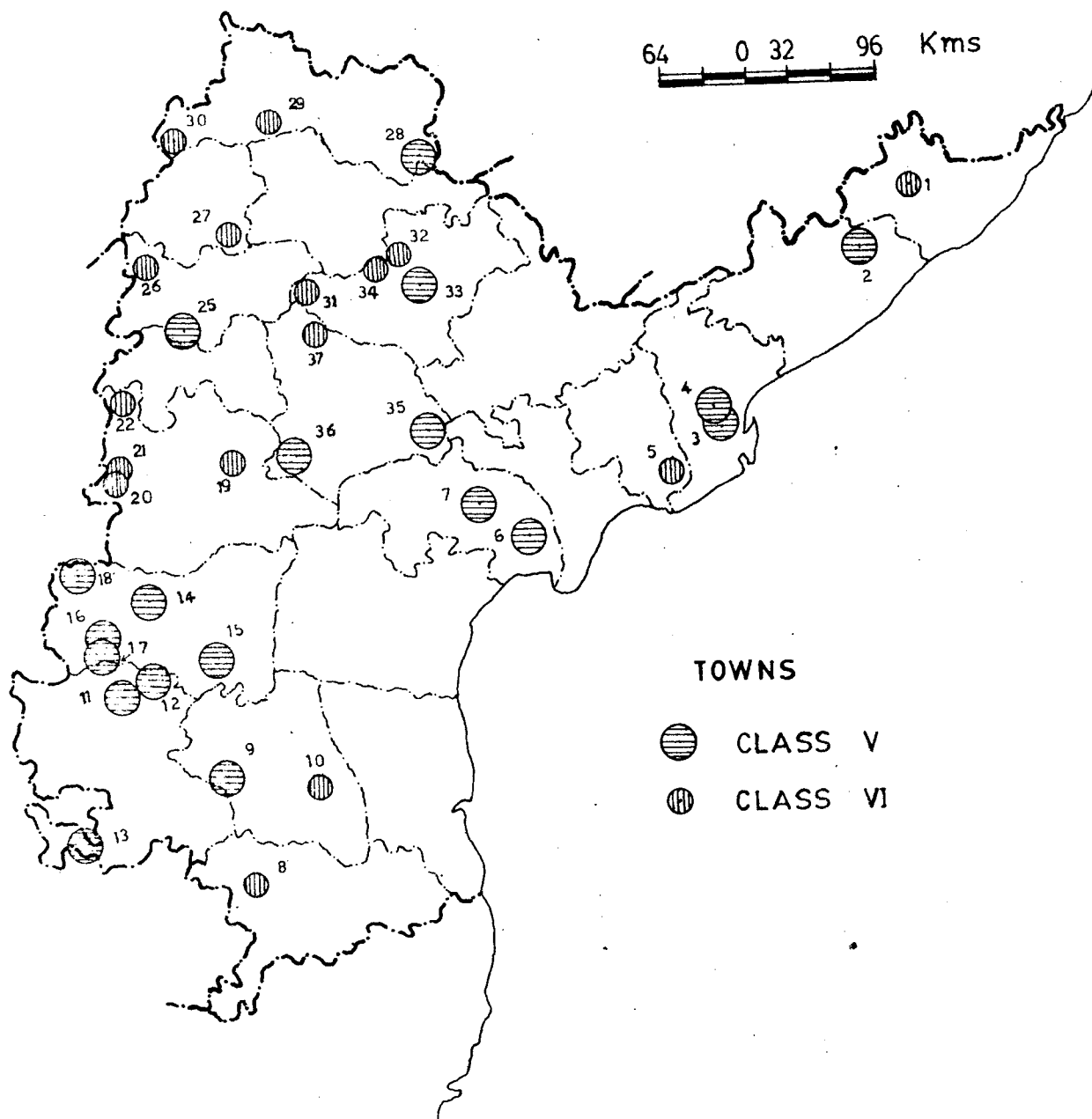


Fig 3.9

Visakhapatnam district alone), 4 in Rayalaseema and the rest in Telangana region.<sup>16</sup> There is a slight concentration of these towns in the bordering areas of Srikakulam - Visakhapatnam districts, and Adilabad - Karimnagar districts (Fig. 3.10). Massive industrialisation programmes in the case of the former and increasing mining activities in the case of the latter might be the probable reasons for the above pattern. ~~and~~ The backward region of Rayalaseema could not make any headway in the case of the emerging towns.

3.5.3 Only two towns - Chittivalasa in Visakhapatnam district and Piduguralla in Guntur district - are declassified in 1981. The rapid growth of urban population in the seventies may justify only two towns - a negligible number - losing urban status in 1981 census. A good number of 32 new towns are identified in 1981. Of these, five towns fall in Hyderabad Urban Agglomeration area. Of the remaining 27 towns, 6 emerged in Rayalaseema (5 in Cuddapah alone), 10 in coastal Andhra (4 in East Godavari) and 13 in Telangana (4 in Nalgonda) regions (Fig.3.11). Among the 27 centres, 2 towns belong to class III, 9 to class IV, 14 to class V and 2 to class VI categories.<sup>17</sup>

---

16. For the list of declassified and new towns in 1971, see Appendices IV-A and IV-B respectively.

17. For the list of new towns identified in 1981, see Appendix V.

# ANDHRA PRADESH

NEW TOWNS

1971

64 0 32 96 Kms

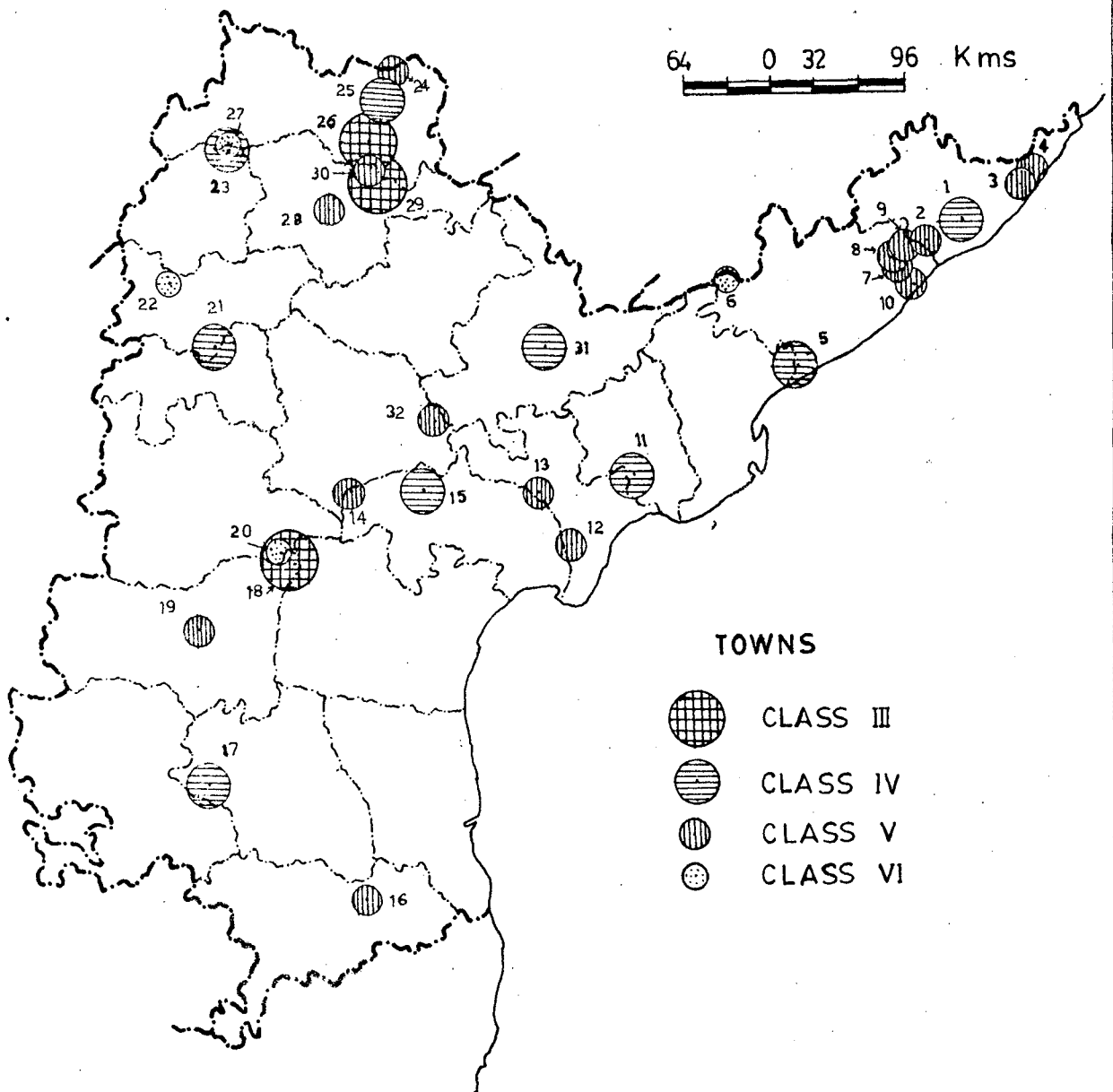


Fig 3.10

# ANDHRA PRADESH

NEW TOWNS

1981

64 0 32 96 Kms

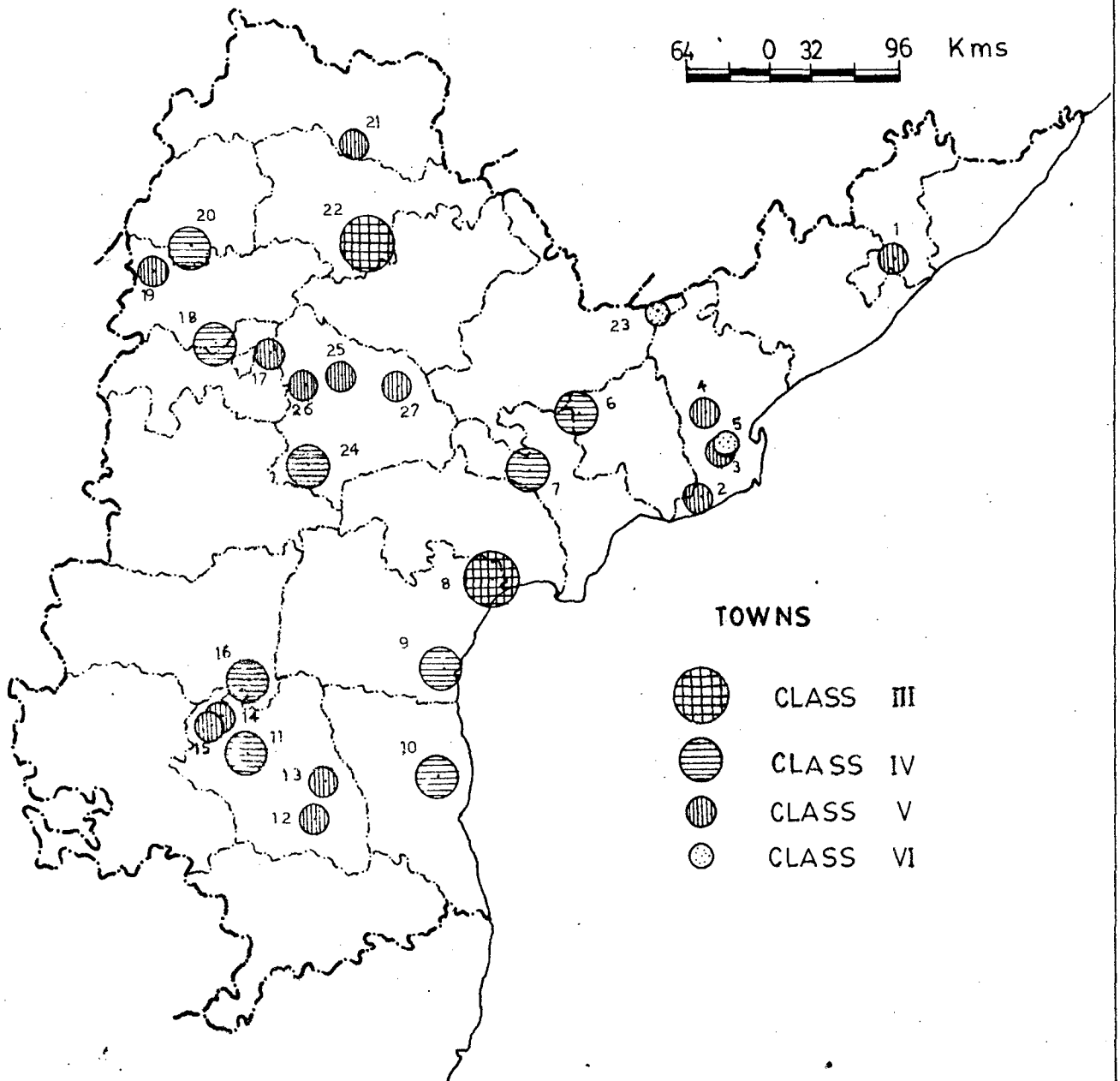


Fig 3.11

Concentration of these urban centres can be found in Medak, Rangareddy and Nalgonda districts around Hyderabad, East Godavari in Coastal Andhra and Cuddapah district of Rayalaseema. There is absence of clustering in space of these centres around large urban centres other than those mentioned above. Decline in the number of declassified towns, emergence of a large number of new towns and the rapid growth of a large number of urban centres in Andhra Pradesh might have contributed to the rapid growth of urban population in the seventies.

### 3.6 CONCLUSIONS

In the formulation of strategies for regional development, it is important to assess the nature of and spatial variations in urban growth. In this context, the conclusions that emerge from the foregoing analysis are of considerable significance with respect to Andhra Pradesh.

3.6.1 Less than one-fourth of the population are living in urban centres in the country as well as the state in 1971. The level of urbanization in Andhra Pradesh has been slightly less than that in the country over the years. During 1941-51, the state recorded a higher growth rate of urban population due to the more arbitrary application of the definition of town. This led to the declassification of a large number of towns in 1961 in the state and also

in the country when a rigorous definition of town was strictly applied. The urban population in the state grew at a very high rate of 48.26 per cent whereas the growth rate in the country is 46.02 per cent during 1971-81.

3.6.2 The number of urban centres in the upper three categories have been increasing and those in the lower three categories decreasing in the state since 1951. Almost similar trend exists at all-India level also. It seems that the lower order urban centres are growing faster and getting promoted into the next higher size classes very soon. A large proportion of urban population is concentrated in cities. About 54 per cent and 60 per cent of urban population in the state and the country respectively are living in cities that form very low percentage of the total urban centres in 1981. The share of lower size towns in urban population has been declining overtime. Thus structure of urban growth is 'top-heavy' in nature in the state and the country with a few large urban centres having a big share of urban population at the apex without a corresponding base below. In such cases the growth impulses get impounded in a few large urban centres leaving behind a vast rural hinterlands unserved by any urban centre.

3.6.3 The growth rates for all size categories of towns have increased significantly from sixties to seventies.

Cities have been growing faster both during sixties and seventies. The acceleration in the growth rates, from sixties to seventies, is higher for class II and class IV towns. The variation in the growth rates among different size classes have reduced in the seventies when compared to sixties.

3.6.4 The four delta districts of East Godavari, West Godavari, Krishna and Guntur, along with Visakhapatnam in Coastal Andhra appear as relatively highly urbanised in the state. Rayalaseema has better spatial dispersal of urban centres that leads to balanced urban and regional development. The growth rate of urban population has increased in almost all districts during seventies. The backward districts/regions have recorded significantly higher urban growth rates during seventies in the state.

3.6.5 The number of fast growing urban centres has increased from 15 to 62 during 1961-71 to 1971-81 in the state. While these towns are scattered in sixties, distinct concentration of these urban centres exists in Medak and Mahabubnagar districts adjacent to Hyderabad, in the bordering areas of Adilabad - Karimnagar districts, Khammam - Nalgonda districts, Prakasam - Guntur districts and Cuddapah - Ananthapur districts during seventies. The whole of Telangana region and four adjacent districts of Prakasam, Guntur, Krishna and



West Godavari emerge as regions of fast urban growth. The stagnating towns have declined from 15 to 9 during the same period. During both the decades, the stagnating centres are highly scattered and are mostly reported from the backward districts.

3.6.6 In all the size categories of urban centres the percentage of fast growing towns has increased in seventies and it declines as one goes down the size class of towns whereas the percentage of stagnating towns increases with decline in the size category in the state as well as the country, thus indicating a distinct relationship between the size class and growth rate of urban centres. A relatively higher percentage of fast growing towns in the bigger size class of towns and high percentage of stagnating towns in the lower size categories further confirms the perpetuating, overtime of the top-heavy nature of urban structure in the country and the state as well.

3.6.7 There is less than one town per 1000 sq. kms. in the state in 1981. The districts like Rangareddy - Hyderabad, Visakhapatnam and Kurnool etc. have very low town densities but have a high proportion of urban to rural population, because in these districts a few urban centres claim large share of their respective urban populations. The analysis of the big village density (villages with population 5000

and above per 1000 sq. km.) shows that the criterion of economic activity is acquiring greater importance in identifying a place as urban and <sup>than</sup> ~~more~~ that of minimum population size. There is a high density of these villages in the four delta districts of Coastal Andhra. Many districts have higher density of big villages than that of towns. Most of these villages can be developed into growth centres, provided a little diversification of economic activities is done.

3.6.8 Most of the 74 declassified towns in 1961 are situated in Telangana and Coastal Andhra regions. A distinct concentration of these declassified towns can be observed in Telangana and Krishna and Godavari Delta regions. Only Krishna district reported five out of 10 new towns in 1961. In 1971 the weak and fluctuating economic base seem to be the main factor in the declassification of most of the 37 towns. While 33 declassified towns were reported from Coastal Andhra in 1961, there are only 7 in 1971 which shows relatively stable economic base of urban centres in this region. The backward and underdeveloped districts of Rayalaseema and Coastal Andhra reported the remaining declassified towns in 1971. About half of the new towns identified in 1971 belong to Coastal Andhra only. This shows the relatively developed economic base of the region and a better spatial organisation of urban settlements.

Only two towns have lost urban status, whereas 27 new centres joined the list of towns in 1981. Except Cuddapah, which reported 5 new towns in 1981, the Rayalaseema districts could not make any headway in the emergence of new towns.

3.6.9 If urban growth proceeds at this pace in the coming years also in the state, the problems, such unwanted urban growth poses to the urban planners, would be really colossal. The poverty induced migrations and natural growth seem to be the main causes promoting such an accelerated growth of urban centres which are already parasitic in nature characterised by low productive base, 'bloated' tertiary sector and unemployment and under-employment. These urban centres fail to act as viable nodes promoting growth impulses and economic development. They act as parasites on, instead of providing adequate urban support to, the stagnating rural economy.

CHAPTER - IV

---

THE SPATIAL STRUCTURE OF INDUSTRIAL  
ACTIVITIES IN ANDHRA PRADESH

---

4.1 The process of industrialisation and the consequent shift of workforce from the primary to the secondary and tertiary sectors, resulting in the horizontal mobility of population from rural to urban areas, are said to be the main factors causing and promoting urbanization process in any country or region. The process of industrialisation and urbanization are considered to have significant relationship in promoting the economic development of a region. With the inherited characteristics of colonial structure of underdevelopment still persisting in the country, the disparities in spatial distribution of industrial activities are bound to influence the spatial pattern of urbanization. The superimposition of spatial pattern of industrial development over that of urbanization in a temporal frame makes it possible to examine the interplay of developmental factors in a regional context. The outcome of such analysis would provide the basis for a theoretical understanding of the nature of interdependencies in the process of industrialisation and urbanization.

4.2 Andhra Pradesh is a resource rich area with vast mineral resources, fertile lands, long coast line and forest wealth etc.. Industrially being a backward state, it is only recently that it is undergoing a massive programme of industrialisation through a number of agencies like Andhra Pradesh Industrial Development Corporation (APIDC), Andhra Pradesh State Finance Corporation (APSFC), Andhra Pradesh Industrial Insurance Corporation (APIIC), Andhra Pradesh Mining Corporation (APMC) and Andhra Pradesh State Trading Corporation (APSTC) etc.. In the earlier chapters it has become clear that the state of Andhra Pradesh is at a low level of economic development and also a low level of urbanization. In this chapter, to get further insights into the spatial organisation of urban industrial growth in the state, an analysis of the spatial distribution of industrial activities particularly with reference to urban areas is presented.

4.3 The problems of availability and comparability of data in different periods are discussed in Chapter I. The following indicators relating to male workforce are worked out for the analysis in this chapter.

1. Percentage of Nonhousehold (NH) workers to total workers (1961)
2. Percentage of NH workers to total workers (1971)
3. Percentage of NH workers to total workers in urban areas (1961)

4. Percentage of NH workers to total workers in urban areas (1971).
5. Percentage of NH workers in urban areas to total of the same in the district (1961).
6. Percentage of NH workers in urban areas to total of the same in the district (1971).
7. Percentage of Household (H) workers to total workers (1961).
8. Percentage of H workers to total workers (1971).
9. Percentage of H workers to total workers (1981).
10. Percentage of H to total workers in urban areas (1961).
11. Percentage of H to total workers in urban areas (1971).
12. Percentage of H to total workers in urban areas (1981).
13. Percentage of H workers in urban areas to total of the same in the district (1961).
14. Percentage of H workers in urban areas to total of the same in the district (1971)
15. Percentage of H workers in urban areas to total of the same in the district (1981).
16. Manufacturing establishments per thousand population (1961).
17. Manufacturing establishments per thousand population (1971).
18. Manufacturing establishments with workers less than nine plus unspecified units per thousand units (1961).

19. Manufacturing establishments with workers less than nine plus unspecified units per thousand units (1971).
20. Manufacturing establishments using electricity per thousand (1961).
21. Manufacturing establishments using electricity per thousand units (1971).
22. Ratio of H to NH establishments (1971).

4.4 Looking at the absolute figures of Non-Household (NH) male employment, the number has gone up from 71.85 lakhs to 98.52 lakhs during 1961-71 in the country, recording a growth rate of 37.12 per cent whereas in Andhra Pradesh the growth rate of NH male workforce was 64.34 per cent from 3.87 lakhs to 6.36 lakhs during the same period. The percentage of NH male workforce to total male workforce has increased from 5.56 to 6.60 in the country and from 3.43 to 4.97 in Andhra Pradesh thus showing a definite improvement in the secondary sector in the sixties.<sup>1</sup> However, the above figures also suggest that the manufacturing base is weaker in the state than in the country as a whole.

Of the total male workers in urban areas, the proportion of NH sector has improved in the country as well as the state, from 22.94 to 24.01 per cent in the former and

---

1. A brief analysis of structure and shift of male workforce in different categories is given in section 2.10 of Chapter II.

from 13.59 to 17.23 per cent in the latter during 1961-71. However, there seems to be a slight dispersal of NH activities from urban areas in sixties. This can be observed by the decline in the urban share of total NH male workers from 71.59 to 69.89 per cent in the country and from 59.09 to 58.21 per cent in the state during 1961-71. This means that in 1971 in the country 20 per cent of population living in urban centres had 69.89 per cent of NH male workforce and in Andhra Pradesh 19.31 per cent of urban population account for about 58.21 per cent of male NH workforce. Thus, about 80 per cent of population living in rural areas in the country and in the state account for about only 30 and 42 per cent respectively of male NH employment in 1971. Such a weak manufacturing base in rural areas of the country is, to a large extent, a legacy of colonial underdevelopment that has been persisting, unfortunately, even after two decades of planned development.

The cities have witnessed an increasing concentration of NH activities in sixties, despite a general decline in the share of urban areas as a whole. The share of the cities in the total NH male employment in the country increased from 45.53 to 50.56 per cent and in the state it increased from 31.44 to 33.19 per cent during 1961-71. While 10 per cent of Indian population living in cities in 1971 account for about 50.56 per cent of NH male employment,



9.7 per cent of population living in cities in Andhra Pradesh had 33.19 per cent of NH male employment. All the cities put together in Andhra Pradesh consist of 10.60 per cent of registered manufacturing units while in the country as a whole the cities account for about 40 per cent of registered units in 1971. This shows that cities in general have a relatively well developed manufacturing base in the country as a whole when compared with those of the state.

4.5 Only Hyderabad district had more than 10 per cent of its total male workforce in NH sector in 1961 (Table 4.1). The districts of Nizamabad, Adilabad, Karimnagar and Warangal in northern Telangana region had more than 4 per cent of their respective male employment in NH sector indicating a better support of manufacturing activities (Fig. 4.1). Also, the districts of Visakhapatnam, East Godavari, West Godavari, Krishna and Guntur in Coastal Andhra region too had nearly 4 per cent of their respective total male workforce in NH sector. By 1971, whereas the share of NH sector in the total male employment has gone upto 14.65 per cent in Hyderabad district, the situation is not significantly different from that of 1961 in the above mentioned four districts in northern Telangana region. The four delta districts in Coastal Andhra - East Godavari, West Godavari, Krishna and Guntur - emerged as relatively well industrialised districts with about 6 per cent of their

TABLE 4.1 MALE WORKFORCE PARTICIPATION IN MANUFACTURING SECTOR  
IN INDIA AND THE DISTRICTS OF ANDHRA PRADESH:1961-81

Name of the District	1961		1971	
	Percentage of NH to total workers	Share of Urban in NH workers	Percentage of H to total workers	Share of Urban in H workers
1. Srikakulam -	1.54	33.52	6.09	13.74
2. Vizianagaram	-	-	-	-
3. Visakhapatnam	3.76	51.19	5.71	13.59
4. East Godavari	3.87	62.66	7.16	17.84
5. West Godavari	3.48	63.35	5.58	19.53
6. Krishna	4.44	74.71	5.90	22.00
7. Guntur	3.97	71.63	7.70	25.03
8. Prakasam	-	-	-	-
9. Nellore	2.02	59.65	7.85	13.26
10. Chittoor	1.81	55.81	6.26	19.73
11. Cuddapah	1.62	79.68	10.87	17.34
12. Ananthapur	1.43	86.28	7.55	30.76
13. Kurnool	2.86	81.62	7.59	27.49
14. Mahabubnagar	0.77	53.63	8.98	13.79
15. Rangareddy	-	-	-	-
16. Hyderabad	10.68	87.48	4.02	37.27
17. Medak	1.55	18.30	7.15	11.23
18. Nizamabad	5.63	44.35	7.07	11.82
19. Adilabad	4.61	65.94	6.45	11.04
20. Karimnagar	4.15	10.45	12.63	8.74
21. Warangal	4.76	40.68	8.47	12.09
22. Khammam	2.53	21.79	5.50	10.52
23. Nalgonda	3.17	14.12	7.88	6.26
ANDHRA PRADESH	3.43	59.09	7.24	17.18
INDIA*	5.56	71.59	4.54	20.89

Contd...

TABLE 4.1

Name of the District	1971		1981			
	Percentage of NH to total workers	Share of urban in NH workers	Percentage of H to total workers	Share of urban in H workers		
1. Srikakulam	1.76	59.54	5.41	10.00	5.73	14.45
2. Vizianagaram	-	-	-	-	5.42	13.65
3. Visakhapatnam	4.73	66.36	4.72	10.55	4.63	30.06
4. East Godavari	6.05	54.31	4.54	13.29	4.67	20.31
5. West Godavari	5.74	50.58	3.19	23.53	4.43	21.64
6. Krishna	6.73	69.50	3.69	24.96	4.05	33.06
7. Guntur	6.41	61.66	4.00	31.72	4.10	36.45
8. Prakasam	4.43	33.87	5.63	18.11	5.54	29.57
9. Nellore	4.72	50.00	3.91	21.11	5.03	20.64
10. Chittoor	3.49	41.80	3.74	18.91	4.32	20.11
11. Cuddapah	3.69	50.24	6.57	21.19	5.87	33.02
12. Ananthapur	2.57	88.04	5.92	21.00	5.18	39.38
13. Kurnool	3.68	87.28	5.31	20.49	4.33	33.44
14. Mahabubnagar	1.21	49.81	6.89	8.78	4.34	13.07
15. Rangareddy	-	-	-	-	4.36	19.27
16. Hyderabad	14.65	88.40	2.81	39.01	3.59	100.00
17. Medak	2.58	42.07	5.67	9.47	4.49	9.72
18. Nizamabad	5.87	39.55	5.26	7.95	6.10	14.62
19. Adilabad	5.14	60.19	4.28	10.00	4.50	16.62
20. Karimnagar	4.73	17.65	9.62	11.96	8.21	15.07
21. Warangal	5.54	35.51	6.69	8.73	7.53	12.54
22. Khammam	2.37	44.35	4.60	5.93	5.80	9.35
23. Nalgonda	3.86	13.20	6.75	2.60	7.04	6.74
ANDHRA PRADESH	4.97	58.21	5.09	15.41	5.13	23.02
INDIA*	6.60	69.89	3.37	25.03	3.69	34.05

Notes: H - Household; NH - Non-Household.  
\* Figures for 1981 exclude the state of Assam.

# ANDHRA PRADESH

PERCENTAGE OF NON-HOUSEHOLD  
TO TOTAL MALE WORKERS

1961

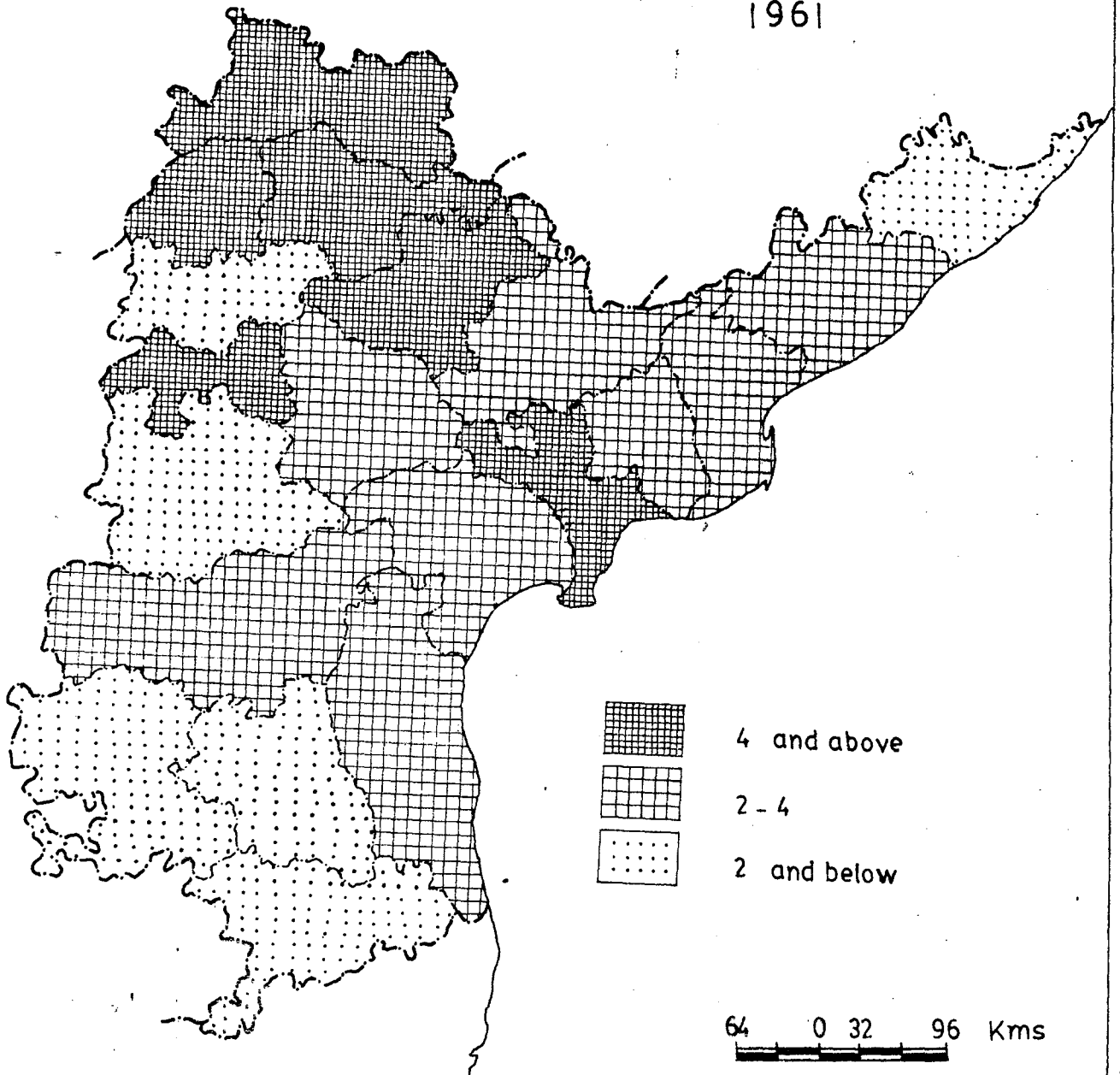


Fig 4.1

total male employment engaged in NH sector (Fig. 4.2). The four districts of Rayalaseema - Chittoor, Cuddapah, Ananthapur and Kurnool - along with adjacent Mahabubnagar district form an area of weak manufacturing base.

4.5.1 The urban share of NH male workforce was very high (87.48 per cent) in Hyderabad district in 1961 because of the concentration of industrial activities in Hyderabad Metropolitan city. The concentration of NH activities is not high in urban areas in the above mentioned four districts in northern Telangana region indicating a dispersal of industrial activities towards rural areas. The four delta districts of Coastal Andhra had high concentration of more than 60 per cent of NH male employment in urban centres. Three districts in Rayalaseema - Cuddapah, Ananthapur and Kurnool - had very high proportion (about 80 per cent) of their NH male employment in urban areas in 1961. In the above three districts, due to industrial backwardness, the very few urban centres they have, claim large share of NH activities. By 1971, while there was no significant change in the situation in the four northern Telangana districts, the urban share of NH male workers was as high as 88 per cent in Hyderabad. An important observation that can be made is that in Medak district, the urban share of NH male workers has gone up from 18 to 42 per cent during 1961-71 simply because of being adjacent to Hyderabad city whose suburbs

# ANDHRA PRADESH

PERCENTAGE OF NON-HOUSEHOLD  
TO TOTAL MALE WORKERS

1971

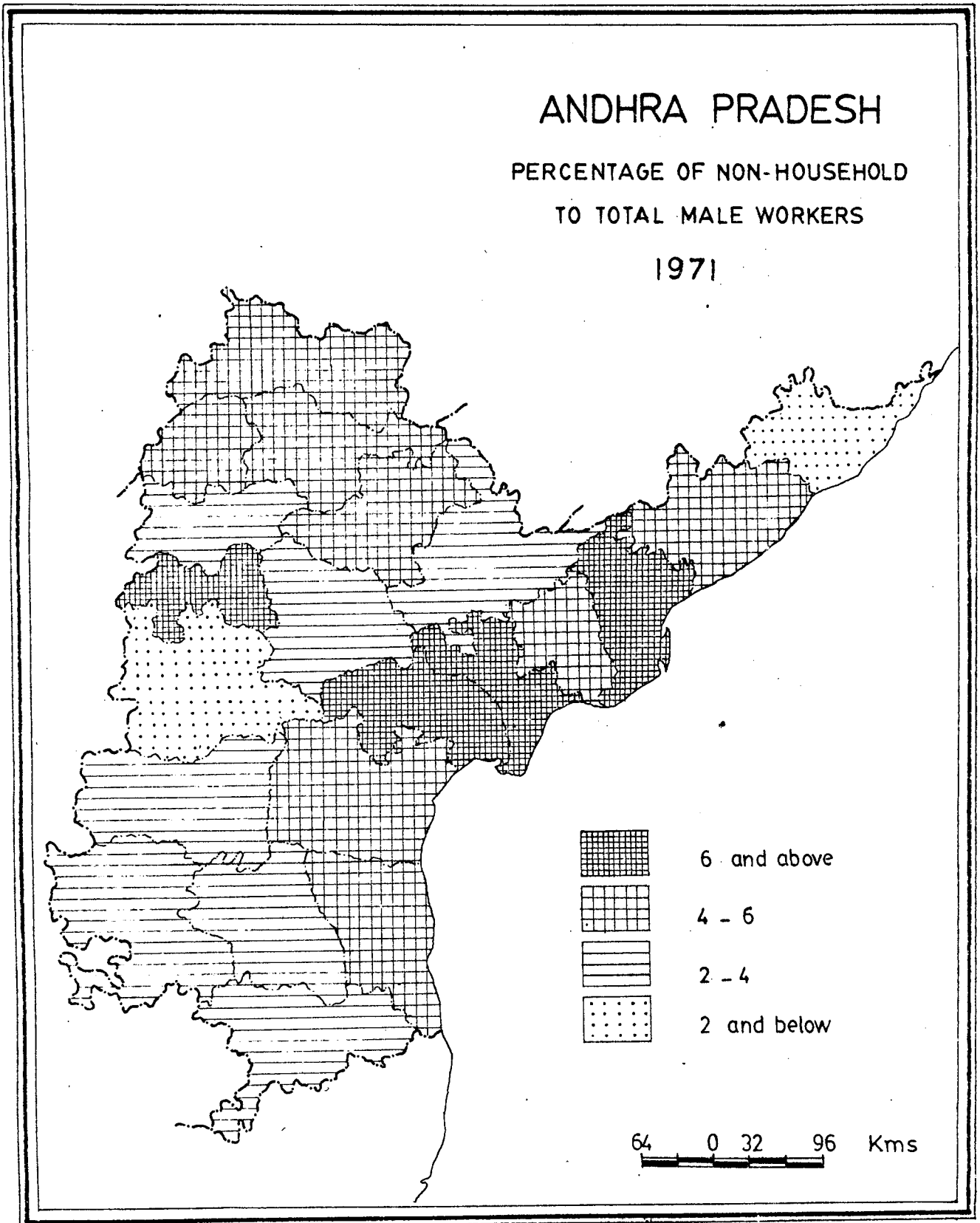


Fig 4.2

have been witnessing massive industrialisation in sixties and seventies. In coastal Andhra, the four delta districts have more than 50 per cent of their NH male employment in urban centres in 1971 which is less than that in 1961. But in Visakhapatnam district, the urban share has increased from 51 to 66 per cent during 1961-71 due to industrialisation programmes in and around Visakhapatnam city. In Rayalaseema, the two adjacent districts of Ananthapur and Kurnool have very high proportion of more than 87 per cent of NH activities in urban areas in 1971.

4.6 The employment opportunities for males in Household (H) sector came down by 14.38 per cent from 58.64 lakhs to 50.21 lakhs in the country and by 20.29 per cent from 8.19 lakhs to 6.53 lakhs in the state during sixties. However, there is an increase in the number of H male workers in the country as well as the state during seventies. The number of H male workers has increased to 64.18 lakhs (an increase of 27.82 per cent) in the country. In the state, the figure has gone up to 7.81 lakhs with an increase of 19.60 per cent during seventies. The H activities form a low component of the total workforce. The sixties marked a significant decline in H activities, whereas in seventies there has not been much change in the proportion of H activities to total male workforce in the country as well as the state. In the country as a whole the share of H in the total male employment

declined from 4.54 to 3.37 per cent during 1961-71 and in 1981 it was only 3.69 per cent. In Andhra Pradesh the proportion of H activities in the total male workforce has been higher than that of the country at the three points of time given in the analysis. It was 7.2 per cent in 1961, 5.09 per cent in 1971 and 5.13 per cent in 1981 in the state.

The decline of H activities in sixties may be observed in urban areas also in the state while it has increased in the country as a whole. The number of H male workers in urban areas increased by 2.63 per cent from 12.25 lakhs to 12.57 lakhs in the country while it decreased by 28.47 per cent from 1.41 lakhs to 1.01 lakhs in the state during 1961-71. However, there has been an increase of H male workers in urban areas to 21.86 lakhs in the country and 1.80 lakhs in the state by 1981. The urban share of H male workforce has increased from 21 to 25 per cent during 1961-71 and to 34 per cent by 1981 in the country as a whole. It came down from 17 to 15 per cent during 1961-71 but went upto 23 per cent by 1981 in the state. Of the total male workforce in urban areas, the share of H sector came down from 5.46 to 4.38 per cent in the country and from 8.35 to 4.67 per cent in the state during sixties. However, it has increased to 5.46 per cent in the country and 5.78 per cent in the state by 1981. This increase in H activities in urban areas in seventies is considered to have taken place in the informal sector.



Despite a general decline of H workers in the country, cities have witnessed an increase in sixties. H male workers in cities in the country as a whole grew at a rate of 5 per thousand city population while in Andhra Pradesh the trend was a decline by 3 persons per thousand city population during sixties. However, the importance of H activities appears to be quite low in manufacturing sector in cities. For every 100 NH male workers in cities in 1961, there were less than 14 and 25 H male workers in the country and the state respectively. By 1971, the percent of H to NH workers in cities has further declined to 11 in the country and significantly to 12 in Andhra Pradesh. It seems that H sector is predominant in rural areas and urban centres of lower order that have a weak NH manufacturing base.

Regarding the concentration of H activities in different districts in 1961, no any regional pattern seems to exist. In almost all the districts, H activities constitute about 6 per cent and above in their total male workforce except Hyderabad (4.02 per cent). Since the trend in the sixties was that of decline in the H activities in the country as well as the state, same is observed at the district levels also. In 1971 in most of the districts, only a little more than 4 per cent of male workforce are engaged in H activities except Hyderabad and West Godavari (about 3 per cent each).

4.7 Household industries continue to be predominantly a rural phenomenon. About 81 per cent and 80 per cent of H units in the country and the state respectively are concentrated in rural areas in 1971. In 1961 the rural share of H units was 81 per cent in the country as a whole and 88 per cent in the state. This shows that H industry in rural areas has suffered more in Andhra Pradesh during sixties. The H units have grown by 57 per cent in the country during sixties, the growth rates being more or less similar in rural and urban areas. The growth of H units is far higher (130 per cent) in the state than in the country during sixties. The growth rate in urban areas (271 per cent) is more than twice that in rural areas (110 per cent) during the sixties in the state. The proportion of H to NH units in rural areas in 1971 works out to be 3.54 in the state and 2.90 in the country, while for urban areas it was only 1.19 and 0.31 respectively. In the case of cities the figure further goes down to 0.62 in Andhra Pradesh and 0.12 in the country.

As mentioned earlier, the workers in H sector went down substantially during the sixties. However, the number of H units increased during the same period in the country as well as the state. These opposing trends can be partly explained in terms of better coverage of H establishments as a result of canvassing a separate Establishments schedule

in 1971 census instead of the houselist form used in 1961. Some of the units reported in 1971 are infact nonfunctional, employing no worker which only increase the number of units. Finally the total employment in this sector can also go down when the head of the household or family members stick to the profession but they do not employ any hired labourer resulting in a fall in the average number of workers per unit. Therefore, it is argued that the process of decay of H. industries can be better assessed through the changes in the number of workers rather than establishments.<sup>2</sup>

4.8 An analysis of manufacturing establishments will give further insights into the imbalances created during the sixties. Total registered units in the country have grown by 79 per cent from 49,960 units to 89,238 units and by 120 per cent from 4,918 to 10,841 units in Andhra Pradesh during 1961-71. The total workers (males and females) in the registered units have increased by 43 per cent in the country from a figure of 39.15 lakhs to 56.04 lakhs and in the state by 97 per cent from 2.23 lakhs to 4.39 lakhs during the sixties. This clearly suggests that number of units employing fewer persons are growing more in the country as well as the state. This is reflected in the higher growth of units than employment opportunities.

---

2. Kundu, A. and Moonis Raza (1982): Indian Economy: The Regional Dimension", CSRD/JNU, New Delhi, p. 91.

4.8.1 Urban areas in the country accounted for about 60 per cent of the registered units as against 27 per cent in Andhra Pradesh in 1971. Of the total NH unregistered units, the share of urban areas was 58 per cent in the country and 44 per cent in the state. As mentioned earlier, cities account for a higher share (40 per cent) of registered units in the country than those (10.60 per cent) in the state. From the above analysis, it is quite clear that only 20 per cent of Indian population living in urban areas in 1971 consisted of 60 per cent of registered units and 58 per cent of unregistered units indicating a larger concentration of industrial activities in urban centres. Whereas in the state almost an equal percent of population living in urban centres had a share of only 27 per cent of the registered units and 44 per cent of unregistered units in 1971. Therefore, it can be said that the state of Andhra Pradesh is having a better dispersal of industrial activities towards rural hinterlands when compared to the country as a whole.

4.8.2 There were only 5.45 and 4.18 manufacturing establishments per thousand population in the country and the state respectively in 1961 which increased to 6.36 and 6.95 respectively by 1971. This indicates an alarmingly low level of manufacturing base. The fact that most of the manufacturing establishments are of smaller size can be observed

by the large proportion of smaller size units employing less than nine workers. Of every thousand manufacturing units in 1971 in the country and the state, 956 units (including units with workers unspecified) employed less than nine workers. The corresponding figures in 1961 were 554 for the country and 975 for the state. It seems that smaller size units have grown more in number in the country during the sixties than that in the state. If the number of units run on electricity is taken as an index of modernization, the manufacturing sector is poorly modernised in the country as well as the state. However, due to electrification drive in sixties, the number of units run by electricity per thousand manufacturing units has increased from 34.24 to 60.78 in the state and from 53.81 to 100.94 in the country during 1961-71. The proportion of the units run by electricity per thousand units is very low in rural areas when compared to that in urban areas in the country and the state at both the time periods.

#### 4.9 GROWTH OF INDUSTRIES IN ANDHRA PRADESH

4.9.1 The state of Andhra Pradesh has witnessed a considerable degree of industrialisation in the last two decades, particularly during the last decade. In the year 1978-79, there were 8836 factories registered under section 2 m(i) and 2 m(ii) of Factories Act with a total employment

of 6.22 lakh workers in the state with an average of 70 persons per unit (Table 4.2). A look at the districtwise distribution of these industries reveal wide spatial disparities. Four delta districts (East Godavari, West Godavari, Krishna and Guntur), Hyderabad and Nizamabad together account for more than 55 per cent of the registered factories in the state in the same year. While the backward districts like Cuddapah, Medak, Nalgonda, Khammam, Warangal and Adilabad together account for only about a meagre 11 per cent of the total registered industries of the state in the same year.

4.9.2 An important feature of industrialisation in the state is the growth of large and medium industries since 1971. By March 1982, there were 363 large and medium industries in the state as against 150 in 1971, an increase of 142 per cent. The capital invested in these industries grew at a tremendous rate of 515 per cent from Rs.296 crores to Rs.1822 crores while the persons employed increased by 109 per cent from 1.58 lakhs to 3.29 lakhs during 1971-82 (Table 4.3). With respect to large and medium industries, Andhra Pradesh holds fifth rank in the number of units, sixth in employment, seventh in output and eighth in the productive capital and value added in the country. The percentage share of Rayalaseema in the total units in the state increased from 12.67 to 16.80 while that of Coastal

TABLE 4.2 : REGISTERED FACTORIES IN THE ORGANISED  
SECTOR IN ANDHRA PRADESH - DISTRICT  
WISE DISTRIBUTION : 1978-79

Name of the District	Number of Factories	Percentage to total factories	Persons employed per factory
1. Srikakulam	263	2.98	90
2. Visakhapatnam	435	4.92	86
3. East Godavari	653	7.39	42
4. West Godavari	585	6.62	54
5. Krishna	588	6.65	40
6. Guntur	886	10.03	71
7. Prakasam	466	5.27	89
8. Nellore	228	2.58	14
9. Kurnool	418	4.73	32
10. Ananthapur	262	2.97	30
11. Cuddapah	176	1.99	29
12. Chittoor	253	2.86	37
13. Hyderabad	1138	12.88	107
14. Medak	154	1.74	149
15. Nizamabad	1042	11.79	115
16. Mahabubnagar	261	2.95	9
17. Khammam	79	0.89	44
18. Warangal	166	1.88	66
19. Karimnagar	416	4.70	73
20. Nalgonda	196	2.22	16
21. Adilabad	171	1.94	101
Coastal Andhra	4104	46.45	62
Rayalaseema	1109	12.55	32
Telangana	3623	41.00	92
ANDHRA PRADESH	8836	100.00	70

Source : Statistical Abstracts of Andhra Pradesh : 1982

TABLE 4.3 : GROWTH OF LARGE AND MEDIUM INDUSTRIES  
IN ANDHRA PRADESH : 1971 - 1982

Name of the Districts	Number of Units		Capital Investment (Rs. in lakhs)		Number of employees	
	1971	1982	1971	1982	1971	1982
1. Srikakulam	1	3	139	240	388	1,700
2. Vizianagaram	5	11	322	2,186	3,817	10,473
3. Visakhapatnam	16	28	8,237	21,354	8,573	20,447
4. East Godavari	7	22	738	6,158	5,168	10,645
5. West Godavari	10	18	1,080	5,443	6,953	12,877
6. Krishna	9	18	784	4,763	2,552	8,385
7. Guntur	8	20	917	3,238	4,564	7,063
8. Prakasam	2	6	152	801	23,312	7,064
9. Nellore	2	6	84	1,397	3,052	2,302
10. Chittoor	7	22	417	2,538	3,218	7,615
11. Cuddapah	1	14	77	6,978	412	3,487
12. Ananthapur	3	9	257	1,726	2,164	3,984
13. Kurnool	8	16	694	7,265	6,107	10,007
14. Mahabubnagar	1	4	60	1,572	350	1,610
15. Rangareddy	37	71	5,868	29,008	18,279	41,478
16. Hyderabad	20	22	1,336	4,989	12,343	20,335
17. Medak	1	32	3,896	10,023	4,405	15,514
18. Nizamabad	3	5	314	428	2,117	4,212
19. Adilabad	4	8	1,903	7,183	6,956	36,571
20. Karimnagar	2	2	615	48,140	755	14,446
21. Warangal	1	4	72	4,337	6,400	5,912
22. Khammam	2	9	1,635	9,080	35,009	79,856
23. Nalgonda	-	7	-	3,350	-	3,101
Coastal Andhra	60	132	12,463	45,607	58,379	80,956
Rayalaseema	19	61	1,445	18,507	11,901	25,164
Telangana	71	170	15,699	118,110	87,389	223,035
ANDHRA PRADESH	150	363	29,607	182,224	157,669	329,155

Contd....



Contd.. TABLE 4.3

Name of the District	Percentage Growth rate 1971-82		Capital invested per employee (Rs. '000) 1982	Employees per 1000 population 1982
	Capital invested	Number of Employees		
1. Srikakulam	72.66	338.14	14.12	0.87
2. Vizianagaram	577.88	174.38	20.87	5.80
3. Visakhapatnam	159.24	138.50	104.44	7.94
4. East Godavari	734.42	105.98	57.85	2.88
5. West Godavari	403.98	85.20	42.27	4.48
6. Krishna	507.53	228.57	56.80	2.75
7. Guntur	253.11	54.75	45.84	2.06
8. Prakasam	394.44	- 69.69	11.34	3.03
9. Nellore	1563.09	- 24.57	60.69	1.14
10. Chittoor	508.63	136.64	33.33	2.78
11. Cuddapah	8962.34	746.36	200.11	1.80
12. Ananthapur	571.61	84.10	43.32	1.56
13. Kurnool	946.83	63.86	72.59	4.16
14. Mahabubnagar	2520.00	360.00	97.64	0.66
15. Rangareddy	394.34	126.92	69.93	26.22
16. Hyderabad	273.43	64.75	24.53	9.00
17. Medak	157.26	252.19	64.60	8.58
18. Nizamabad	36.31	98.96	10.16	2.51
19. Adilabad	277.47	425.75	22.33	19.64
20. Karimnagar	7727.64	1813.38	333.24	5.93
21. Warangal	5923.61	- 7.63	73.36	2.57
22. Khammam	455.35	128.10	11.37	45.59
23. Nalgonda	-	-	108.03	1.36
Coastal Andhra	265.94	38.67	56.33	3.44
Rayalaseema	1171.96	111.44	73.54	2.60
Telangana	652.34	155.22	52.95	12.28
ANDHRA PRADESH	515.48	108.76	55.36	6.14

Source: Figures for the Number of Units, Capital Investment and Number of Employees are taken from Data Andhra Pradesh, Vol. 5, No.15, Aug.15-31,1982 p. 1507.

Andhra declined from 40.00 to 36.00 during 1971-82. There was a slight decline in the share of Telangana from 47.33 to 46.83 per cent during the same period. There was no any large and medium industry in Nalgonda district in 1971 whereas by 1982, seven industries were set up in this sector.

4.9.3 Looking at the growth rates in the capital investment and number of employees at regional level in the seventies there was a very high increase of 1172 per cent of capital investment in Rayalaseema while the increase in employment opportunities was only by 111.44 per cent during 1971-82. In Telangana, capital invested grew at a lesser rate (652.34) than that in Rayalaseema, but employment opportunities grew at a higher rate of 155.22 per cent during the same period. The growth rates of both capital invested (265.94) and persons employed (38.67) in Coastal Andhra are less than those of the state averages.

4.9.4 Coming to the district level, to get further insight into the nature of industrialisation and spatial variations in the state, it shows that there is a very high growth rate of capital invested in the backward districts of Cuddapah (8962.63), Karimnagar (7727.64), Warangal (2924), Mahbubnagar (2520) and Nellore (1563.09) in the state. The districts of Srikakulam with 72.66 per cent and Nizamabad with 36.31 per cent, have witnessed very low growth rate of capital

investment when compared to other districts in the state during seventies. Employment opportunities grew at a higher rate only in Karimnagar (1813.38 per cent) and at very low rate in Guntur (54.75) district. Despite a high increase of capital invested, the number of persons employed in large and medium industries had actually declined in Prakasam (-69.69), Nellore (-24.57) and Warangal (-7.63) districts during 1971-82.

There are only 6 persons employed in large and medium industries per thousand population in the state in 1982. The districts of Khammam (46), Rangareddy (26) and Adilabad (22) have relatively higher number of persons employed while all other districts have less than 10 persons employed per thousand population.

Srikakulam (0.87) and Mahabubnagar (0.66) districts have less than one employee in large and medium industries per thousand of their respective populations. Capital investment per employee (known as capital intensity) is very high, Rs.333.24 thousands, in Karimnagar followed by Cuddapah district with Rs.200.11 thousands in 1982. These two districts had only about six and two persons respectively employed in large and medium industries per thousand of their respective populations in 1982.

From the foregoing analysis it becomes obvious that the industrialisation process in the state is increasingly

becoming capital intensive in nature. In the present situation in the country (the state being no exception), characterised by massive unemployment and underemployment, where there is urgent need for setting up of more labour intensive industries, the slow growth or even decline in some cases, of employment opportunities in large and medium sector, <sup>can</sup> but be viewed with grave concern.

4.9.5 Another observation that can be made from the Table 4.3 is that about 73.52 per cent of total large and medium industries in Telangana (34.44 per cent of the state) are concentrated in three contiguous districts of Hyderabad, Rangareddy and Medak. It is also observed that there is an increasing concentration of industries particularly in and around Hyderabad city. Rangareddy district, that is 'practically carved out' of Hyderabad <sup>district,</sup> ~~city,~~ Medak and Mahabubnagar districts are witnessing massive industrialisation in recent years simply because of their adjacent location to Hyderabad Metropolitan city. Excluding Hyderabad city and its suburbs in the adjoining districts, the industrial development in the rest of Telangana is very poor. About 48 per cent of chemical and allied industries, cent percent of drug and pharmaceutical industries, 60 per cent of engineering industries, an equal per cent of electrical industries and 83 per cent of electronic industries of the state are all located in and around Hyderabad city only.<sup>3</sup>

---

3. Someswaraiyah, K. (1982): "Large and Medium industries in Andhra Pradesh", Data Andhra Pradesh, Vol. 5, No. 16, Aug. 16-31, p. 1508.

#### 4.10 CONCLUSIONS

4.10.1 In the light of the empirical analysis of the manufacturing workforce and the industries done above, the following observations can be made which are of considerable importance in assessing the sectoral diversification of economic activities in the state and in formulating future strategy for development.

4.10.2 The absolute number of NH male employment in Andhra Pradesh has grown at a higher rate than that of the country as a whole during the sixties. In spite of that, the percentage of NH to total workforce is very low in the state than that of the country indicating a weaker manufacturing base. The share of NH sector in the total male urban workforce has improved both in the country and the state during sixties.

There was a slight dispersal of NH activities towards rural areas as indicated by a decline in the share of urban areas in the total NH male workforce during the sixties in the country and in the state. Despite a slight decline, about 20 per cent of the population living in urban centres in the state and in the country as a whole account for about 58 per cent and 70 per cent of the NH workforce respectively in 1971. Colonial legacy of underdevelopment still persists in rural areas, which account for about 80 per cent of the population, but have a very weak support of manufacturing activities.

NH employment has increased in the cities in the sixties. This implies that the general decline in NH employment in urban areas that has taken place in sixties might be in the lower size urban centres. Accounting for about 10 per cent of population, the cities in the country as a whole are having about 50.56 per cent of NH employment and 40 per cent of registered units in 1971. In the state, they consisted of 30.19 per cent of NH employment and 10.60 per cent of registered establishments in the same year. It however, seems that the cities in the country as a whole have well developed manufacturing base than those of the state.

4.10.3 The four northern Telangana districts of Nizamabad, Adilabad, Karimnagar and Warangal with more than 4 per cent and five Coastal Andhra districts of Visakhapatnam, East Godavari, West Godavari, Krishna and Guntur with nearly 4 per cent of their respective male workers in NH sector in 1961 appear as two regions with relatively higher incidence of manufacturing activities apart from Hyderabad in the state. By 1971 with about 6 per cent of male workers in NH sector, the four delta districts of East Godavari, West Godavari, Krishna and Guntur emerged as well industrialised districts while there was no significant change in the situation in the four northern Telangana districts during the sixties.

The NH workforce is not much concentrated in urban areas in the four Telangana districts mentioned above in 1961 and 1971. In the four delta districts, there seems to have been some dispersal of industrial activities during the sixties. The proportion of urban areas in the NH male workforce in the four delta districts came down from more than 60 per cent to more than 50 per cent during the sixties. In three districts of Rayalaseema - Cuddapah, Ananthapur and Kurnool - urban share was as high as about 80 per cent in 1961. By 1971, the urban share in Cuddapah district came down to about 50 per cent resulting in the spread of NH activities to rural areas. In Ananthapur and Kurnool, the proportion of urban areas in NH workforce is still higher at above 87 per cent. The urban share is very high (around 88 per cent) in Hyderabad district at both the time periods.

4.10.4 The number of persons employed in H sector declined in the sixties by 14.38 per cent and 20.29 per cent in the country and the state respectively. Household activities form a low component of total workforce. The sixties marked a significant decline in the proportion of H to total workforce while in the seventies there has not been much proportionate change. The share of urban areas in total H workers increased in the country during sixties and seventies. However, in the state, it has declined in sixties but increased in the seventies.

4.10.5 Household industries are still a rural phenomenon with about 81 per cent of H establishments concentrated in rural areas in 1971 in the country and the state. The proportion of H to NH units is higher in rural areas which goes down in urban areas and further down to cities. An opposing phenomenon of increase in the number units and decrease in persons employed in H sector during sixties can be attributed to the difference in the coverage as explained in the section 4.7.

4.10.6 Registered manufacturing units grew at a higher rate than the number of persons employed during the sixties resulting in the decline in the average size of the factory in the country as well as the state. In Andhra Pradesh, industrial activities seem to have better dispersal towards rural hinterlands. This can be said by the fact that only 20 per cent of population living in urban centres in the country account for about 60 per cent of the registered and 58 per cent of the unregistered units in 1971, while in Andhra Pradesh urban areas (with about 20 per cent population) share only 27 per cent of registered units and 44 per cent of unregistered units.

4.10.7 There are a very few manufacturing establishments per thousand population in the country and the state indicating an alarmingly low level of the development of secondary sector. Most of these manufacturing units are of small size. About



956 units out of every thousand units are employing less than nine workers in 1971. The manufacturing sector is also very poorly modernised with only 61 and 101 units per thousand manufacturing units run on electricity in the state and the country respectively in 1971. Urban areas have higher proportion of units run on electricity than rural areas.

4.10.8 Regarding the growth of large and medium industries in the state during the seventies, the industrialisation process is becoming more capital intensive. Growth rate of capital invested is far higher than that of persons employed in this sector at the district level also. The backward districts have witnessed relatively higher growth rate of capital investment when compared to other districts. In large and medium industries, there are only 6 persons employed per thousand population in the state in 1982. Capital investment per industrial employee in 1982 is very high in districts like Karimnagar and Cuddapah districts that have witnessed a very high growth of capital invested during seventies. While the very level of industrialisation is low in the state, large number of industries are concentrated around Hyderabad city and in the adjacent districts of Rangareddy and Medak. The situation in the state calls for better spatial distribution of industrial activities and setting up of labour absorbing industries.

CHAPTER - V

---

SPATIAL VARIATION IN AGRICULTURAL DEVELOPMENT  
AND PATTERN OF URBANIZATION IN ANDHRA PRADESH

---

5.1.1 As has been discussed in the earlier chapter, the rapid growth of urban population in India as well as the state of Andhra Pradesh is not due, primarily, to the development of manufacturing sector in urban centres. On the contrary, natural growth of population in existing urban centres and migration of population from rural to urban areas may be said to be the main factors for rapid urban growth. The secondary sector is not in a position to provide employment opportunities to the migrant population, a large proportion of which comes from rural areas due to the rural poverty. Since the development of agriculture has a direct bearing on the living conditions of people in the countryside, diversification of economic activities towards rural areas alongwith the development of agriculture may discourage these migrations. Hence the present chapter on the development of agricultural activities in the state.

5.1.2 Several ~~other~~ aspects of agricultural development like irrigation facilities, food grain production, per capita availability of food grains, productivity per male agricultural worker etc., are examined only for the state. The productivity per hectare and per male agricultural worker for 1962-65, 1970-73 and 1980-83 are analysed at the district level for those crops which were selected for Jawaharlal Nehru University - Planning Commission (JNU-PC) study at average prices of 1970-73. In JNU-PC Study, the choice of time periods is made to capture the changes brought about by the introduction of seed-fertiliser technology in Indian Agriculture. The years 1962-65 are supposed to represent pre-green revolution period and 1970-73 represents a period by which new technology is supposed to have made a big headway in Indian Agriculture. The three year averages are taken to minimise the effects of fluctuations in productivity levels.

5.2.1 The state of Andhra Pradesh has rich agricultural resources in the form of a variety of fertile soils. The state is called a 'River State' due to the presence of a number of rivers. The basins of three main rivers - Krishna, Godavari and Pennar - cover about 72 per cent of the state's geographical area. The state has a long coastline of about 912 kms. with the Bay of Bengal on the east.

5.2.3 In 1956 about 50.54 per cent of the geographical area was cultivable (net sown area, culturable waste and other fallows) which declined to 44.22 per cent in 1971 and in 1980-81, it was 47.11 per cent in the state. During 1956 to 1980-81, the cultivable land declined by 6.7 per cent from a figure of 139.03 to 129.61 lakh hectares.<sup>1</sup> Net sown area accounted for about 42 per cent of the state's geographical area in 1983-84. There has been only an insignificant increase by 0.54 per cent of the net area sown in the state from a figure of 113.74 to 114.35 lakh hectares during 1956 to 1983-84. However, the gross area sown increased by 7.62 per cent from 124.45 to 133.93 lakh hectares during the same period.

5.2.4 The area under food grains declined from 89.36 lakh hectares in 1956 to 87.56 lakh hectares in 1980-81 but increased to 95.30 lakh hectares in 1983-84. On the whole from 1956 to 1983-84 it has increased by 6.65 per cent. The food grains production in the state has increased at an impressive rate of 101.66 per cent from 58.92 lakh tonnes in 1956 to 118.82 lakh tonnes in 1983-84 with varying degrees of fluctuations in different years during that period. The year 1983-84 is considered to be the year of record

---

1. Someswaraiyah, K. (1982): "Trends in Agricultural Sector in Andhra Pradesh: 1956-81", Data Andhra Pradesh, Vol.5, No.5, March 1-15, pp. 1369-76.

food grain production in the state which was obtained largely due to favourable seasonal conditions.<sup>2</sup> However, the increase in food grain production was only by 23.72 per cent till 1971. Whereas from 1971 to 1983-84, it has increased by 63 per cent. In fact there was a decline in food grain production during 1961-71 from 76.07 to 72.90 lakh tonnes. The per capita availability of food grains per year increased by 26.71 per cent from a figure of 175.6 kgs. in 1956 to 222.5 kgs. in 1983-84. However, between 1956 and 1971 there was a decline in per capita availability of food grains by 4.56 per cent from 175.6 kgs. to 167.6 kgs. whereas during 1971 to 1983-84 it has gone up by 32.76 per cent. The productivity per hectare in the state has increased only slightly from Rs.1070 to Rs.1094 during the trienniums 1962-65 and 1970-73 at an annual compound growth rate of 0.24 per cent. However, by 1980-83, the productivity value has increased to Rs.1754 growing with an annual compound growth rate of 4.83 per cent during the seventies. The value of productivity per male agricultural worker has declined from Rs.1473 to Rs.1250 during 1962-65 to 1970-73 but increased to Rs.1773 during 1980-83. Hence it can be argued that the 'Green Revolution' has made considerable impact on agricultural development in the state only during seventies.

---

2. "Agricultural Situation in Andhra Pradesh: 1983-84", Data Andhra Pradesh, Vol. 8, No. 10&11, May 16-June 15, 1985, pp. 2331-37.

5.2.5 The growth and structure of male workforce is discussed in section 2.10 of the chapter II. Taking males and females together, the total workforce in the state increased by 21 per cent from 186.63 lakhs in 1961 to 226.06 lakhs in 1981 whereas the population in the state had grown by 48.94 per cent from 359.83 to 535.92 lakhs during the same period. The agricultural workers (male and females)-cultivators and agricultural labourers-increased by 22.14 per cent during 1961-81 in the state. There has not been a significant change in the proportion of agriculture to total workforce. It was 68.71 per cent in 1961 and 69.28 per cent in 1981. There was a decline in the number of total workers to 180.82 lakhs and agricultural workers to 125.93 lakhs in 1971, which is largely due to the adoption of a rigorous definition of 'worker' in 1971 census that has resulted in the reduction in the number, mostly, of female workers. In fact, there was an increase by 13.39 per cent of total male workers and 17.29 per cent of male agricultural workers during 1961-71 in the state.

5.2.6 The workforce in non-agricultural activities increased by 18.89 per cent from 58.40 lakhs to 69.43 lakhs during 1961-81 while its proportion to total workforce dropped from 31.29 to 30.72 per cent during the same period in the state. The calculated ratio of agricultural to non-agricultural workers has increased by 2.73 per cent

from a figure of 2.196 to 2.256 during 1961-81. This means that for every 10 non-agricultural workers there were 22 agricultural workers in 1961 which increased to 23 in 1981. It is clear from the above analysis that while on one hand the non-agricultural services could not enhance employment opportunities substantially, on the other, heavy dependence on agriculture for livelihood continues due to high growth of population in the state.<sup>3</sup>

5.2.7 There has been an increase of irrigational facilities in the state during the last more than two and half decades. The net irrigated area has increased by 35.56 per cent from 28.60 lakh hectares in 1956 to 38.77 lakh hectares in 1983-84. The percentage of net area irrigated to net area sown has increased from 25.15 to 33.90 per cent during the same period. However, a wide disparity exists in terms of irrigational facilities among the three regions in the state. In Coastal Andhra, more than 50 per cent of the net sown area is irrigated whereas in Telangana slightly more than 20 per cent and in Rayalaseema a little less than 20 per cent of the net sown area is put under irrigation. Rayalaseema, besides having a low percentage of irrigated area, is also a chronically drought prone area.

Looking into the irrigational facilities by different sources, area under canal irrigation has increased from a

---

3. Someswaraiyah, K. (1982): op.cit., p. 1370.

figure of 12.74 to 18.39 lakh hectares and its share in the net irrigated area increased from 44.50 to 47.43 per cent during 1956 to 1983-84 in the state. The irrigated area under tanks had declined slightly from 11.80 to 10.89 lakh hectares but its share in the net irrigated area came down significantly from 41 to 28 per cent during the same period. The irrigated area under wells had more than doubled from 3.21 to 8.39 lakh hectares and its share in the net irrigated area has gone up from 11.22 to 21.59 per cent during that period. A major chunk of about 40-60 per cent of state plan expenditure was spent on the development of irrigation and power during the last nearly three decades. Such a sharp increase in area under well irrigation was mainly due to the assistance of institutional credit extended for this purpose. However, agriculture in the state is still a 'gamble in rain' depending on the vagaries of rainfall. Only about 34 per cent of the net area sown is irrigated while the remaining 66 per cent is left to the mercy of the monsoons even today. Even in the area irrigated, only about 50 per cent is under assured irrigation while the remaining 50 per cent is dependent on tanks and wells, which in turn are dependent on rains. With the introduction of High Yielding Varieties and seed-fertiliser technology in agriculture, the consumption of fertilisers (NPK) per hectare of gross sown area has increased from 11 kgs. in 1956



to 51 kgs. in 1980-81 in the state. The power consumption in agriculture as percentage to total' consumption has also increased from 3.2 to 20 per cent during the same period in the state.<sup>4</sup>

5.3.1 There are only seven districts that had a productivity of about Rs.1300 and above per hectare in 1962-65 (Table 5.1 and Fig. 5.1). These districts also had relatively higher percentage of gross irrigated area to gross cropped area. The West Godavari district had a high productivity of Rs.2070 per hectare and also very high percentage (74.94) of irrigated area during 1962-65 in the state. Next to West Godavari, East Godavari and Krishna districts also had high productivity of Rs.1890 and Rs.1591 per hectare respectively and with a high percentage of irrigated area of 59.31 and 57.73 respectively in 1962-65. Adilabad district had the least productivity of Rs.536 per hectare and also very low percentage (6.29) of gross irrigated area to gross cropped area. In Coastal Andhra, all the districts had a productivity of more than Rs.1000 per hectare while in Telangana, except Nizamabad, in all the district the figures for productivity per hectare were

---

4. Krishna Rao, Y.V: "Growth of Capitalism in Agriculture: A Case Study of Andhra Pradesh", in Krishna Rao Y.V. and Parthasarathy, G. et al (1984) (Ed): 'Peasant Farming and Growth of Capitalism in Indian Agriculture', Visaalandhra Pub., Vijayawada, pp. 1-62.

TABLE 5.1 : SELECT INDICATORS OF AGRICULTURAL DEVELOPMENT IN ANDHRA PRADESH:1962-65

Name of the District	Percentage of gross irrigated area to gross cropped area 1964-65	Productivity per hectare (Rs.) 1962-65	Productivity per male agricultural worker (Rs.) 1962-65
1. Srikakulam	46.40	1435	1307
2. Visakhapatnam	36.49	1435	1307
3. East Godavari	59.31	1890	1698
4. West Godavari	74.94	2078	2333
5. Krishna	57.73	1591	2072
6. Guntur	24.24	1043	1632
7. Nellore	43.83	1043	1632
8. Chittoor	42.12	1488	1459
9. Cuddapah	31.18	908	1159
10. Ananthapur	15.50	796	1484
11. Kurnool	11.01	1043	1632
12. Mahabubnagar	14.54	594	1222
13. Hyderabad	17.19	693	959
14. Medak	22.72	804	1111
15. Nizamabad	46.51	1698	2342
16. Adilabad	6.29	536	1206
17. Karimnagar	31.46	782	1026
18. Warangal	27.28	744	915
19. Khammam	17.58	784	1141
20. Nalgonda	19.18	587	1204
ANDHRA PRADESH	30.18	1070	1473

Source : Bhalla, G.S. and Alag, Y.K. (1979): "Indian Agriculture: Changes in cropping pattern: 1962-65 to 1970-73 - A district-wise data profile". JNU-PN Project, CSRD/JNU, pp.4-70.

# ANDHRA PRADESH

AGRICULTURAL PRODUCTIVITY

PER HECTARE

(1962-65)

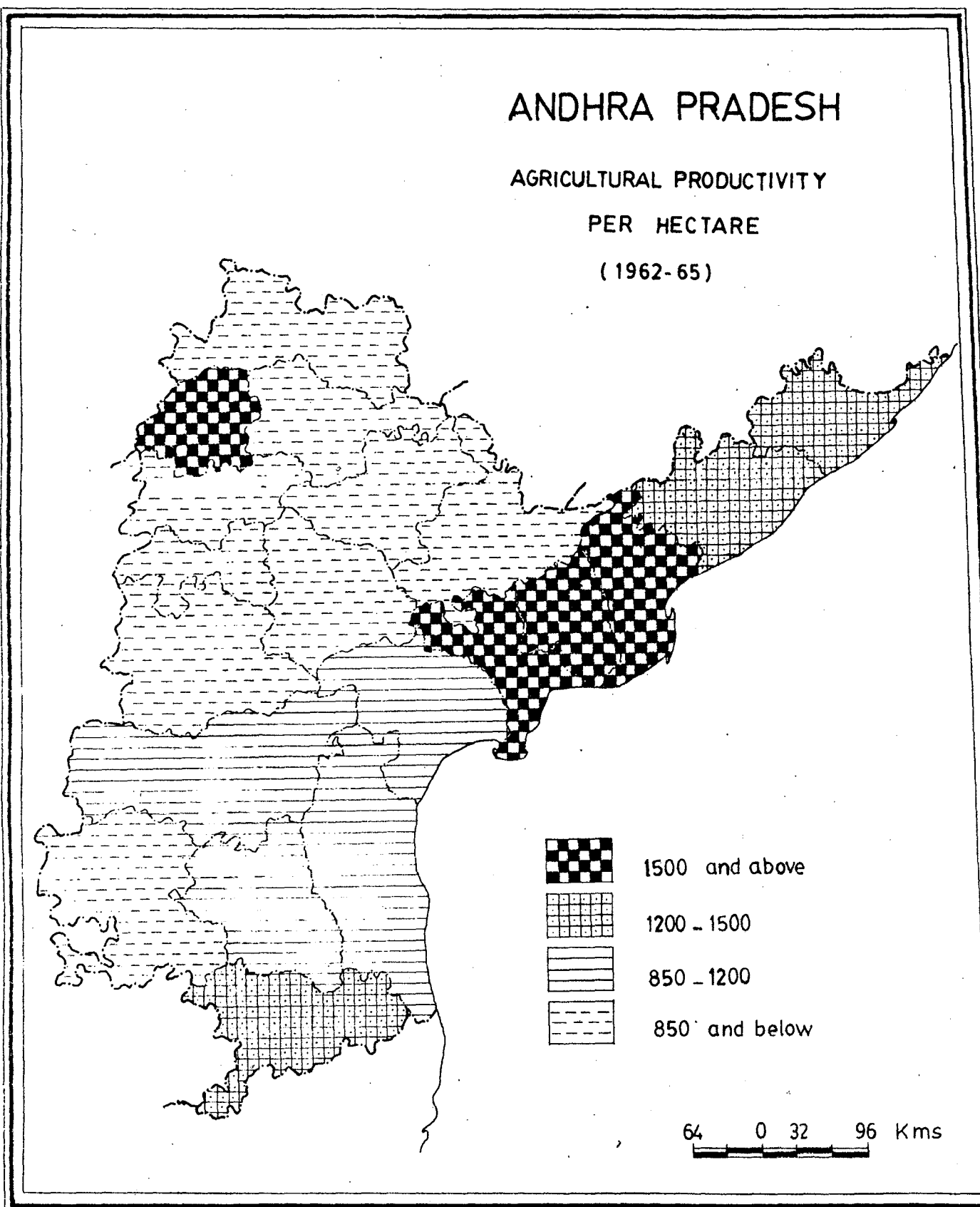


Fig 5.1

about Rs.800 and below. In Rayalaseema, only Chittoor district is relatively well developed in agriculture with a productivity of about Rs.1488 per hectares and 42 per cent of gross irrigated area. In terms of productivity per male agricultural worker, the figures were Rs. 1000 and above for all the districts, except Hyderabad and Warangal, in the state during 1962-65 (Fig. 5.2).

5.3.2 There are only three districts which had more than 20 per cent of their population living in urban centres in 1961. Among the three, only Krishna district had relatively higher productivity per hectare in 1962-65. The three districts of East Godavari, West Godavari and Krishna in Coastal Andhra, which are relatively well developed in agriculture, accounted for a large number of declassified towns in 1961 while the remaining ones are spread over agriculturally underdeveloped Telangana region in the state. The concentration of such a large number of declassified towns in agriculturally developed as well as underdeveloped regions might be due to the predominance of primary workforce in these towns. Of the ten new towns identified in 1961, five are in Krishna district only, while the others are scattered.<sup>5</sup>

---

5. For the spatial distribution of declassified and new towns in 1961 see figures 3.7 and 3.8 respectively in chapter III.

# ANDHRA PRADESH

AGRICULTURAL PRODUCTIVITY  
PER MALE WORKER  
(1962-65)

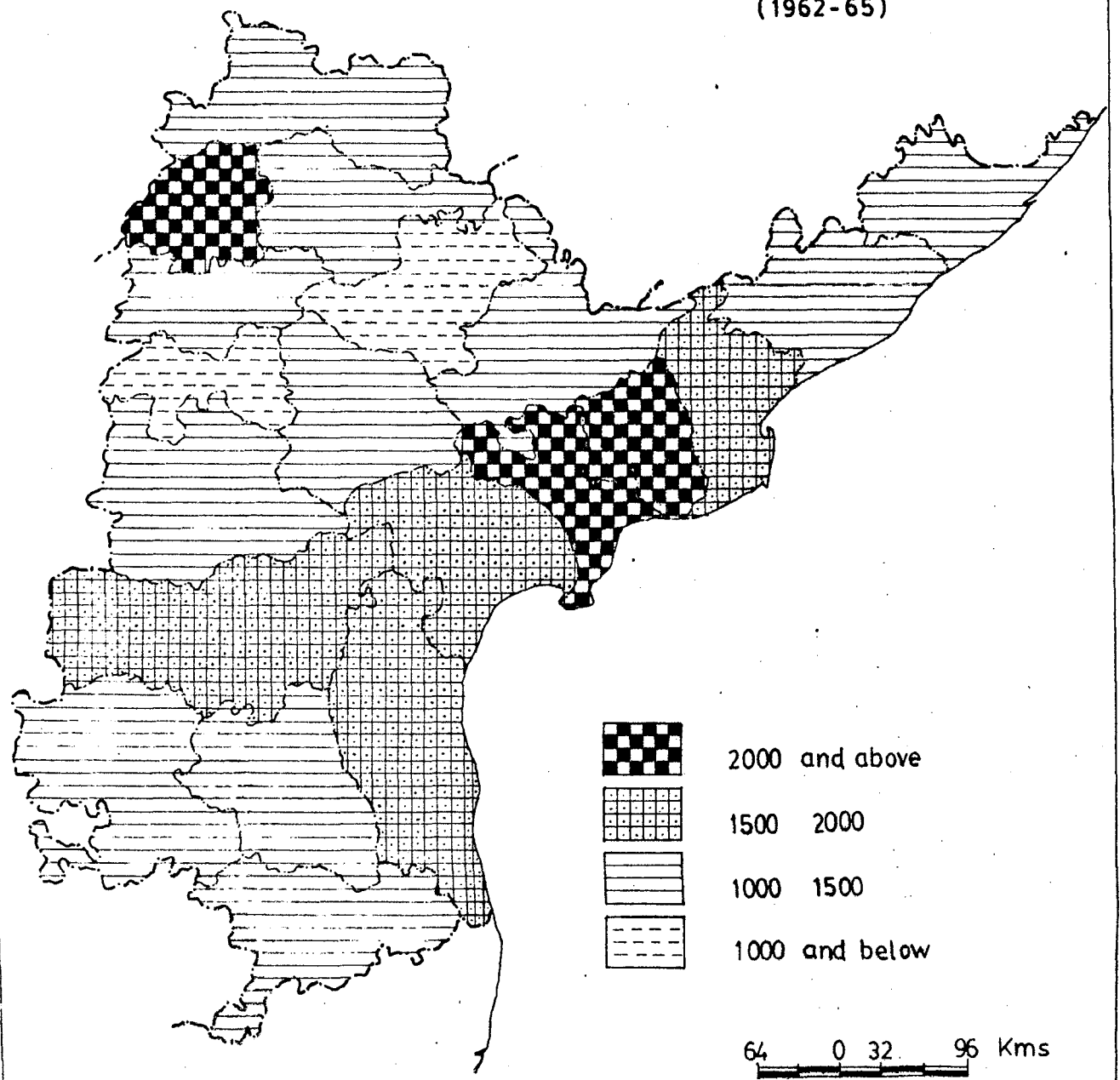


Fig 5.2

5.4.1 During 1970-73 there were only six districts (5 in Coastal Andhra and 1 in Rayalaseema) which had a productivity of Rs.1300 and above (Table 5.2 and Fig.5.3). These districts apparently had higher percentage of gross area irrigated to gross cropped area. The districts of West Godavari and Chittoor had a high productivity of Rs.2519 and Rs.1908 per hectare respectively and their productivity per hectare have grown at an annual compound growth rate of 1.94 and 2.52 per cent respectively between 1962-65 and 1970-73. In another seven districts the growth of output has been ranging between 0-1.5 per cent per annum. These are Krishna, Nalgonda, Warangal, Ongole, Nellore, Kurnool and Guntur. There have been 12 districts in the state whose growth of output came down by below -3 per cent per annum during the same period. These are Adilabad, Ananthapur, Cuddapah, Hyderabad, Karimnagar, Khammam, Mahabubnagar, Medak, Nizamabad, East Godavari, Srikakulam and Visakhapatnam. These are the problem districts that have stagnated over the years and have proportionately much lower irrigated area.<sup>6</sup> The two other districts in Coastal Andhra - Guntur and Nellore - which are also relatively highly developed in agriculture and have high percentage of

---

6. Bhalla, G.S. and Alag, Y.K.(1979): op.cit., p. 26.

TABLE 5.2 : SELECT INDICATORS OF AGRICULTURAL DEVELOPMENT IN ANDHRA PRADESH:1970-73

Name of the District	Percentage of gross irrigated area to gross cropped area 1970-71	Productivity per hectare (Rs.) 1970-73	Productivity per male agricultural worker(Rs.) 1970-73
1. Srikakulam	46.01	1467	1154
2. Visakhapatnam	36.51	1467	1154
3. East Godavari	62.99	1838	1324
4. West Godavari	62.99	2519	2244
5. Krishna	58.67	1777	1916
6. Guntur	46.76	1155	1438
7. Prakasam	20.63	1155	1438
8. Nellore	64.67	1155	1438
9. Chittoor	39.92	1908	1614
10. Cuddapah	31.19	856	900
11. Ananthapur	14.20	852	1126
12. Kurnool	12.27	1155	1438
13. Mahabubnagar	12.53	470	839
14. Hyderabad	16.36	491	608
15. Medak	21.82	640	640
16. Nizamabad	44.79	1298	1392
17. Adilabad	6.73	474	907
18. Karimnagar	30.06	813	798
19. Warangal	28.78	750	804
20. Khammam	19.31	738	904
21. Nalgonda	26.91	623	1176
ANDHRA PRADESH	31.64	1094	1250

Source : Bhalla, G.S. and Alag, Y.K: op.cit. same pages.

# ANDHRA PRADESH

AGRICULTURAL PRODUCTIVITY  
PER HECTARE  
(1970-73)

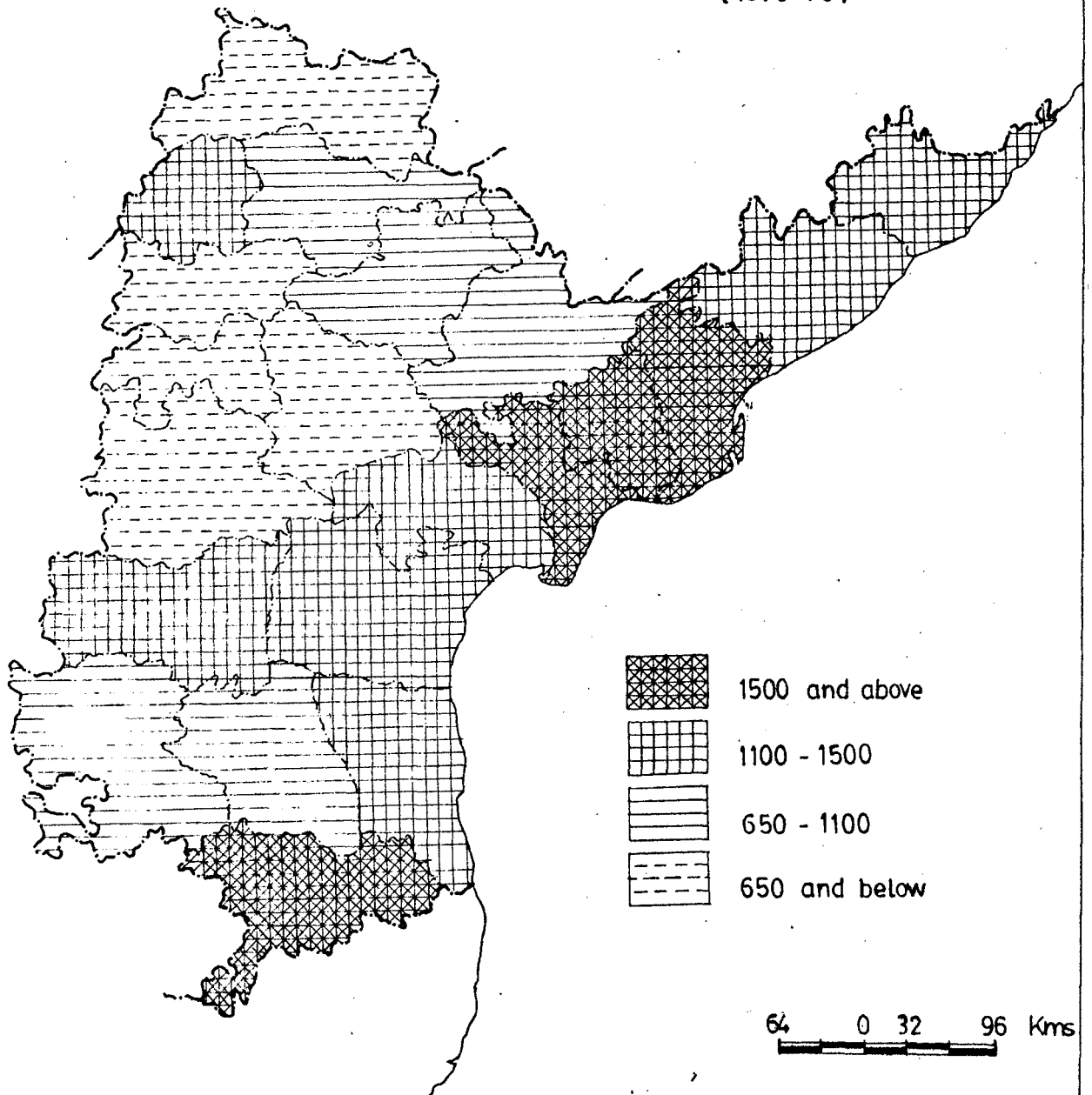


Fig 5.3



irrigated area, are showing relatively lower productivity figures because their values are clubbed with two other districts - Prakasam and Kurnool - which are agriculturally backward and have very low percentage of irrigated area. All the districts in Coastal Andhra maintained their higher levels of productivity with figures of more than Rs.1100 in 1970-73. In Talangana, except in Nizamabad and Karimnagar, all the districts had a productivity of less than Rs.800 per hectare and it is in many of these districts that productivity has declined during sixties in the state. Ananthapur and Cuddapah districts have lower level of productivity with less than Rs.900 per hectare in 1970-73. On the whole, while the agriculturally developed districts have maintained their position, the underdeveloped districts have stagnated or declined in terms of agricultural productivity per hectare during 1962-65 to 1970-73 in the state. With the increase in the number of male agricultural workers in all districts, the productivity per male agricultural worker had declined in all the districts, except Chittoor, between the trienniums 1962-65 and 1970-73 in the state. However, the figures for productivity per worker are more than Rs.1100 in all the districts in Coastal Andhra. Whereas in Cuddapah district in Rayalaseema and in Telangana districts, except Nizamabad and Nalgonda, the corresponding figures are about Rs.900 and less during 1970-73 in the state (Fig. 5.4).

# ANDHRA PRADESH

AGRICULTURAL PRODUCTIVITY  
PER MALE WORKER

(1970-73)

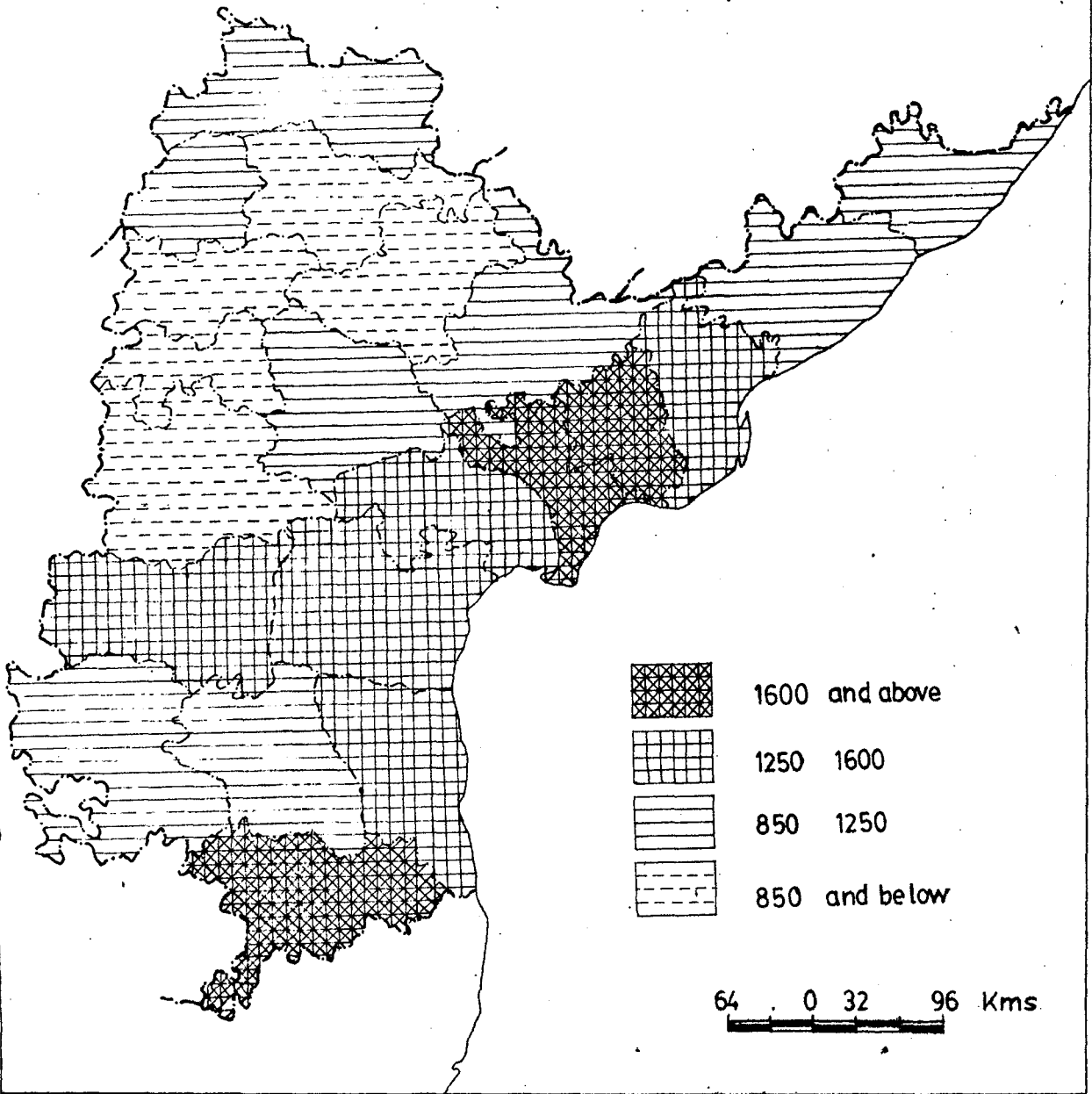


Fig 5.4

5.4.2 Since there was an increase of urban population by about 34 per cent during sixties, there are five districts (against three in 1961) with more than 20 per cent of their population living in their respective urban centres in 1971 in the state. In the districts with higher productivity levels like East Godavari, West Godavari in Coastal Andhra and Chittoor in Rayalaseema, urban population constitute less than 20 per cent of their respective total populations in 1971. The growth rate of urban population was relatively less in East and West Godavari while it was higher in Chittoor due to the rapid growth of Tirupati and Tirumala during sixties. Three rapidly growing towns (during 1961-71) are situated in the delta districts while the remaining ones are reported from the agriculturally backward districts like Khammam, Karimnagar and Ananthapur districts. The stagnating towns during sixties are highly scattered in the state.<sup>7</sup>

Regarding the declassified towns<sup>8</sup> in 1971, only five, out of 37, are located in the delta districts and one each in Chittoor and Nizamabad districts which have relatively higher productivity levels in the state. While the remaining declassified towns are reported from the

---

7. For the spatial distribution of fast growing and stagnating urban centres during 1961-71, see Figures 3.3 and 3.4 respectively in Chapter III.

8. For the spatial distribution of declassified towns in 1971, see Figure 3.9 in Chapter III.

agriculturally backward districts like Cuddapat, Ananthapur and Kurnool in Rayalaseema and Mahabubnagar, Nalgonda, Medak, Warangal and Adilabad in Telangana regions in the state. Because of weak support of secondary sector and weak and stagnant economies in these districts, larger number of people in these declassified towns might be shifting towards primary activities. Many of these centres might be inhabited by people subsisting on agriculture in the neighbouring areas. The concentration of a good number of new towns identified in 1971 can be found in the border areas of Visakhapatnam and Srikakulam in north Coastal Andhra and Adilabad and Karimnagar districts in northern Telangana regions in the state.<sup>9</sup> While the Visakhapatnam and Srikakulam are only moderately developed, the Adilabad and Karimnagar districts are much backward in terms of agricultural productivity.

5.5.1 Agricultural development seems to have taken place on a good scale during seventies in the state. For the state as a whole, the productivity per hectare has grown at an annual compound growth rate of 4.83 per cent from a figure of Rs.1094 to Rs.1754 from 1970-73 to 1980-83. Except in Chittoor district, the productivity per hectare has grown in all the districts during seventies in the state (Table 5.3). In the districts of Telangana, except Adilabad,

---

9. For the spatial distribution of new towns identified in 1971, see the Figure 3.10 in Chapter III.

TABLE 5.3 : SELECT INDICATORS OF AGRICULTURAL DEVELOPMENT IN ANDHRA PRADESH:1980-83

Name of the District	Percentage of gross irrigated area to gross cropped area 1981-82	Productivity per hectare (Rs.) 1980-83	Productivity per male agricultural worker (Rs.) 1980-83
1. Srikakulam	50.64	1481	1109
2. Vizianagaram	37.68	1481	1109
3. Visakhapatnam	35.71	1481	1109
4. East Godavari	66.25	2686	1899
5. West Godavari	83.85	3428	3116
6. Krishna	56.10	2330	2298
7. Guntur	45.47	2244	2321
8. Prakasam	28.38	2244	2321
9. Nellore	71.06	2244	2321
10. Chittoor	37.27	1561	1150
11. Cuddapah	31.26	1112	882
12. Ananthapur	18.40	1007	1225
13. Kurnool	14.68	2244	2321
14. Mahbubnagar	18.47	778	1250
15. Rangareddy	18.91	803	866
16. Hyderabad	16.32	803	866
17. Medak	26.67	1143	1200
18. Nizamabad	55.59	2089	2118
19. Adilabad	9.18	538	895
20. Karimnagar	41.87	1798	1470
21. Warangal	33.55	1223	1236
22. Khammam	26.23	1242	1274
23. Nalgonda	30.96	1096	1401
ANDHRA PRADESH	35.85	1754	1773

productivity per hectare has increased at compound growth rates of 5 per cent and above per annum between 1970-73 to 1980-83. In Rayalaseem and in north Coastal Andhra districts of Srikakulam and Visakhapatnam the growth rates have been very low. The four districts which were clubbed together - Guntur, Prakasam, Nellore and Kurnool - have recorded very high annual compound growth rate of 6.87 per cent. Also in East Godavari, West Godavari and Krishna districts, the productivity per hectare has grown at a compound rate of about 3 per cent and above per annum and their productivity values are very high in relation to other districts in the state. The whole fertile area of Krishna and Godavari deltas, with a well developed irrigation<sup>net-</sup> work, is considered one of the most prosperous agricultural regions of the country.<sup>10</sup> The districts like Srikakulam, East Godavari, West Godavari, Krishna, Guntur, Nellore in Coastal Andhra and Nizamabad, Karimnagar in Telangana have very high percentage of irrigated area to gross cropped area in 1981-82 in the state. It's very low in Rangareddy, Mahabubnagar, Ananthapur, Kurnool and Adilabad districts. Except in the three districts of north Coastal Andhra, productivity per hectare was more than Rs.2200 in other districts in Coastal

---

10. Thorner, Daniel (1967): "Coastal Andhra: Towards an Affluent Society", Economic and Political Weekly, Annual Number, February, pp. 241-252.

# ANDHRA PRADESH

AGRICULTURAL PRODUCTIVITY  
PER HECTARE

(1980-83)

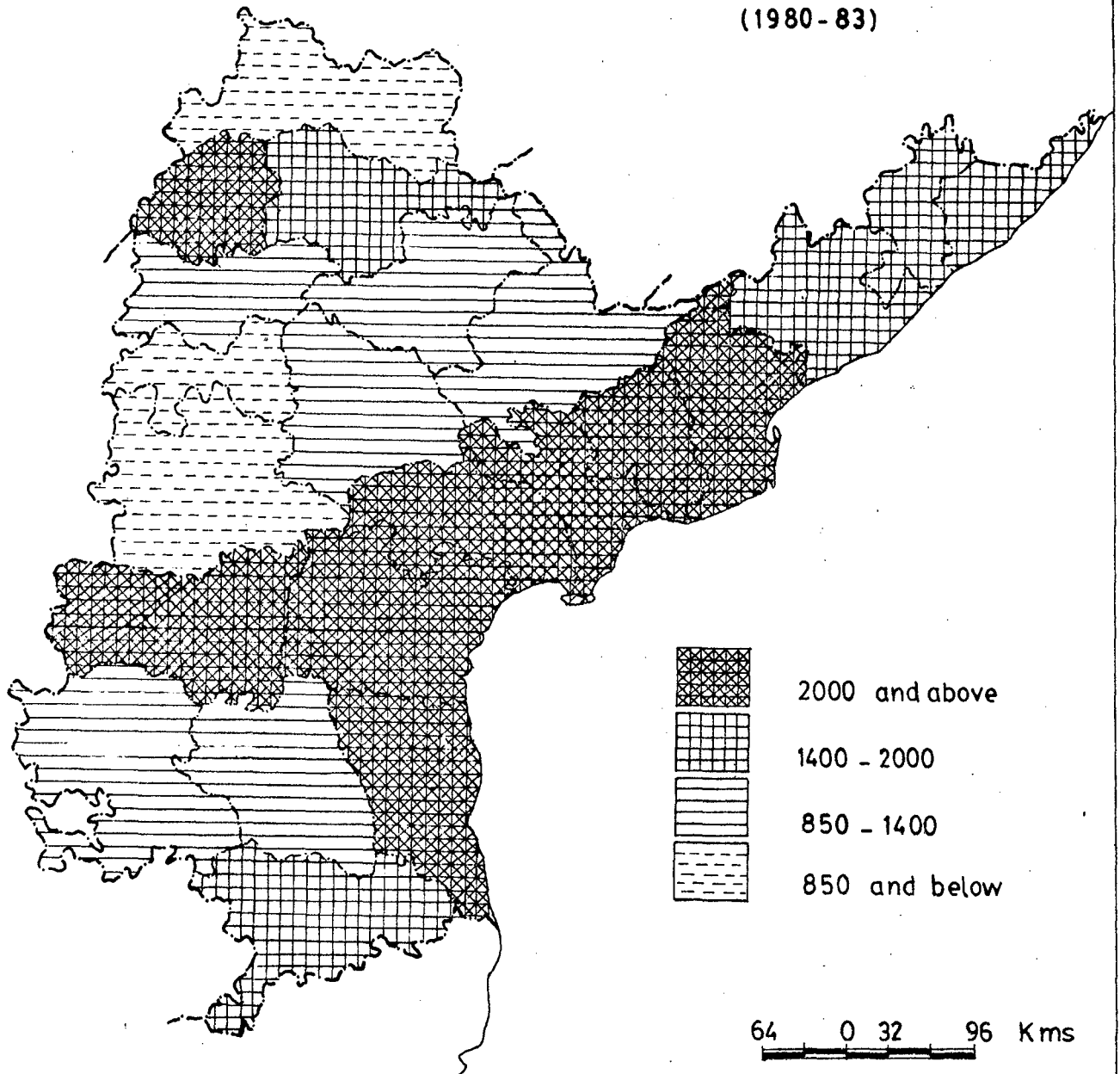


Fig 5.5

Andhra region (Fig. 5.5). In Telangana, except in Nizamabad and Karimnagar, the productivity per hectare was about Rs.1200 and less, the least being in Adilabad (Rs.538). In Rayalaseema only Chittoor district had relatively higher productivity of Rs.1561 per hectare while Cuddapah and Ananthapur districts have low productivity figures of about Rs.1100 and less. It should be mentioned here that Kurnool district has very low percentage of irrigated area (14.68) next only to Adilabad (9.18) in 1981-82 in the state, but it is showing high productivity because it is clubbed with three Coastal districts. The productivity per male agricultural worker had declined in the districts which had relatively low growth rates of productivity per hectare during 1970-73 to 1980-83. Productivity per worker has increased in all districts in Coastal Andhra, except three northern districts, and also in all Telangana districts except Adilabad during that period. In Rayalaseema, it has declined in Cuddapah and Chittoor districts and increased in Ananthapur and Kurnool districts (Fig. 5.6).

5.5.2 Along with the improvements in agricultural situation, the urban population has also increased at a very high growth rate of 48.26 per cent during seventies in the state. Except in Hyderabad, Ananthapur, Kurnool and four delta districts in Coastal Andhra - East Godavari,



# ANDHRA PRADESH

AGRICULTURAL PRODUCTIVITY  
PER MALE WORKER

(1980-83)

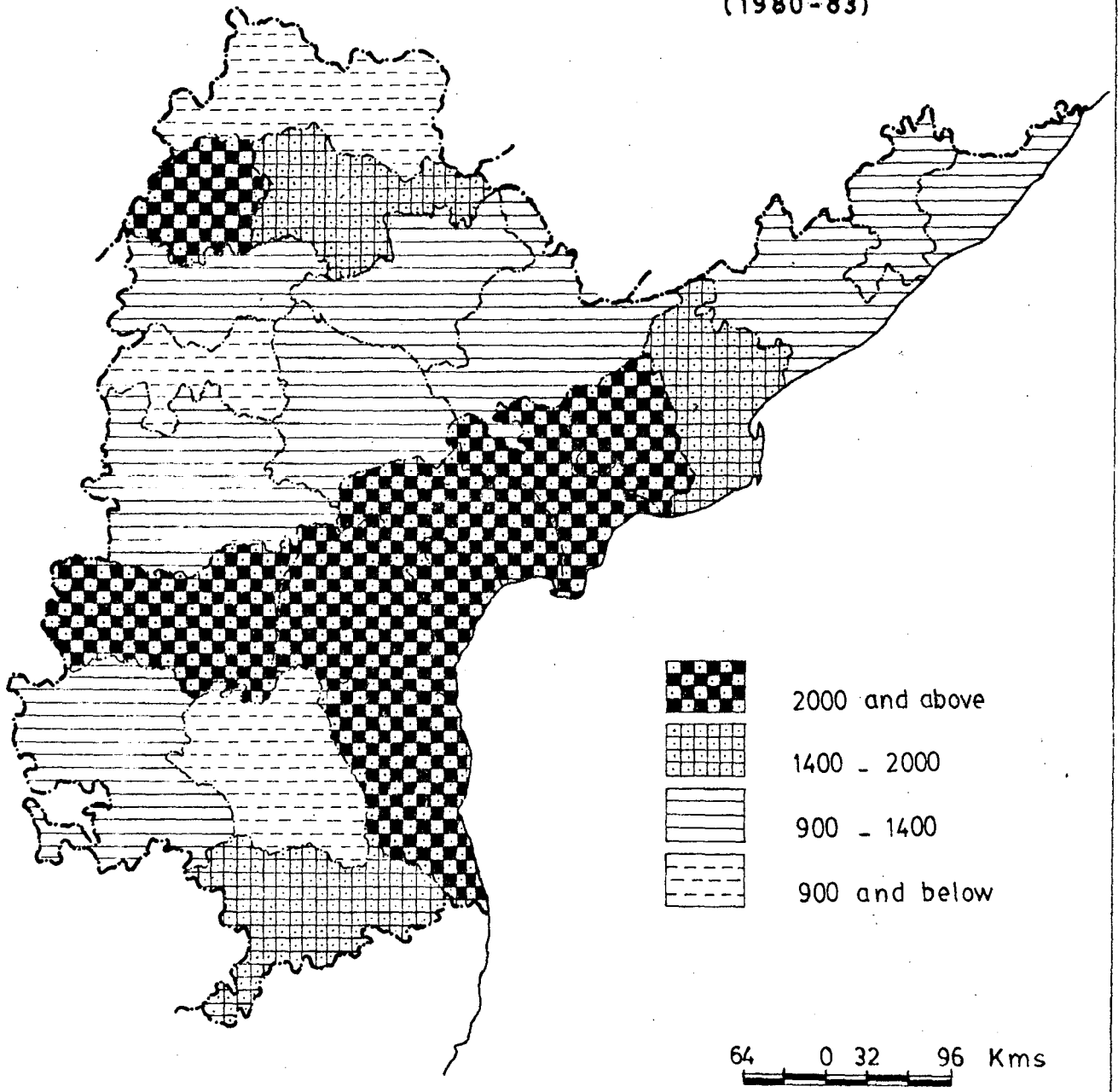


Fig 5.6

West Godavari, Krishna and Guntur, - in all other districts in the state, urban population had grown by more than 50 per cent during seventies. In Chittoor and Nizamabad districts also, which are relatively well developed in agriculture, there has been very high growth rate of urban population during seventies. The number of rapidly growing towns increased significantly while the stagnating towns have declined in number. A large number of fast growing urban centres during seventies are reported from Adilabad, Karimnagar, Khammam, Nalgonda, Prakasam, Guntur, Cuddapah and Ananthapur districts.<sup>11</sup> Apparently most of these are agriculturally backward districts. A slight concentration of the new towns identified in 1981 can be found in East Godavari district in Coastal Andhra, in Cuddapah district in Rayalaseema and in Nalgonda, Rangareddy and Medak districts in the vicinity of Hyderabad Metropolitan Region.<sup>12</sup> In the state as whole, the above mentioned four delta districts appear highly developed in agriculture and seem to have a relatively healthy process of urbanization.

5.6.1 Apart from a strong and prosperous agricultural sector, the Coastal Andhra region has a good supporting

---

11. For the spatial distribution of fast growing and stagnating urban centres during 1971-81, see Figures 3.5 and 3.6 respectively in Chapter III.

12. For the spatial distribution of new towns in 1981, see Figure 3.11 in Chapter III.

industrial base comprising, chiefly, of agro-processing units.<sup>13</sup> It is observed that an area of advanced rural setting with a clearly well defined urban net work is represented in a most 'refined form' by the Godavari - Krishna Delta region in Andhra Pradesh. It is further said that, in this area of highly intensive agriculture, the major cities that have come up are more or less similar in size and functional character.<sup>14</sup>

Though the share of agriculture in the state income has gone down during sixties and seventies, there has not been any decline in the dependence on agriculture. Keeping in view the generally low level of agricultural development in the state, the rapid growth of urban population during seventies might be largely due to migrations from rural areas and natural growth of population in the existing urban centres.

## 5.7 CONCLUSIONS

5.7.1 The percentage of cultivable area in the total geographical area has declined during 1956 to 1980-81 in the state. There has not been a significant increase in the

---

13. Alam, S.M. and Khan, W. et al (1970): op.cit., p. 16.

14. Sdasyuk, G.V.(1972): "Urbanization and Spatial Structure of Indian Economy" in 'Economic and Socio-cultural dimensions of Regionalisation', Census of India, 1971, centenary monograph No.7, An Indo-USSR Collaborative Study, pp. 297-328.

net area sown whereas the gross sown area has increased from 1956 to 1983-84. The area under food grains has increased marginally by 6.65 per cent while the food grains production has increased by 101.66 per cent during the same period. However, during this period of nearly three decades there have been marked fluctuations in the area under food grains as well as in the food grains production in the state. The increase in food grains production was significant during seventies when compared to sixties. The per capita availability of food grains has declined during the sixties but increased during seventies. There was only a slight increase in agricultural productivity per hectare during sixties in the state. However, the corresponding figure has increased considerably during seventies. There was a decline in case of productivity per male agricultural worker during sixties but increased during seventies. The development in agricultural activities seems to have taken place due to the introduction of seed-fertiliser technology during seventies in the state.

5.7.2 There has been a marginal improvement in irrigation facilities in the state. The percentage of net sown area under irrigation is high in Coastal Andhra when compared to that in Telangana and Rayalaseema regions.

5.7.3 There has not been a significant change in the proportion of agriculture to total workforce over the years.

The agricultural workforce (males and females) has increased at a higher rate (21 per cent) than the non-agricultural workforce (19 per cent) during 1961-81 in the state. The ratio of agricultural to non-agricultural workforce has increased during the same period.

5.7.4 Higher levels of productivity (per hectare as well as per male agricultural worker) in 1962-65 is found in the districts which have relatively higher percentage of cropped area under irrigation in the state. Of the three districts which had more than 20 per cent of their respective population in urban centres in 1961, only Krishna district had relatively higher productivity per hectare. Most of the declassified towns in 1961 were concentrated in the agriculturally developed districts like East Godavari, West Godavari and Krishna in Coastal Andhra and in the agriculturally under-developed districts in Telangana in the state. Krishna district accounted for a good share of the new towns identified in 1961.

5.7.5 There was decline in agricultural productivity in many districts during sixties. In West Godavari and Chittoor districts, the productivity per hectare has grown by compound growth rates of 1.94 and 2.52 per cent per annum. In seven districts it has grown at annual compound growth rates between 0-1.5 per cent per annum while in twelve other districts, it has declined by below -3 per cent from 1962-65

to 1970-73. The productivity per hectare was above Rs.1100 in all the districts in Coastal Andhra while it was less than Rs.800 in the districts of Telangana, except Nizamabad and Karimnagar in 1970-73. In Rayalaseema, Ananthapur and Cuddapah had a productivity of less than Rs.900 per hectare in the same period. Except Chittoor, productivity per male agricultural worker had declined in all districts during 1962-65 to 1970-73 in the state.

5.7.6 In the agriculturally developed districts like East Godavari and West Godavari, less than 20 per cent of population are urban in 1971 and their urban population growth rates are relatively less when compared to other districts during sixties in the state. More number of rapidly growing towns during 1961-71 are situated in the agriculturally backward districts and the stagnating towns during 1961-71 are highly scattered in the state. A very few declassified towns are located in the agriculturally developed delta districts while most of them are reported from the underdeveloped districts in 1971. The smaller urban centres in the developed districts might have acquired relatively stable economies. A good number of new towns identified in 1971 may be observed in Srikakulam and Visakhapatnam in north Coastal Andhra and Adilabad and Karimnagar district in northern Telangana regions. The above mentioned four districts are much backward in terms of agricultural

development. Massive industrialisation programmes around Visakhapatnam city in the two north Coastal districts and increasing mining activities in the two northern Telangana districts may be the main factors in influencing the emergence of new towns in 1971.

5.7.7 Agricultural productivity per hectare has increased at an annual compound growth rate of 4.83 per cent in the state during seventies. The productivity per hectare has increased in all the districts except Chittoor, from 1970-73 to 1980-83. The growth rate of productivity is relatively high in the backward districts of Telangana, except Adilabad. However, in Rayalaseema and the two Coastal districts of Srikakulam and Visakhapatnam, there is very low growth of productivity per hectare. The productivity figures are very high in 1980-83 in the districts which have high percentage of cropped area under irrigation. Productivity per male agricultural worker had declined in some of the districts which have recorded low growth rates of productivity per hectare during 1970-73 to 1980-83.

5.7.8 A slight improvement in the agricultural situation during seventies seems to have not had any impact in arresting the rapid growth of urban population in the state. Except in the four delta districts in Coastal Andhra (East Godavari, West Godavari, Krishna and Guntur), Ananthapur and Kurnool

in Rayalaseema and Hyderabad city in Telangana, urban population grew by more than 50 per cent during seventies in all other districts in the state. The fast growing urban centres have increased in number in seventies. The levels of agricultural development seem to have no relationship with the spatial distribution of fast growing urban centres. The stagnating towns have declined in number and they are highly scattered during seventies in the state. A few of the new towns identified in 1981 are located in the districts of East Godavari in coastal Andhra, Cuddapah in Rayalaseema and Nalgonda, Rangareddy and Medak in the vicinity of Hyderabad Metropolitan Region.



CHAPTER - VI

---

SPATIAL VARIATIONS AND INTERDEPENDENCIES OF THE  
INDICATORS OF DEVELOPMENT IN ANDHRA PRADESH

---

6.1.1 An analysis of the trends in the average values, inter-district disparities and the nature of inter-dependencies among the selected developmental indicators is presented in this chapter. An attempt was made to assess the role of industrialisation and agricultural development in the context of the process of urbanization in Andhra Pradesh during sixties and seventies in the earlier chapters based on aggregative data. An analysis of the nature of interdependencies among the selected indicators in this chapter would be useful in finding out, in a broad sense, the factors behind the pace and pattern of urbanization in the state.

Before going into the interpretation of correlations between different indicators, an analysis of the changing average values for selected indicators, during sixties and seventies, is presented. This is followed by the analysis of the magnitude of inter-district disparity, in terms of the coefficient of variation, during sixties and seventies in the state.

6.2.1 Since an analysis of male workforce participation rate in household and non-household manufacturing activities was presented twice in the earlier chapters ( Chapter II and Chapter IV), a discussion regarding the same is not given here. The average values for the state, computed from district values for the above two indicators are not significantly different from the corresponding state figures mentioned earlier, during sixties and seventies. Also, the "State average"<sup>1</sup> (computed by averaging the district figures) for indicators like manufacturing units per thousand population, manufacturing units employing less than nine workers per thousand units and the manufacturing units run on electricity per thousand units in the state in 1961 and 1971, are not significantly different from the state level figures for the respective indicators analysed in chapter IV. Hence a repetition of the same is avoided here. The analysis is presented for those indicators where a significant change has occurred in the "state average" values overtime though the state level figures for the same indicators have been analysed elsewhere in the earlier chapters.

---

1. The "State average" implies the figure obtained by averaging the district level figures for each indicator. This would evidently differ from the state level value for that indicator.

6.2.2 The average percentage of population living in urban centres in the state has increased from 16.52 to 17.90 during sixties and to 22.81 during seventies. There is a very high increase in the average growth rate of urban population from sixties to seventies. It has increased from 33.84 per cent during 1961-71 to 57.91 per cent during 1971-81 in the state.

6.2.3 Agricultural activities in Andhra Pradesh are prone to the vagaries of monsoons. A large number of districts in the state, particularly those in Rayalaseema, are prone to frequent and severe droughts and famines. On the average, only about 32.27 per cent of the gross cropped area was put under irrigation in 1964-65 in the state and the figure has increased only marginally to 34.31 per cent by 1970-71. There has been an improvement in irrigation facilities during seventies. About 40.24 per cent of the gross cropped area is irrigated in 1980-81 in the state. However, the proportion of irrigated area is still much less in view of the importance of agriculture in the economy of Andhra Pradesh.

Taking the average figures for agricultural productivity per hectare at average prices of 1970-73, there was not significant improvement during sixties in the state. The average productivity per hectare has increased slightly from Rs.1099 in 1962-65 to Rs.1124 in 1970-73. However, some

development seems to have taken place during seventies. This is reflected by a higher average productivity of Rs.1610 per hectare during 1980-83 in the state. The average productivity per male agricultural worker has decreased from Rs.1442 in 1962-65 to Rs.1202 in 1970-73. This might be due to the increase in the number of male workers and the lack of an adequate improvement in per hectare productivity during sixties. However, the average productivity per worker has increased to Rs.1555 in 1980-83. The increase in productivity per worker has been less than the increase in productivity per hectare.

6.3.1 An analysis of the magnitude of inter-district disparity gives an insight into the imbalances created through the process of development over years. There is a low disparity of about 26 per cent (in terms of coefficient of variation) in the case of percentage of Household (H) to total male workforce in 1961 in the state. Such low variation indicates that there is a certain proportion of workers in H activities in all districts. This disparity has increased to 30 per cent during sixties which means that the decline in H activities during sixties has not taken place at similar rates in all districts in the state. However, with the increase in H male workforce in all districts during seventies, the disparity came down to 23 per cent. In terms of urban share of H male workforce, the disparity is very high and it has increased overtime. The coefficient of

variation in terms of the share of urban areas in H male workforce has increased from 46 to 56 per cent during sixties and to 78 per cent during seventies in the state. In spite of decline in the disparity in terms of percentage of H to total male workforce, the disparity in terms of urban share in H male workforce has increased significantly during seventies. This indicates that H activities have increased considerably in urban areas of only a few districts in the state during seventies.

6.3.2 A very high disparity exists in terms of percentage of Non-Household (NH) to total male workforce though it has slightly declined from 62 per cent to 58 per cent during sixties. This shows that there is a high incidence of manufacturing activities only in some districts in the state. However, some dispersal of NH activities from urban to rural areas seems to have taken place in those districts which had relatively higher urban share in NH male workforce during sixties. This is indicated by the decline in inter-district disparity from 45 to 39 per cent in terms of the urban share of NH male workforce during sixties in the state.

The improvement in terms of manufacturing establishments per thousand population during sixties has taken place in the backward districts that had relatively weaker base of manufacturing activities. The disparity in this respect has come down considerably from 67 to 31 per cent during sixties

in the state. Since there is a large proportion of manufacturing units employing less than nine workers in all districts, inter-district disparity for this indicator is insignificant (about 3.5 per cent) and this low disparity has remained more or less the same during the sixties. There is a very high disparity of about 95 per cent in terms of the proportion of manufacturing units using electricity in 1961. This suggests that electricity is used in running the manufacturing units only in a few relatively developed districts in the state. Since there was an improvement in the power situation during sixties, the inter-district disparity has come down to 66 per cent in 1971. However, the inter-disparity is still very high.

6.3.3 Though the level of urbanisation has been low in Andhra Pradesh, the disparity in terms of percentage of urban to total population is very high. After a slight decline in sixties, the disparity in this respect has increased during seventies in the state. The coefficient of variation for the percentage of urban to total population has declined slightly from 71 to 69 per cent during sixties. This, however, increased to 78 per cent in 1981. This suggests that the rapid growth of urban population during seventies has helped in further widening the disparity in levels of urbanization among the districts. The disparity in the growth rate of urban population during sixties was 47 per cent which came down to 45 per cent during seventies in the state.

6.3.4 Inter-district disparity happens to be very high in terms of levels of irrigation in the state. The disparity in terms of the percentage of gross irrigated area to gross cropped area has increased from 57 to 58 per cent during sixties and came down slightly to 53 per cent during seventies. A similar trend is observed in productivity levels also in the state. For the productivity per hectare, the disparity has increased from 42 to 49 per cent during sixties which reduced to 45 per cent during seventies. It, therefore, appears that the reduction in inter-district disparities in productivity levels is dependent on the reduction in the inter-district variations in levels of irrigation.

Disparity in terms of productivity per male agricultural worker has been increasing overtime in Andhra Pradesh. It has increased from 29 to 34 per cent in sixties and to 41 per cent in seventies. The increase of disparity in terms of labour productivity can be attributed to the variations in agricultural development and increasing dependence of the rural workforce on agriculture. Even when disparity in land productivity went down marginally during seventies, the disparity in labour productivity has gone up which is a disquietening feature.

6.4.1 The nature of interdependencies has been analysed by testing the values in the correlation matrices at

5 per cent level of significance for 18 degrees of freedom for 1961, 19 degrees of freedom for 1971 and 21 degrees of freedom for 1981. The number of degrees of freedom has changed because of the change in the number of districts. For the three time periods the values of  $r_c$  (critical value of  $r$ ) are calculated by using the formula:

$$r_c = \frac{1}{\sqrt{\frac{N}{t^2} + 1}}$$

Where  $N$  ( $= n-2$ ) is the number of degrees of freedom,

$n$  is the number of observations, and

$t$  is the tabulated value for  $N$  degrees of freedom.

Any value in the correlation matrix which is higher than  $r_c$  value can be considered significant. The calculated values of  $r_c$  at 5 per cent level of significance are 0.4436 for 1961, 0.4329 for 1971 and 0.4133 for 1981. In the present analysis, the values that are significant at 5 per cent level have been considered and interpreted.<sup>2</sup> However, in certain cases, if certain values in the correlation matrices are not significant at one point of

---

2. The select indicators and the correlation matrices for 1961, 1971 and 1981 are given in Appendices VI-A, VI-B and VI-C respectively.



time but became significant in the subsequent period, they have been discussed in the analysis. Also, the analysis is given only for those indicators where comparison is possible at least for two points of time. The identification numbers of indicators as mentioned in the correlation matrices are given in the brackets.<sup>3</sup> In cases where a positive or negative relationship was expected on the basis of past research or the general understanding, and if such relationship is not observed, they have also been mentioned.

6.4.2 The percentage of Household (H) to total male workers ( $X_1$ ) has negative and significant relationship with percentage share of urban areas in H male workers ( $X_3$ ) and also with that of urban to total population ( $X_7$ ) in 1961 in the state. This means that H activities are predominant only in rural areas and have no influence in articulating the process of urbanization. It ( $X_1$ ) has positive and significant relationship with manufacturing units per thousand population ( $X_9$ ) as also with manufacturing units employing less than nine workers (plus units with workers unspecified) per thousand units ( $X_{10}$ ) in 1961 in the state. This indicates that H units account for a large share of total manufacturing units and a large proportion

---

3. The identification numbers upto  $X_7$  are the same for the three points of time in the analysis. The later identification numbers vary due to variation in the number of indicators for different periods.

of these units belong to the small size category employing less than nine workers. It ( $X_1$ ) has significant and negative relationship with manufacturing units using electricity per thousand units ( $X_{11}$ ) in 1961. This shows that most of the H units are run by traditional methods and the use of electricity in running the H industries is not a significant phenomenon.

The negative relationship of the percentage of H to total male workers ( $X_1$ ) with that of urban share of H workers ( $X_3$ ) and of urban to total population ( $X_7$ ) has further increased during sixties in the state. This suggests that the importance of H activities has further declined in urban areas. However, the values for corresponding relationships have slightly declined during seventies. This suggests that there has been an improvement in H activities in urban areas during seventies in the state. Its ( $X_1$ ) positive relationship with manufacturing units per thousand population ( $X_{10}$ ) and with manufacturing units employing less than nine workers (plus units with workers unspecified) per thousand units ( $X_{11}$ ) in 1971 has been more or less the same as that in 1961 though there is a slight decline in the corresponding values in 1971. Its ( $X_1$ ) negative relationship with manufacturing units using electricity per thousand units ( $X_{12}$ ) in 1971 has further increased as compared to the corresponding figure in 1961.

This shows that along with decline in H activities during sixties, a tendency of running H industries by traditional methods, mostly by manual labour, has increased in the state. This also indicates that modern technology, being introduced in the manufacturing sector, is not having much impact on the H industry. It ( $X_1$ ) has significant and negative relationship with percentage share of urban areas in Non-Household (NH) male workforce ( $X_9$ ) in 1971. An important observation that can be made based on this relationship is that with the predominance of NH industries in urban areas, the importance of H manufacturing goes down. The percentage share of urban areas in H male workers ( $X_3$ ) has highly significant and positive relationship with the proportion of manufacturing units run on electricity ( $X_{11}$ ) in 1961 and this relationship has been maintained during sixties in the state. This suggests that in districts where the H industries are important in the urban areas, these are being run on electricity.

6.4.3 The percentage of NH to total male workers ( $X_8$ ) has highly significant positive correlation with the percentage of urban to total population ( $X_7$ ) in 1971 in the state. This suggests that the growth of NH industry largely contributes to the process of urbanization. This relationship underscores the importance of NH industry in promoting urbanization through the vertical shift of workforce from primary to the secondary sector.

A significant negative relationship exists between the share of urban areas in NH male workers ( $X_8$ ) and the number of manufacturing units per thousand population ( $X_9$ ) and also with manufacturing units employing less than nine workers ( $X_{10}$ ) in 1961 in the state. This suggests two things - one that the industrialised districts with a high share of manufacturing activities in urban areas do not have a large number of units per thousand population and in fact have a very few units employing less than nine workers and second, that smaller size manufacturing units cannot survive with the predominance of NH manufacturing in their urban areas. It ( $X_8$ ) has a positive and significant relationship with the number of manufacturing units run on electricity per thousand units ( $X_{11}$ ) which means that most of the NH industries are run on electricity in 1961. By 1971, the negative relationship among the share of urban areas in NH male workers ( $X_8$ ) and manufacturing units per thousand population ( $X_{10}$ ) had further increased. However, its ( $X_8$ ) relationship with proportion of manufacturing units employing less than nine workers ( $X_{11}$ ) in 1971 had become positive but insignificant. Its ( $X_8$ ) positive relationship with the proportion of manufacturing units using electricity ( $X_{12}$ ) has further improved by 1971 which means that the proportion of NH industries using electricity is increasing overtime and that modern technology is increasingly being introduced in NH sector in the state.

6.4.4 An analysis of the relationship between the indicators reflecting agricultural development and urbanization helps in understanding the process of agricultural development and its impact on urban growth in Andhra Pradesh. The percentage of gross irrigated area to gross cropped area ( $X_4$ ), productivity per hectare ( $X_5$ ) and productivity per male agricultural worker ( $X_6$ ) are positively and significantly correlated with each other at the three points of time considered in the present analysis. The two indicators ( $X_5$  and  $X_6$ ) have negative and significant relationship with the percentage of urban to total population ( $X_7$ ) and also with the growth of urban population during 1971-81 ( $X_8$ ) in the state. The percentage of gross irrigated area ( $X_4$ ) has negative and significant correlation with the percentage of urban to total population ( $X_7$ ) in 1961 and 1971 whereas in 1981 it has positive and significant relationship. However, it ( $X_4$ ) has negative and significant correlation with growth rate of urban population during 1971-81 ( $X_8$ ).

6.5.1 All this points towards a few important hypotheses. The increase in labour productivity will largely depend on the improvements in per hectare productivity which in turn depends on the levels of irrigation in the state. Thus, any government policy aimed at enhancing labour productivity will have to primarily take into account the development of irrigation facilities in the state.

6.5.2 It may be argued that a larger proportion of cultivated area has to be brought under irrigation to improve agricultural production. Looking into the negative relationships between the indicators of agricultural development and urbanization, it seems that the former has not contributed to the process of urbanization in the state. This may substantiate another important proposition that improvements in the condition of rural economy will discourage population from migrating towards urban areas. It has been observed that relatively low growth rate (25.37 per cent) of urban population during 1961-71 in Punjab was mainly due to the 'era of green revolution' during that decade, which resulted in the improved economic condition in its rural areas. Increase in the wages of agricultural labourers, improved road network and better accessibility are responsible for converting migration into commutation within the district. Dispersal of electric power and consequent spread of economic activities towards rural areas etc., also seem to have checked the rapid growth of urban population during 1961-71 in Punjab.<sup>4</sup>

6.5.3 The positive and significant relationship of percentage of gross irrigated area to gross cropped area ( $X_4$ ) with that of urban to total population ( $X_7$ ) in 1981

---

4. Bawa, K.S. and Kainth, G.S.(1985): "Why this rush towards cities", Yojana, Vol. 29, No. 13, July 16-31, pp.15-17.

should be understood in the context of the construction of several multipurpose irrigation projects and consequent setting up of project dam sites in the state. This might have contributed to the growth of urban population in small towns or emergence of new townships in some areas in the state during seventies. However, it has been observed that the development of irrigation systems around Nagarjuna Sagar etc., have contributed only partially to the growth of small towns in Andhra Pradesh<sup>5</sup> during the last decade. The rapid growth of urban population during the seventies, therefore, cannot be attributed solely to the development of irrigation facilities in the state. Since the manufacturing sector is weak and the development of agriculture is negatively related to the urban growth, the rapid growth of urban population in the last two decades, particularly during the seventies, might be attributed to the natural growth of population in urban centres and poverty induced migrations from rural to urban areas in the state.

6.6.1 An analysis of variations in the levels of development at the district level would facilitate further investigation into the spatial imbalances created through the developmental processes over the years in the state. Hence an attempt has been made in this section to identify

---

5. Buch, M.N.(1983): "Emerging Regional Patterns", Urban India, Vol. 3, No.1, pp. 3-27.

the developed, relatively developed and underdeveloped regions in the state by working out composite indices for select indicators for 1981.

Seven indicators for 1981 have been selected articulating the process of rural development (set A), of urban development (set B) and of industrial development (set C). The selected indicators are as follows:

- A<sub>1</sub> Percentage of Household to total male workers 1981.
- A<sub>2</sub> Percentage of gross irrigated area to gross cropped area 1981-82.
- A<sub>3</sub> The value of agricultural productivity per hectare 1980-83.
- A<sub>4</sub> The value of agricultural productivity per male agricultural worker 1980-83.
- B<sub>1</sub> Percentage of urban to total population 1981.
- B<sub>2</sub> Percentage growth of urban population during 1971-81.
- C<sub>1</sub> Percentage of Household male workers in urban areas to total of the same 1981.

6.6.2 Unfortunately, the non-availability of Economic Tables for 1981 for the state of Andhra Pradesh has been a serious limitation in the analysis of this nature. Only the indicator C<sub>1</sub> viz, the percentage of Household male workers in urban areas to total of the same in the district for 1981,



has been taken to represent the concentration of household manufacturing employment in urban areas which often goes along with industrial development in the district.

The weightages for different indicators are worked out by taking the values in the correlation matrix for each set of indicators separately for 1981. The sum of the correlations for each indicator (with other indicators in the set) is divided by the mean of the respective indicators. All the observations in the respective indicators are multiplied by the values thus obtained. The method implies two things: one - giving weightages proportional to the sum of the correlations to the scale free indicators and two- making the indicators scale free through division by mean. The weighted values are then added for each observational unit viz., the district, to obtain composite index. Now three sets of composite indices are obtained using the three sets of indicators separately. All the values in the three series of composite indices are divided once again by their respective mean values and finally added for each observation to obtain the aggregative composite index (Table 6.1). These final values are considered to represent the levels of development for different districts of Andhra Pradesh. Basing on these values, all the districts are categorised into three groups - high development (composite index above 3.5), medium development (2.5 -3.5) and low development (less than 2.5) - in the state.

TABLE 6.1 : COMPOSITE INDICES FOR SELECT INDICATORS  
FOR THE DISTRICTS OF ANDHRA PRADESH:1981

Name of the District	Composite indices for			Aggregative Composite Index
	Set A	Set B	Set C	
1. Srikakulam	6.8179	0.7942	0.5910	2.0792
2. Vizianagaram	6.1810	0.9425	0.5583	2.0551
3. Visakhapatnam	5.9929	1.7334	1.2295	3.2237
4. East Godavari	10.3223	1.2349	0.8307	3.1055
5. West Godavari	13.9227	1.2304	0.8851	3.6649
6. Krishna	9.8017	1.6804	1.3522	3.8485
7. Guntur	9.2200	1.3436	1.4908	3.6817
8. Prakasam	8.6075	1.3027	1.2094	3.2864
9. Nellore	10.5165	1.5252	0.8442	3.3389
10. Chittoor	6.2043	1.2096	0.8225	2.5001
11. Cuddapah	5.0684	1.5177	1.3505	3.0711
12. Ananthapur	4.7122	1.2052	1.6106	3.0736
13. Kurnool	7.8258	1.4162	1.3677	3.4100
14. Mahabubnagar	4.3037	1.0651	0.5346	1.8477
15. Rangareddy	3.8263	2.6343	0.7881	3.0747
16. Hyderabad	6.8460	3.7415	4.0900	7.5342
17. Medak	5.2247	1.3432	0.3975	2.0253
18. Nizamabad	9.4167	1.3487	0.5979	2.8205
19. Adilabad	3.0372	1.3484	0.6798	2.0021
20. Karimnagar	7.7034	1.5858	0.6164	2.7546
21. Warangal	6.0403	1.3263	0.5129	2.2444
22. Khammam	5.5712	1.3026	0.3824	2.0320
23. Nalgonda	5.8515	1.8451	0.2757	2.3249

Regionwise distribution of the districts (with names) and the number of districts in each region by their levels of development are given in Tables 6.2 and 6.3 respectively. The levels of development according to the aggregative composite index, in the districts of Andhra Pradesh is depicted in Fig. 6.1.

6.6.3 From this analysis, it can be observed that there are four districts in the state which belong to the high development category. These are West Godavari, Krishna and Guntur in Coastal Andhra and Hyderabad in Telangana. It should be mentioned that Hyderabad district is totally urban consisting of Hyderabad Metropolitan city. Of the 11 medium development districts, four are in Coastal Andhra (Visakhapatnam, East Godavari, Prakasam and Nellore), three in Telangana (Rangareddy, Nizamabad and Karimnagar) and all the four in Rayalaseema. Telangana region accounts for six, out of eight, less developed (underdeveloped) districts in the state and the remaining two are situated in north Coastal Andhra. These are Mahabubnagar, Medak, Adilabad, Warangal, Khammam and Nalgonda in Telangana and Srikakulam and Vizianagaram in Coastal Andhra. At the regional level, Telangana appears to be more backward than even Rayalaseema in the state. The delta districts in Coastal Andhra region are more developed than other districts while two north Coastal districts continue to be underdeveloped as

TABLE C.2 : REGION-WISE DISTRIBUTION OF DISTRICTS BY THEIR LEVELS OF DEVELOPMENT IN ANDHRA PRADESH: 1981

Regions	Levels of Development (Names of the Districts)		
	High (Above 3.5)	Medium (2.5 - 3.5)	Low (Less than 2.5)
I Coastal Andhra	West Godavari Krishna Guntur	Visakhapatnam East Godavari Prakasam Nellore	Srikakulam Vizianagaram
II Rayalaseema	-	Cuddapah Chittoor Ananthapur Kurnool	-
III Telangana	Hyderabad	Nizamabad Karimnagar Rangareddy	Mahabubnagar Medak Adilabad Warangal Khammam Nalgonda

TABLE C.3 : REGION-WISE NUMBER OF DISTRICTS BY THEIR LEVELS OF DEVELOPMENT IN ANDHRA PRADESH:1981

Region	Total Number of Districts	Level of Development		
		High (Above 3.5)	Medium (2.5-3.5)	Low (Less than 2.5)
I Coastal Andhra	9	3	4	2
II Rayalseema	4	-	4	-
III Telangana	10	1	3	6
ANDHRA PRADESH	23	4	11	8

# ANDHRA PRADESH

LEVELS OF DEVELOPMENT  
(Based On Aggregative Composite Index)

1981

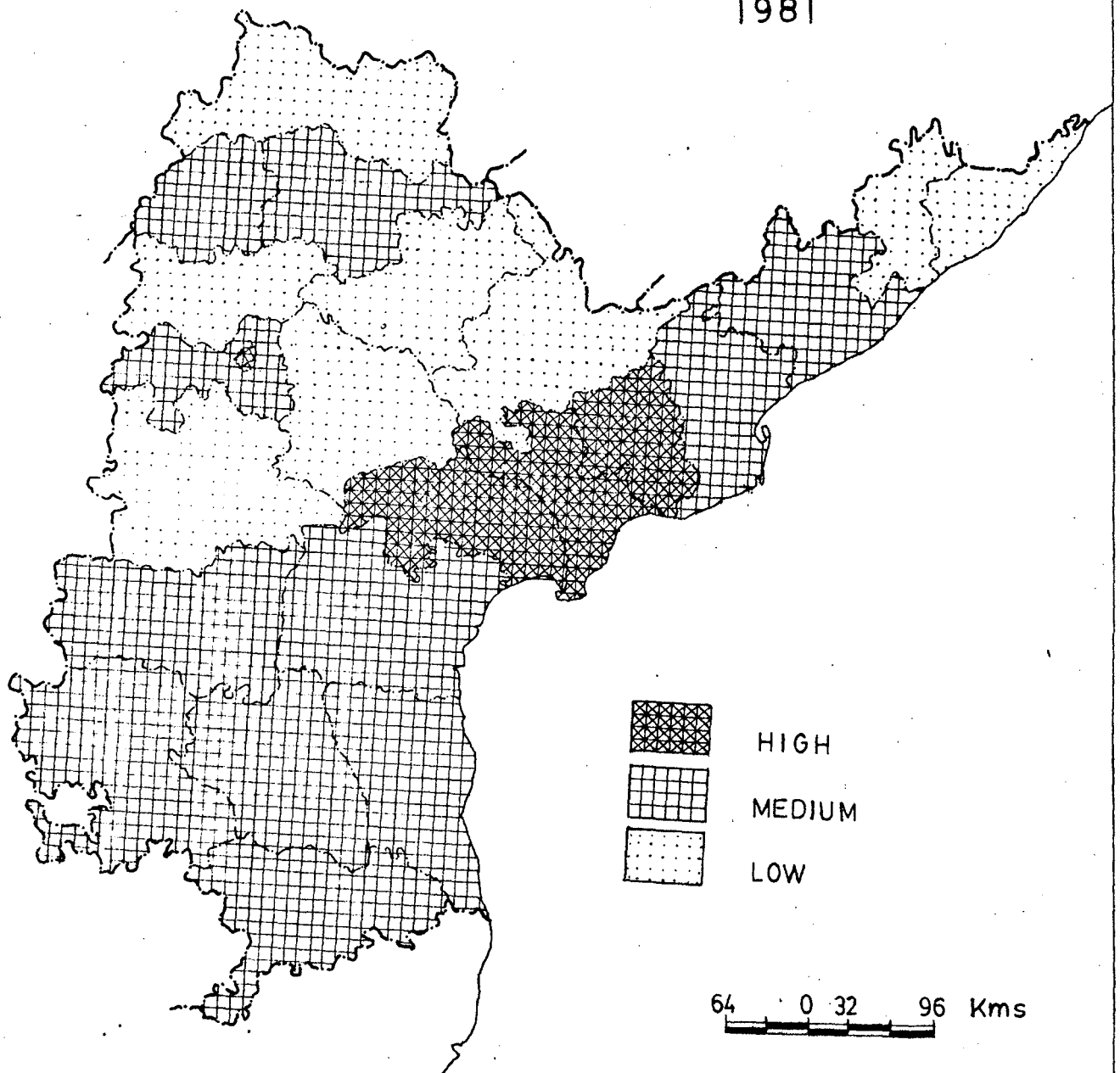


Fig 6.1

mentioned above. The disparities at the district and regional level inherited at the time of the formation of the state seem to have accentuated over years. Planned and concerted efforts seem to have not been made to bridge the gaps between the developed and underdeveloped regions in the state.

6.6.4 However, even in the developed districts there are underdeveloped taluks and in the backward districts there are certain well developed taluks. This type of analysis at the taluk level has been brought out by a Project Study and its details are given in the Planning Atlas of Andhra Pradesh.<sup>6</sup> The region-wise distribution of taluks by their levels of development is given in the Table 6.4.

The ~~above~~<sup>6.4</sup> table brings out clearly the variations in levels of development at taluk level in the state. This also reveals the high level of development of the delta districts in relation to the non-delta districts in Coastal Andhra. Of the 40 taluks in the four delta districts of Coastal Andhra, twenty five are developed and only five are underdeveloped in 1969-70. However, in the non-delta districts, there are eight developed and twenty two underdeveloped taluks

---

6. Alam, S.M. et.al (1975): "Planning Atlas of Andhra Pradesh", Pub. by the Govt. of Andhra Pradesh, 'Section V - Regional Development', pp. i-vi.

TABLE 6.4 : ANDHRA PRADESH: DISTRIBUTION OF TALUKS BY THEIR LEVELS OF DEVELOPMENT AND REGIONS (1969-70)

Regions	Number of districts	Number of Taluks	Levels of Development		
			Developed	Developing	Under-developed
(Number of Taluks)					
Andhra Pradesh	21	195	49	49	97
I. Coastal Andhra					
a) Delta districts	4	40	25	10	5
b) Non-Delta districts	4	40	8	10	22
II. Rayalaseema	4	42	11	15	16
III. Telangana	9	73	5	14	54

Source: Alam, S.M. et al (1975): "Planning Atlas of Andhra Pradesh", Pub. by The Govt. of Andhra Pradesh, 'Section V- Regional Development', p.v.



in the same year. The figures for Rayalaseema and Telangana highlight that even Rayalaseema is relatively more developed than Telangana. Of the 42 taluks in Rayalaseema, there are 11 developed and 16 underdeveloped taluks. While in Telangana, of the 73 taluks, 54 are underdeveloped and only 5 are developed. ~~taluks~~ The figure 6.2<sup>7</sup> depicts the levels of development at the taluk level in the state. The figure helps in identifying the underdeveloped taluks within the developed districts and also developed taluks in the underdeveloped districts.

6.6.5 The present analysis of identifying the developed, moderately developed and underdeveloped districts in the state, by constructing composite index for seven indicators for 1981, more or less supports the findings of the analysis given in the Planning Atlas of Andhra Pradesh regarding the disparity in levels of development in 1969-70. The Planning Atlas of Andhra Pradesh has identified four main weaknesses in the regional economy of the state:<sup>8</sup>

1. Marked disparities in the levels of development;
2. Economy of the state is predominantly agriculture - oriented, which lacks dynamism to stimulate vigorous industrial and urban development;

---

7. The figure is taken from Alam, Manzoor (1980): "Distortions in Settlement System of India", Geographical Review of India, Vol. 42, No.4, p. 318. A similar figure using chorochromatic technique, representing the levels of development in the state at taluk level, is also given in the Planning Atlas of Andhra Pradesh, p. 96.

8. Alam, Mansoor et al (1975): op.cit., p. vi.

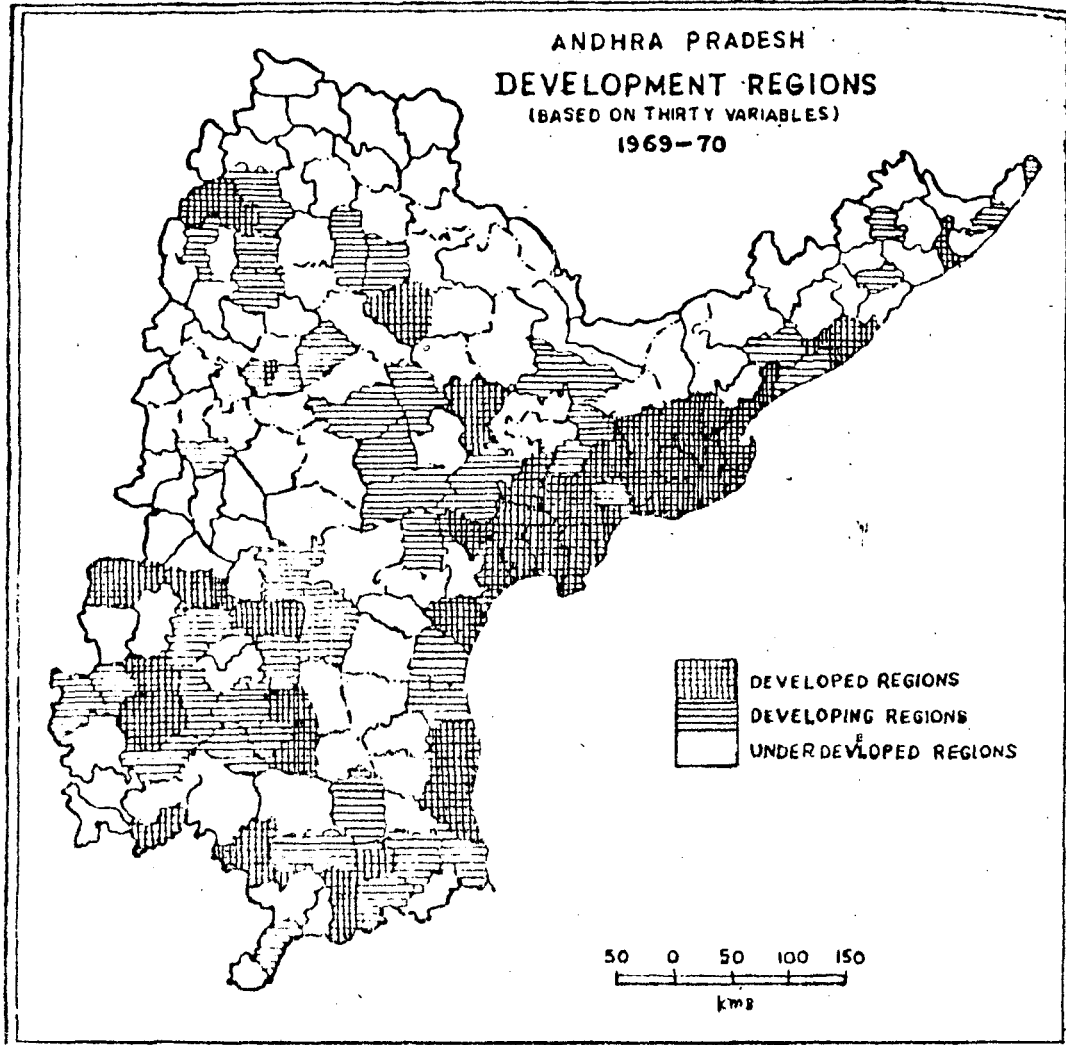


Fig 6.2

3. Absence of spatial integration of the state's economy because of the lag between economic development and provision of infrastructure facilities; and
4. Significantly negative correlation between resource-endowed areas and their level of economic development.

These weaknesses in the regional economy, identified more than a decade ago, seem to be still persisting in the state. It is obvious that the developed regions, as identified in 1969-70, have been developing while the backward and underdeveloped regions have, more or less, stagnated over the years. The weaknesses in the structure of the regional economy of the state have to be rectified and the disparities in levels of development minimised so as to facilitate a healthy interaction, both economic and social, among different regions in the state.

#### 6.7 CONCLUSIONS

In the light of the foregoing analysis, the following generalisations can be made. These would help in understanding the dynamics of urban development, identifying the crucial variables that have impact on the urban processes, and through these in planning the future structure of urbanization in the state.

6.7.1 The pace of urbanization has been increasing overtime in Andhra Pradesh. The percentage of population living in urban centres has increased during sixties and seventies. The average growth rate of urban population is very high during seventies when compared to sixties in the state.

6.7.2 Agricultural sector in the state is largely dependent on rainfall and other physical variables. The state has a very low percentage of cropped area under irrigation and this has improved only marginally over the years. There was a marginal improvement in the average value of productivity per hectare during sixties in the state at the average prices of 1970-73. However, the average productivity per hectare increased considerably by 1980-83, largely due to improvements in irrigation facilities and impact of the seed-fertiliser technology during seventies. However, the average productivity per male agricultural worker came down substantially during sixties but increased again during seventies. On the whole labour productivity is increasing very slowly compared to the land productivity and the heavy pressure on agriculture continues in the state.

6.7.3 A better understanding of inter-district variations in levels of development has been brought out by measuring the disparity in terms of coefficient of variation. The disparity in the percentage of Household (H) to total male

male workers is low in 1961 and 1971, despite a slight increase in it during this period. However, this disparity has been reduced during seventies in the state. There is a high incidence of H activities in urban areas of only a few districts in the state. A very high disparity is observed in terms of the percentage of Non-Household (NH) to total male workforce despite a slight decline in it during sixties. This indicates that only a few districts have relatively developed base of secondary sector in the state. The disparity is relatively low in case of the share of urban areas in the total NH male workforce in the districts and this has slightly declined during sixties in the state.

6.7.4 The disparity in the proportion of manufacturing units per thousand population has been reduced during sixties. Since a large number of manufacturing units are employing less than nine workers in all districts in the state during sixties and seventies, disparity is insignificant in this respect. However, the manufacturing units are using electricity in large numbers only in some of the developed districts in the state. The disparity in this respect is, therefore, very high in 1961. With the improvement in the power situation, the disparity has been reduced considerably during sixties in the state.

6.7.5 The disparity in terms of levels of urbanization is very high in the state. After a slight decline during sixties, it has further widened during seventies. In terms of growth rate of urban population also, the disparity is relatively high and it has come down slightly from sixties to seventies in the state.

6.7.6 The percentage of cropped area under irrigation is very high only in a few districts in the state. Inter-district disparity is very high in this respect and it has further increased during sixties. However, it has been slightly reduced during seventies. The disparity in terms of productivity per hectare is also very high. It increased further during sixties but came down subsequently during seventies. However, in terms of productivity per male agricultural worker the disparity has been increasing over the years in the state. Increasing pressure of population on agriculture and high disparity in the levels of productivity among the districts might be responsible for the increase in disparity in labour productivity in the state.

6.7.7 The Household (H) activities are predominant only in rural areas and it has negative relationship with the levels of urbanization at the three points of time considered in the analysis. H units account for a large share of total manufacturing units and a large portion of them are employed

in units having less than nine workers. Most of the small size H units are spread over rural areas and are run by traditional methods in the state. The H units are contributing largely to the increase in the number of manufacturing units. Household industries seem to get liquidated with the increase of NH manufacturing industries in urban areas as indicated by the negative relationship between the share of H to total male workforce and the share of urban areas in the NH male workforce.

6.7.8 The development of NH manufacturing industry has largely contributed to the growth of urban population as indicated by the positive and significant correlation between the percentage of NH to total male workforce and that of urban to total population. It seems that small scale manufacturing units cannot survive with the growth of NH industries in urban areas. The proportion of NH industries run on electricity is very high and it has increased during sixties, indicating the increasing pace of modernisation of NH manufacturing sector in the state.

6.7.9 The improvements in the level of agricultural productivity has largely depended on the development of irrigation facilities in the state. The betterment of living conditions among the rural masses and improvements in economic situation in the countryside has, to a large extent, discouraged people from migrating towards urban areas.

This is indicated by the negative relationships between the indicators of agricultural development and those of the process of urbanization. However, the development of irrigation systems seems to have contributed, to some extent, to the growth of a few small towns in some areas during seventies in the state.

There are wide disparities in the levels of development in the state. Basing on composite index for select indicators in 1981, four districts (three in Coastal Andhra and one in Telangana) are relatively highly developed, eleven are moderately developed (four in Coastal Andhra, three in Telangana and four in Rayalaseema) and eight are underdeveloped (two in Coastal Andhra and six in Telangana) in the state. This analysis clearly shows that the delta districts are more developed than the non-delta districts in Coastal Andhra and even Rayalaseema is relatively more developed than Telangana in the state.

On the whole, the above analysis underlines the need for diversification of economic activities in the rural hinterland and development of agricultural activities to improve the living conditions in the countryside. Besides these measures, the growth of Household and Non-Household manufacturing industry should be encouraged in the rural areas and small towns that can initiate a process of balanced urban development in the state.



CHAPTER - VII

---

CONCLUSIONS

---

Despite certain limitations with regards the availability and comparability of data, it has been possible to come up with some important findings in the present study. The following observations and generalisations can be made, in the light of the study, which are of considerable importance in understanding the nature and level of economic development, spatial pattern of urban growth and inter-district disparity in different aspects of development in the state of Andhra Pradesh. These generalisations may be helpful in designing strategies aimed at reducing the spatial imbalances and the distortions in urban hierarchy in the state.

7.1.1 It was noted that there has been an increase in the per capita income of Andhra Pradesh overtime but it is less than that of the national average. Several studies reviewed critically in the analysis indicate that the relative position of Andhra Pradesh in terms of per capita income has not changed significantly during sixties and seventies.

7.1.2 The position of Andhra Pradesh in terms of the ratio of per capita industrial output of the state to that of the country has declined during 1969-77. The share of Andhra Pradesh in terms of the number of units, employment and value added of industries belonging to ASI census sector, however, has increased marginally during 1961-78.

7.1.3 The agricultural productivity per hectare has improved only marginally during sixties. But its relative position has slightly declined during that period. There has been some development in agricultural activities due to the impact of seed-fertiliser technology during seventies in the state. Productivity per hectare has significantly increased but its relative position improved only marginally.

7.1.4 In terms of plan allocation by the Centre, the percentage share of Andhra Pradesh has not increased much during the successive plan periods. There has not been a significant change in the position of the state in terms of the per capita plan assistance by the Centre over the years. In spite of being the backward state, it seems to have not received greater attention by the Centre in terms of plan assistance. However, the State Plan outlay of Andhra Pradesh has increased substantially since 1973-74. The position of the state has gone down during the second to Seventh Finance Commission periods in terms of per capita financial resources

transferred to the state. Also, in terms of per capita institutional finance sanctioned and disbursed, the position of Andhra Pradesh has declined over the years. The Centre could have paid more attention to the state by allocating higher share of plan outlays. The State Plan outlays should be increased to gear up the economic development of the state.

7.1.5 The banking facilities are low in the country as well as the state and they have more or less the same number of banks per lakh of population in 1982. The number of banks per lakh of population in urban areas is larger in the country and the state, compared to the rural areas. The figures for both per capita deposits as well as advances are less for Andhra Pradesh than that for all-India.

7.1.6 The level of medical facilities is low in the state as well as the country. In terms of the number of doctors per lakh of population and per 100 sq. km., hospital beds per lakh of population and per capita expenditure on health, there is not much difference in the figures for the country and the state in 1980.

7.1.7 Andhra Pradesh has higher percentage of villages electrified and larger proportion of rural population covered by electricity than the country as a whole in 1982. However, in terms of per capita power consumption, the state occupies a low position and the value is less than the national average.

In terms of road length per 100 sq. kms. and railway route length per 1000 sq. kms., the values are low and more or less the same for the country as well as the state in 1982. The situation is the same when population is taken in the denominator instead of the area. The state has less number of registered vehicles per 1000 sq. kms. than that of the country in 1979-80. The Andhra Pradesh State Road Transport Corporation seems to be working efficiently with a high percentage of its fleet utilisation.

7.1.8 The situation is disheartening in the field of education with low level of literacy rate in the country and the state. The percentage of literate population, both for males and females, is low in the state when compared to that of the country as per 1981 census. The drop-out rate in the primary and the secondary school level is large in the country as well as the state.

7.1.9 At constant prices of 1970-71, the growth rate of income is more or less the same in the country and the state during 1960-61 to 1981-82. At current prices, the growth rate is higher in the country than in the state during the same period. The share of primary sector has declined and that of secondary and tertiary sectors has increased during the same period in the country as well as the state. The share of primary sector is relatively higher in the state

whereas for the secondary and tertiary sectors the shares are larger for the country. It is thus clear that the state of Andhra Pradesh is more dependent on primary sector and has a weak manufacturing and service sector base.

7.1.10 An analysis of the changing male workforce structure during sixties and seventies reveals that a large proportion of male workforce are engaged in agricultural activities in the state and the country and there has not been a significant change during sixties and seventies. While the share of cultivators is more in the country, the share of agricultural labourers is more in the state. It shows that the incidence of landless labourers and rural poverty is higher in Andhra Pradesh than that of the country as a whole. The share of agricultural labourers in the total workforce in urban areas has been increasing over the years in the country and the state. This indicates that due to the deteriorating living conditions in the countryside, the rural workforce are forced to migrate towards urban areas. This trend has been increasing over the years.

The share of workforce belonging to category III (Livestock, Forestry etc.,) has declined while no significant change has occurred in the proportion of workers in Mining and Quarrying to total workforce during 1961-71 in the country as well as the state. The share of Household (H) industry

forms a low component in the total male workforce. It has declined in the sixties but has not changed significantly in seventies. H activities increased in urban areas in seventies in the country and the state. However, there is a higher incidence of Household manufacturing in Andhra Pradesh than that of the country. Andhra Pradesh has a weak base of ~~NH~~<sup>NH</sup>-Household (NH) manufacturing industry when compared to the country as a whole. The state has less proportion of NH to total male workforce despite an increase in it during sixties in the state as well as the country.

There was a slight decline in the country and increase in the state in terms of the share of Construction to total workforce during 1961-71. The share of Trade and Commerce, and Transport, Storage and Communication has increased and that of other services has declined during sixties in the country and the state. The tertiary sector accounts for about 55 per cent of the total male workforce in urban areas in the country as well as the state in 1971. Thus the structure and nature of economic development of Andhra Pradesh resembles broadly that of the country as a whole although the state is somewhat less developed than the country. The relative position of the state in terms of several socio-economic development indicators has not changed significantly over the years.

7.2.1 The percentage decadal variation of urban population has been higher in Andhra Pradesh than that in the country in all decades since 1901 except during 1911-21, 1951-61 and 1961-71. However, the percentage of urban to total population in the state has been slightly less than that of the national average over the years. The decade 1971-81 has witnessed a phenomenal growth of urban population in the country as well as the state, the growth rate being higher in the state. The number of urban centres in the upper three size categories viz., I, II and III has been increasing while that in the lower three size categories viz., IV, V and VI has been declining since 1951 in the state. The urban settlement pattern seems highly distorted. A few large urban centres account for a substantial share of the urban population. The top-heavy nature of urban growth and dual urban structure persists in the country as well as the state.

7.2.2 The growth rates for urban centres in all size classes have increased in seventies when compared to ~~those~~ ~~of~~ the sixties. Cities have been growing faster in sixties and seventies. The acceleration in the growth rate is the highest for class II towns during the seventies. At the district and regional level, the four delta districts - East Godavari, West Godavari, Krishna and Guntur-along with Visakhapatnam in Coastal Andhra have about 20-32 per cent

of their population in urban areas in 1981. About 20 per cent of population are urban in Rayalaseema. In Telangana, excluding Hyderabad city and the surrounding Rangareddy district, urban population account for only about 10-20 per cent of the total population. The growth rate of urban population has also been very high in all the three regions, the highest being in Telangana, during seventies in the state. There seems to be a better spatial organisation of urban centres in Rayalaseema.

7.2.3 The number of fast growing (by more than 50 per cent) urban centres has increased while that of stagnating (growing by less than 10 per cent) towns has declined from sixties to seventies in the state. The fast growing urban centres are scattered in sixties while certain concentrations can be observed in the seventies. A good number of these towns during 1971-81 are concentrated in Medak and Mahabubnagar districts adjacent to Hyderabad, in the bordering areas of Adilabad - Karimnagar, Khammam - Nalgonda, Prakasam - Guntur and Cuddapah - Ananthapur districts. The whole of Telangana along with the adjacent four Coastal districts of Prakasam, Guntur, Krishna and West Godavari seems to emerge as a region witnessing rapid urban growth in the state. Telangana is the only region having mining towns. The new mining centres are growing rapidly while the old ones are stagnating in this region. Most of the large urban centres in the state are



aligned to the major railway lines. The stagnating urban centres are highly scattered in the state.

The percentage of fast growing centres declines while that of stagnating centres increases as one goes down the size classes of towns. In terms of the fast growing and stagnating urban centres, similar trends can be observed at the all-India level also. If urban growth proceeds at this pace, the urban scenario in the country as well as the state will be dominated by a limited number of urban centres with unusually high proportion of urban population. This top heavy nature of urban pattern will pose serious problems in planning for urban development.

7.2.4 The town density is very low (less than one town per 1000 sq. kms.) in the state. In the districts like Rangareddy - Hyderabad, Visakhapatnam, Warangal, Nizamabad, Cuddapah and Kurnool, a large proportion of urban population is concentrated in their respective big cities. There is a high proportion of urban to rural population in these districts but they have very low town densities. An analysis of the density of big villages (with population 5000 and above) for 1961 and 1971 has shown that in almost all districts in the state, the density of these villages is higher than that of town density. The four delta districts in Coastal Andhra have a very high density of these villages. One would, therefore, infer that the

minimum population size is less binding in identifying an urban centre. The economic criterion seems to be acquiring greater importance in defining a settlement as 'urban'. With a little diversification of economic activities, many of these big villages can be developed into lower order market towns. This will enable the growth impulses to reach the lowest of the rural settlements to articulate economic growth in rural areas.

7.2.5 A large number of declassified towns in 1961 are concentrated in Telangana and Krishna - Godavari Delta regions. More stringent application of the definition of town and fluctuating economic bases of the smaller towns are the main reasons for the declassification of such a large number of towns in 1961. Krishna district alone accounted for half of the new towns identified in 1961. Many of the declassified towns in 1971 are reported from the backward districts of Telangana and Rayalaseema while about half of the new towns of 1971 are situated in Coastal Andhra. The smaller urban centres in Coastal Andhra region seem to have acquired relatively stable economies than their counterparts in the backward regions of Telangana and Rayalaseema in the state. Only two towns were declassified while 27 new centres joined the list of towns in 1981. The districts of Nalgona in Telangana, East Godavari in Coastal Andhra and Cuddapah in Rayalaseem account for a good number

of new towns in 1981. The rapid growth of a large number of smaller urban centres and the emergence of a good number of new towns have contributed to the high growth of urban population during seventies. The new towns are emerging in different regions irrespective of their level of development. These towns may be observed in the relatively developed as well as backward districts in the state.

7.2.6 For a healthy process of urbanization, the growth of small towns should be encouraged and planned efforts have to be made in this direction. Rational selection of urban centres and planned diversification of economic activities to develop them into growth centres will help in minimising the spatial disparities in economic development. A comprehensive rural-urban development policy should be the basis for working out the development strategy. The Planning Atlas of Andhra Pradesh has estimated that the state needs 136 lower order marked towns (60 of Vth order and 76 of VIth order) for adequate articulation of its urban settlement system and efficient functioning of its economy.<sup>1</sup> It is unfortunate that steps have not been taken towards identifying the estimated number of urban centres during the past few years after such an estimation.

---

1. Alam, S.M.(1975): op.cit., Section IV, Social and Demographic Characteristics, p. iii.

7.3.1 Examination of the male workforce participation rate in the manufacturing sector reveals that there has been an improvement in the Non-Household (NH) manufacturing sector in the country and the state during sixties. Though there was a slight dispersal of NH activities from urban to rural areas during sixties, a sizeable proportion of NH male workforce is concentrated in urban centres in the country as well as the state. The cities, on the other hand, have witnessed an increase in the NH activities during sixties in the country and the state. The NH activities have declined in smaller urban centres during sixties in the country as well as the state, which is a discouraging phenomenon.

7.3.2 Hyderabad and four other districts of Nizamabad, Adilabad, Karimnagar and Warangal in northern Telangana had relatively better support of NH manufacturing activities followed by the four delta districts of East Godavari, West Godavari, Krishna and Guntur in 1961 in the state. By 1971, the above mentioned four delta districts in Coastal Andhra emerged as relatively well industrialised when compared to other districts in the state. Hyderabad district continues to show high index of manufacturing sector because of Hyderabad city. The whole of Rayalaseema and the adjacent Mahabubnagar district have very low level of NH manufacturing activities. In many districts in the state, urban areas

account for a substantial proportion of NH industrial activities which implies that the vast rural areas continue to have a weak manufacturing base.

7.3.3 The Household (H) activities declined in the sixties but increased slightly in the seventies in the country as well as the state. There has been a significant increase in the H activities in urban areas during seventies. However, H activity continues to be predominantly a rural phenomenon. A large number of H industrial units are concentrated in rural areas in the country as well as the state. The incidence of Household manufacturing is more in Andhra Pradesh than in the country. The proportion of H to NH industrial units is higher in the state in 1971. There are a very few manufacturing units per thousand population in the state as well as the country in 1961 and 1971. A large proportion of these units are smaller in size employing less than nine workers. Only a small proportion of the manufacturing units are run on electricity which means that the manufacturing sector as a whole is poorly modernised.

7.3.4 There are wide disparities among the districts in terms of the registered factories (registered under section 2 m(i) and 2 m(ii) of Factories Act) constituting the organised sector, in 1978-79 in Andhra Pradesh. Hyderabad, Nizamabad and the four delta districts account for more than 55 per cent, while the backward districts like Cuddapah,

Medak, Nalgonda, Khammam, Warangal and Adilabad together account for only about a meagre 11 per cent of the total registered factories in the state in that year.

7.3.5 More capital intensive industries have come up within the large and medium scale industrial sector during seventies in the state. The growth rate of capital invested is far higher than the persons employed during 1971-82 in this sector. The growth of capital invested is very high in Rayalaseema than the other two regions in the state. In the backward districts like Cuddapah, Karimnagar, Warangal, Mahabubnagar and Nellore, the growth rate of capital investment in large and medium industries has been rather high. However, this is very low in Srikakulam and Nizamabad districts. The increase in employment opportunities in large and medium industries has been high in Karimnagar and low in Guntur during 1971-82. The setting up of more capital intensive large and medium industries has adversely affected the employment opportunities in Prakasam, Nellore and Warangal districts during the same period in the state. A large number of these industries are concentrated in and around Hyderabad Metropolitan city.

From the above analysis it may be argued that the NH manufacturing sector should be strengthened especially in the backward districts. Manufacturing activities be

dispersed in favour of the smaller and medium sized urban centres. Household manufacturing should be encouraged in rural areas. Setting up of labour absorbing industries should be preferred to the capital intensive nature of industries in view of the massive unemployment and under-employment prevailing in the state.

7.4.1 An analysis of the different aspects of agricultural development has shown that the percentage of cultivable area to total geographical area has declined in the state over the years. There has not been much increase in the net area sown. However, the gross sown area has increased during 1956 to 1983-84 in the state. Foodgrain production has increased substantially while the area under food grains increased only marginally during this period. The situation in agricultural sector was not satisfactory during sixties. There have been marked fluctuations in productivity, area under foodgrains, foodgrain production, per capita availability of foodgrains etc., during sixties in the state. The situation in all these aspects has improved significantly in the seventies.

7.4.2 Coastal Andhra has high percentage of cropped area under irrigation while in Telangana and Rayalaseema regions a very low percentage of cropped area is irrigated. The area under canal and well irrigation has increased while that under tank irrigation has decreased during 1956 to 1983-84 in the state.

7.4.3 Heavy dependence on agriculture continues in the state. There has not been a perceptible change in the proportion of workforce (males and females) dependent on agriculture during 1961-81. The agricultural workforce has increased at a higher rate than the non-agricultural workforce during the same period. Consequently, the ratio of agricultural to non-agricultural workers has also increased.

7.4.4 Higher levels of productivity (per hectare as well as per male agricultural worker) in 1962-65 is found in the districts that had relatively higher percentage of cropped area under irrigation. Most of the declassified towns of 1961 are concentrated in the agriculturally developed Krishna-Godavari Delta region as well as agriculturally backward Telangana region. From 1962-65 to 1970-73, the productivity per hectare has experienced a negative compound growth rate by below -3 per cent per annum in Adilabad, Ananthapur, Cuddapah, Hyderabad, Karimnagar, Khammam, Mahabubnagar, Medak, Nizamabad, East Godavari, Srikakulam and Visakhapatnam in the state. The districts like Krishna, Nalgonda, Warangal,, Nellore, Kurnool, Prakasam and Guntur had a compound growth rate ranging from 0-1.5 per cent per annum. It is only in West Godavari and Chittoor that the productivity per hectare has grown at a significant rate (annual compound) of 1.94 and 2.52 per cent respectively



during 1962-65 to 1970-73 in the state. Productivity per male agricultural worker had declined in all districts, except Chittoor, in the state during that period.

7.4.5 A large number of rapidly growing towns during 1961-71 are situated in the agriculturally backward districts while the stagnating towns during sixties are scattered within the state. Agriculturally backward districts account for a larger share of declassified towns in 1971 due to the weak economies existing in these areas. A good number of new towns in 1971 are concentrated in agriculturally backward districts like Adilabad-Karimnagar and Srikakulam - Visakhapatnam. Mining activities in the former and massive industrialisation programmes in the latter may be the main factors responsible for this phenomenon.

7.4.6 Agricultural productivity per hectare has increased in all districts, except Chittoor, during 1970-73 to 1980-83 in the state. The increase has been significant in many districts. The seed-fertilizer technology introduced in Indian Agriculture during sixties seems to have influenced the development of agricultural activities in Andhra Pradesh only after a decade. However, the growth rate of productivity has been very low in Rayalaseema and Srikakulam and Visakhapatnam in Coastal Andhra. The productivity figures are very high in 1980-83 in the districts

which have a high proportion of cropped area under irrigation. The productivity per male agricultural worker has declined in some of the districts wherein the growth in land productivity was low during this period.

7.4.7 The slight improvement in the agricultural situation in the seventies has not influenced in checking the rapid growth of urban population in the state. The urban growth rate during seventies in the state is higher than that during any other previous decade. The number as well as the spatial spread of rapidly growing urban centres has increased in the seventies. The levels of agricultural development in the state seems to have <sup>no</sup> relationship with the emergence of new towns or the fast growth of existing towns. These towns have come up in agriculturally developed as well as backward districts. The number of stagnating urban centres has declined and they are scattered in space. A good number of new towns in 1981 are found in agriculturally developed districts like East Godavari as well as backward districts like Cuddapah and Nalgonda districts.

7.5.1 An analysis of inter-district disparities in the levels of development has revealed certain interesting patterns. A low disparity exists in terms of the percentage of Household (H) to total male workforce among the districts in the state. However, the disparity has increased in terms

of the urban share of H male workforce overtime. There is a very high disparity in terms of the percentage of non-household (NH) to total male workforce. Only a few districts have relatively developed manufacturing base in the state. However, the disparity is relatively low in terms of the urban share of NH male workforce. With the increase in the number of manufacturing units, the disparity in terms of manufacturing units per thousand population has been considerably reduced during sixties. Since a large number of manufacturing units are of smaller size, employing less than nine workers, disparity is insignificant in this respect. There is a very high disparity in terms of the manufacturing units using electricity though there has been a slight decline in it during sixties. Electricity is largely used in the manufacturing sector only in a few developed districts.

7.5.2 Though the level of urbanization is low in the state, the disparity is very high. After a slight decline in sixties, it has again increased during seventies. In terms of growth of urban population, the disparity is high and it has slightly declined from sixties to seventies.

7.5.3 Inter-district disparity happens to be very high in terms of the percentage of gross irrigated area to gross cropped area and it has increased during sixties. However, it has been reduced marginally during seventies. A similar

trend can be observed in terms of productivity per hectare also. The reduction in inter-district disparities in productivity levels is dependent on reducing the inter-district variations in levels of irrigation. The disparity in terms of labour productivity has been increasing over the years in the state. This means that the disparities in living conditions for the toiling masses in the countryside are far more acute than land productivity. It is also observed that the seed-fertiliser technology along with the package of inputs was mainly confined to the areas of assured irrigation. Agriculture continues to be mostly on traditional lines in dry areas that account for about 2/3rds of the cultivated area in the state. The gap between the developed and the backward areas has further widened. The green revolution has thus sharpened the differences between regions of the state, and also within the same region, between different sections of the people.<sup>2</sup>

7.5.4 An examination of the nature and extent of inter-relationships among the indicators of development, reveals several important points. These broadly support the generalisations made in the previous chapters. The household (H) activities are predominant only in rural areas and it has no influence on urbanization during the period considered in the analysis. H units account for a large share of total

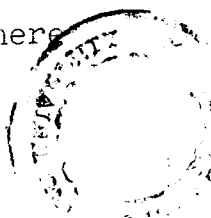
---

3. Krishna Rao, Y.V.(1984): op.cit., p. 14.

manufacturing units and a large portion of them are employing less than nine workers. A large proportion of H units, spread over the rural areas, are run by traditional methods. H units seem to get liquidated in urban areas with the increase of NH manufacturing industry. The development of NH manufacturing industry has contributed to the growth of urban population. A large proportion of NH industrial units are run on electricity. The NH manufacturing sector seems to be increasingly modernized in the state.

7.5.5 The improvements in the level of agricultural productivity has largely depended on the development of irrigation facilities. The betterment of living conditions among the rural masses and improvements in economic situation in the countryside has, to a large extent, discouraged people from migrating towards the urban areas. However, the development of irrigation systems seems to have contributed, to some extent, to the growth of a few small towns during seventies in the state.

7.5.6 An analysis of the levels of development, by constructing composite index, shows the districts viz., West Godavari, Krishna and Guntur in Coastal Andhra and Hyderabad in Telangana at a high level of development in 1981. (It should be noted that Hyderabad district is totally urban, comprising the Hyderabad Metropolitan city). There



are eleven districts that fall in the medium development category. Of these, four are in Coastal Andhra (Visakhapatnam, East Godavari, Prakasam and Nellore), three in Telangana (Rangareddy, Nizamabad and Karimnagar) and the remaining all the four in Rayalaseema. Of the eight less developed (underdeveloped) districts in the state, six are in Telangana and the remaining two in Coastal Andhra. These are Mahabubnagar, Medak, Adilabad, Warangal, Khammam and Nalgonda in Telangana and Srikakulam and Vizianagaram in Coastal Andhra. The analysis thus suggests that Telangana is relatively more backward than Rayalaseema. The Hyderabad Metropolitan city appears as an 'island of prosperity' in a vast underdeveloped region of Telangana. Planned and concerted efforts seem to have not been made to minimise the disparities inherited at the time of formation of the state. These disparities have accentuated over the years.

7.5.7 However, there are a few developed taluks within the backward districts and also a few backward taluks within the developed districts in the state as identified by the Planning Atlas of Andhra Pradesh basing on thirty indicators in 1969-70. The delta districts are more developed than non-delta districts in Coastal Andhra. The delta districts have very high proportion of the developed taluks than the non-delta districts in Coastal Andhra. Telangana has a large proportion of underdeveloped taluks when compared to

Rayalaseema. This study also confirms our finding that Rayalaseem is relatively more developed than Telangana, as mentioned above.

7.5.8 The main weaknesses in the regional economy of the state (given in section 6.6.5 of chapter VI), as identified by the Planning Atlas of Andhra Pradesh, have not been rectified during the last several years. The present analysis of the levels of development in 1981 more or less supports the findings of the Planning Atlas of Andhra Pradesh regarding the disparities in the levels of development in the state.

On the whole, the present study underlines the need for diversification of non-agricultural activities in rural areas and small towns, development of agricultural activities to improve the living conditions in the countryside and reducing the imbalances in the regional economy of Andhra Pradesh. The state must formulate, with appropriate support of the Central Government, strategies for balanced regional development and promote a hierarchy of settlements, that is necessary to sustain this development process.

APPENDIX I-ALIST OF RAPIDLY GROWING (BY MORE THAN 50 PER CENT)  
URBAN CENTRES DURING 1961-71 IN ANDHRA PRADESH

Code Number on the Map 1	Name of the City/Town 2	District 3	Growth Rate (1961-71) 4
<u>CLASS I</u>			
1.	Visakhapatnam	Visakhapatnam	72.10
<u>CLASS II</u>			
2.	Ananthapur	Ananthapur	53.15
<u>CLASS III</u>			
3.	Tirupati	Chittoor	83.69
4.	Chilakaluripet	Guntur	83.23
5.	Tadepellegudem	West Godavari	61.01
6.	Khammam	Khammam	58.60
7.	Karimnagar	Karimnagar	55.03
8.	Dharmavaram	Ananthapur.	51.32
<u>CLASS IV</u>			
9.	Miryalaguda	Nalgonda	97.17
10.	Yellandu	Khammam	53.05
11.	Nandigama	Krishna	50.55
12.	Koratla	Karimnagar	50.26
<u>CLASS V</u>			
13.	Tirumali	Chittoor	131.60
14.	Bhadrachalam	Khammam	86.59
15.	Saṅgareddy	Medak	76.47
16.	Metpalle	Karimnagar	73.01



APPENDIX I-BLIST OF STAGNATING (GROWING BY LESS THAN 10 PER CENT)  
URBAN CENTRES DURING 1961-71 IN ANDHRA PRADESH

Code Number on the Map	Name of the City/Town	District	Growth Rate (1961-71)
1	2	3	4
<u>CLASS II</u>			
1.	Kothagudem	Khammam	8.34
2.	Vijayapuri North	Nalgonda	-70.79
<u>CLASS III</u>			
3.	Rayadurg	Ananthapur	9.92
4.	Samalkot	East Godavari	8.40
5.	Narayanpet	Mahabubnagar	6.05
6.	Kagaznagar NMA	Adilabad	4.34
7.	Bellampalle	Adilabad	4.09
8.	Narsipatnam	Visakhapatnam	-23.50
<u>CLASS IV</u>			
9.	Sompeta	Srikakulam	9.92
10.	Venkatagiri	Nellore	2.52
11.	Bhattiprolu	Guntur	-23.19
<u>CLASS V</u>			
12.	Madugula	Visakhapatnam	8.95
13.	Mandasa	Srikakulam	6.34
14.	Cumbum	Prakasam	4.73
15.	Kosigi	Mahabubnagar	2.19

APPENDIX II-ALIST OF RAPIDLY GROWING (BY MORE THAN 50 PER CENT)  
URBAN CENTRES DURING 1971-81 IN ANDHRA PRADESH

Code Number on the Map	Name of the City/Town	District	Growth Rate (1971-81)
1	2	3	4
<u>CLASS I</u>			
1.	Nellore	Nellore	76.83
2.	Visakhapatnam	Visakhapatnam	72.10
3.	Warangal	Warangal	61.92
4.	Nizamabad	Nizamabad	58.37
5.	Vijayawada	Krishna	58.14
6.	Kurnool	Kurnool	51.17
<u>CLASS II</u>			
7.	Tirupati	Chittoor	75.03
8.	Khammam	Khammam	73.37
9.	Mahabubnagar	Mahabubnagar	69.02
10.	Ongole	Prakasam	60.02
11.	Bheemavaram	West Godavari	59.88
12.	Cuddapah	Cuddapah	55.82
13.	Proddatur	Cuddapah	51.18
<u>CLASS III</u>			
14.	Godavarikhani (Jangaon)	Karimnagar	204.41
15.	Suryapet	Nalgonda	101.85
16.	Mandamarri	Adilabad	98.85
17.	Nalgonda	Nalgonda	88.69
18.	Adilabad	Adilabad	76.14
19.	Karimnagar	Karimnagar	75.72
20.	Jagtial	Karimnagar	72.20

Contd.,

APPENDIX II- A

1	2	3	4
21.	Tadpatri	Ananthapur	70.58
22.	Yemmiganur	Kurnool	67.56
23.	Dharmavaram	Ananthapur	65.03
24.	Siddipet	Medak	62.58
25.	Kavali	Nellore	62.20
26.	Ponnur	Guntur	59.60
27.	Tanuku	West Godavari	56.80
28.	Kadiri	Ananthapur	56.02
29.	Markapur	Prakasam	54.48
30.	Narasaraopet	Guntur	54.20
31.	Madanapalle	Chittoor	50.79
32.	Macherla	Guntur	50.59
33.	Srikakulam	Srikakulam	50.21
<u>CLASS IV</u>			
34.	Bheemunipatnam	Visakhapatnam	143.93
35.	Miryalaguda	Nalgonda	126.98
36.	Palwancha	Khammam	112.67
37.	Addanki	Prakasam	96.05
38.	Ramachandrapuram BHEL Township	Medak	88.84
39.	Kamareddy	Nizamabad	85.33
40.	Sangareddy	Medak	82.00
41.	Pulivendla	Cuddapah	80.31
42.	Palamaner	Chittoor	75.97
43.	Koratla	Karimnagar	70.57
44.	Wanaparthy	Mahabubnagar	68.73
45.	Yellandu	Khammam	64.44
46.	Mancheriyal	Adilabad	63.91

Contd..

APPENDIX II-A

1	2	3	4
47.	Tirumalai	Chittoor	62.90
48.	Sullurpet	Nellore	62.61
49.	Farooqnagar	Mahabubnagar	61.87
50.	Vicarabad	Rangareddy	58.15
51.	Zaheerabad	Medak	57.15
52.	Bhainsa	Adilabad	56.59
53.	Bhadrachalam	Khammam	56.09
54.	Badepalle	Mahabubnagar	54.70
55.	Kagaznagar	Adilabad	51.65
56.	Giddalur	Prakasam	50.78
<u>CLASS V</u>			
57.	Kodad	Nalgonda	113.71
58.	Kondapalem alias Sriramnagar	Vizianagaram	86.75
59.	Nagarkurnool	Mahabubnagar	76.41
60.	Palasa	Srikakulam	56.22
61.	Nayudupet	Nellore	52.67
<u>CLASS VI</u>			
62.	Srisaillam Project Township LFC	Mahabubnagar	116.62

## APPENDIX II-B

LIST OF STAGNATING (GROWING BY LESS THAN 10 PER CENT) URBAN CENTRES IN THE BASE YEARS DURING 1971-81 IN ANDHRA PRADESH

Code Number on the Map	Name of the City/Town	District	Growth Rate (1971-81)
1	2	3	4
<u>CLASS III</u>			
1.	Kagaznagar NMA	Adilabad	5.13
<u>CLASS IV</u>			
2.	Sompeta	Srikakulam	9.79
3.	Uravakonda	Ananthapur	9.52
4.	Bhattiprolu	Guntur	6.28
<u>CLASS V</u>			
5.	Rajam	Srikakulam	9.83
6.	Kanapaka	Vizianagaram	0.05
<u>CLASS VI</u>			
7.	Shankarampet	Medak	6.20
8.	Upper Sileru Project Site Camp	Visakhapatnam	-2.40
9.	Pochampad (Sriramsagar) Project Township LFC	Adilabad	-40.75

APPENDIX III-ALIST OF TOWNS DECLASSIFIED IN ANDHRA PRADESH: 1961

Code Number on the Map	Name of the town	Size class in 1951	District
1	2	3	4
1.	Baruva	V	Srikakulam
2.	Chinnamarangi	VI	"
3.	Kasibuggapalasa	VI	"
4.	Kothakota	V	Visakhapatnam
5.	Kasimkota	V	"
6.	Kirlampudi	IV	East Godavari
7.	Biccavole	IV	"
8.	Gollaprolu	IV	"
9.	Yelleswaram	IV	"
10.	Mummidivaram	IV	"
11.	Kothapeta	V	"
12.	Magalatur	IV	West Godavari
13.	Velpur	IV	"
14.	Attili	IV	"
15.	Akiveedu	IV	"
16.	Achanta	V	"
17.	Relangi	V	"
18.	Veeravasaram	V	"
19.	Pentapadu Agraharam	V	"
20.	Undi	V	"
21.	Penumantra	V	"
22.	Vallur	IV	Krishna
23.	Pamarru	IV	"
24.	Kondapalle	V	"
25.	Challapelle	V	"

Contd...

APPENDIX III-A

1	2	3	4
26.	Alluru Kothapatnam	V	Guntur
27.	Kollipara	V	"
28.	Kolluru	V	"
29.	Duggirala	V	"
30.	Renta Chintala	V	"
31.	Alluru	V	Nellore
32.	Buchireddipalem	V	"
33.	Udayagiri	VI	"
34.	Bukkapatnam	IV	Ananthapur
35.	Gudur	V	Kurnool
36.	Ieeja	V	Mahabubnagar
37.	Amangal	V	"
38.	Atmakur	VI	"
39.	Achampet	VI	"
40.	Shahabad	V	Hyderabad
41.	Ibranimpatnam	V	"
42.	Pargi	VI	"
43.	Medchal	VI	"
44.	Bashirabad (Nawandgi)	VI	"
45.	Yapral	VI	"
46.	Ramayampet	VI	Medak
47.	Shankarampet	VI	"
48.	Dubbaka	VI	"
49.	Gajwel	VI	"
50.	Yedpalle	V	Nizamabad

Contd..

APPENDIX III-A

1	2	3	4
51.	Balkonda	V	Nizamabad
52.	Ranjal	V	"
53.	Yellareddy	VI	"
54.	Madnur	VI	"
55.	Boath	VI	Adilabad
56.	Sirpur	VI	"
57.	Lakshettipet	VI	"
58.	Khanapur	VI	"
59.	Manakondur	V	Karimnagar
60.	Choppadandi	V	"
61.	Ghambiraopet	V	"
62.	Dharamapur	VI	"
63.	Huzurabad	VI	"
64.	Jammikunta	VI	"
65.	Mulug	VI	Warangal
66.	Garla	V	Khammam
67.	Sripuram	V	"
68.	Kallur	V	"
69.	Bhoorgampadu	VI	"
70.	Kolampaka	V	Nalgonda
71.	Bethavole	V,	"
72.	Chandur	VI	"
73.	Ramannapet	VI	"
74.	Narayanpur	VI	"



## APPENDIX III-B

LIST OF TOWNS IDENTIFIED (NEW TOWNS) IN ANDHRA PRADESH:1961

Code Number on the Map	Name of the town	Size class	District
1	2	3	4
1.	Vijayapur	II	Nalgonda
2.	Malapuram	III	Visakhapatnam
3.	Nandigama	IV	Krishna
4.	Tiruvur	V	"
5.	Kaikalur	V	"
6.	Gannavaram	V	"
7.	Mokhasa Muthyalampadu	VI	"
8.	Tirumalai	V	Chittoor
9.	Bhadrachelam	V	Khammam
10.	Kadam Dam Site	V	Adilabad

## APPENDIX IV-A

LIST OF DECLASSIFIED TOWNS IN ANDHRA PRADESH: 1971

Code Number on the Map	Name of the town	Size class in 1961	District
1	2	3	4
1.	Veeraghattam	V	Srikakulam
2.	Srungavarapukota	IV	Visakhapatnam
3.	Draksharama	IV	East Godavari
4.	Anaparthi	IV	"
5.	Maruter	V	West Godavari
6.	Chebrole	IV	Guntur
7.	Gurazala	IV	Guntur
8.	Vayalpad	V	Chittoor
9.	Vempalle	IV	Cuddapah
10.	Nandalur	V	"
11.	Pemidi	IV	Ananthapur
12.	Yadiki	IV	"
13.	Madakasira	IV	"
14.	Kodumur	IV	Kurnool
15.	Koilkuntla	IV	"
16.	Pattikonda	IV	"
17.	Maddikera	IV	"
18.	Mosigi	IV	"
19.	Kalvakurthi	V	Mahabubnagar
20.	Makthal	V	"
21.	Utkur	V	"
22.	Kodangal	V	"
23.	Kandikal	VI	Hyderabad
24.	Attapur	VI	"

Contd..

APPENDIX IV-A

1	2	3	4
25.	Kohir	IV	Medak
26.	Narayankhed	V	"
27.	Damakonda	V	Nizamabad
28.	Chinnur	IV	Adilabad
29.	Kadam Dam Site	V	"
30.	Mudhol	V	"
31.	Hasanparthi	V	Warangal
32.	Parkal	V	"
33.	Narasampet	IV	"
34.	Cheriyal	V	"
35.	Huzurnagar	IV	Nalgonda
36.	Devarakonda	IV	"
37.	Aler	V	"

## APPENDIX IV- B

LIST OF TOWNS IDENTIFIED (NEW TOWNS) IN ANDHRA PRADESH:1971

Code Number on the Map	Name of the town	Size Class	District
1	2	3	4
1.	Amadalavalasa	IV	Srikakulam
2.	Kondapalem alias Sriram Sagar	V	"
3.	Parasamba alias Kasibugga	V	"
4.	Palasa	V	"
5.	Payakaraopet	IV	Visakhapatnam
6.	Upper Sileru Project Site Camp	VI	"
7.	Kanapaka	V	"
8.	Gajularega	V	"
9.	Nellimarla	V	"
10.	Chittivalasa	V	"
11.	Akiveedu	IV	West Godavari
12.	Challapalle	V	Krishna
13.	Kankipadu	V	"
14.	Vijayapuri South	V	Guntur
15.	Piduguralla	IV	"
16.	Tirupati NMA	V	Chittoor
17.	Pulivendla	IV	Cuddapah
18.	Srisailam Project Township RFC	III	Kurnool
19.	Bugganipalle	V	"
20.	Srisailam Project Township RFC	VI	Mahabubnagar

Contd..

APPENDIX IV - B

1	2	3	4
21.	Ramachandrapuram Township (BHEL)	IV	Medak
22.	Shankarampet	VI	"
23.	Pochampad Project Township RFC	IV	Nizamabad
24.	Sirpur	V	Adilabad
25.	Kagaznagar	VI	"
26.	Mandamarri	III	"
27.	Pochampad Project Township LFC	VI	"
28.	Kothapalle Haveli	V	" Karimnagar
29.	Codavari Khani (Jangoon)	III	"
30.	Ramagundam	V	"
31.	Palwancha	IV	Khammam
32.	Kodad	V	Nalgonda

## APPENDIX V

LIST OF TOWNS IDENTIFIED (NEW TOWNS) IN ANDHRA PRADESH:1981

Code Number on the Map	Name of the town	Size Class	District
1	2	3	4
1.	Kothavalasa	V	Vizianageram
2.	Bandarulank	V	East Godavari
3.	Ramanayyapet	V	"
4.	Suryaraopet	V	"
5.	Donkarayi	VI	"
6.	Jangareddygudem	IV	West Godavari
7.	Kondapalle	IV	Krishna
8.	Chirala NMA	III	Prakasam
9.	Singaraya Konda	IV	"
10.	Kovurpalle	IV	Nellore
11.	Yerraguntla	IV	Cuddapah
12.	Nagireddipalle	V	"
13.	Madhavaram	V	"
14.	Dommaranandyal	V	"
15.	Veparala	V	"
16.	Allagadda	IV	Kurnool
17.	Ghatkeswar	V	Rangareddy
18.	Patancheru	IV	Medak
19.	Narayankhed	V	"
20.	Yellareddy	IV	Nizamabad
21.	Lakshettipet	V	Adilabad
22.	Huzurabad	III	Karimnagar
23.	Mothugudem	V	Khammam
24.	Devarakonda	IV	Nalgonda
25.	Ramannapet	V	"
26.	Gundlapalle (Yadagirigutta)	V	"
27.	Chandur	V	"

APPENDIX VI-ASELECT INDICATORS OF DEVELOPMENT IN ANDHRA PRADESH: 1961

- X<sub>1</sub> Percentage of Household to total male workers 1961.
- X<sub>2</sub> Percentage of Household to total male workers in urban areas 1961.
- X<sub>3</sub> Percentage of Household male workers in urban areas to total of the same 1961.
- X<sub>4</sub> Percentage of gross irrigated area to gross cropped area 1964-65.
- X<sub>5</sub> The value of agricultural productivity per hectare of gross cropped area 1962-65.
- X<sub>6</sub> The value of agricultural productivity per male agricultural worker 1962-65.
- X<sub>7</sub> Percentage of urban to total population 1961.
- X<sub>8</sub> Percentage of Non-Household male workers in urban areas to total of the same 1961.
- X<sub>9</sub> Manufacturing establishments per thousand population 1961.
- X<sub>10</sub> Manufacturing establishments with less than nine workers (plus units with workers unspecified) per thousand manufacturing establishments 1961.
- X<sub>11</sub> Manufacturing establishments using electricity per thousand manufacturing establishments 1961.

APPENDIX VI- A

MATRIX OF CORRELATIONS AMONG THE SELECT INDICATORS  
OF DEVELOPMENT IN ANDHRA PRADESH (1961)

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
X <sub>1</sub>	1.00										
X <sub>2</sub>	.77	1.00									
X <sub>3</sub>	-.36	-.03	1.00								
X <sub>4</sub>	-.16	-.11	-.07	1.00							
X <sub>5</sub>	-.33	-.19	-.09	.90	1.00						
X <sub>6</sub>	-.26	-.18	.15	.68	.79	1.00					
X <sub>7</sub>	-.54	-.48	.76	-.11	-.04	-.05	1.00				
X <sub>8</sub>	-.25	-.06	.82	.02	.16	.30	.58	1.00			
X <sub>9</sub>	.50	.017	-.44	-.19	-.39	.28	-.25	-.55	1.00		
X <sub>10</sub>	.48	.44	-.66	-.09	-.22	-.24	-.86	-.50	.34	1.00	
X <sub>11</sub>	-.58	-.41	.79	.22	.35	-.19	.84	.62	-.49	-.80	1.00

- Notes :
1. Number of observations = 20
  2. The critical value of r is 0.4436 at 5 per cent level of significance for 18 degrees of freedom.



APPENDIX VI-BSELECT INDICATORS OF DEVELOPMENT IN ANDHRA PRADESH: 1971

- X<sub>1</sub> Percentage of Household to total male workers 1971.
- X<sub>2</sub> Percentage of Household to total male workers in urban areas 1971.
- X<sub>3</sub> Percentage of Household male workers in urban areas to total of the same 1971.
- X<sub>4</sub> Percentage of gross irrigated area to gross cropped area 1970-71.
- X<sub>5</sub> The value of agricultural productivity per hectare of gross cropped area 1970-73.
- X<sub>6</sub> The value of agricultural productivity per male agricultural worker 1970-73.
- X<sub>7</sub> Percentage of urban to total population 1971.
- X<sub>8</sub> Percentage of Non-Household to total male workers 1971.
- X<sub>9</sub> Percentage of Non-Household male workers in urban areas to total of the same 1971.
- X<sub>10</sub> Manufacturing establishments per thousand population 1971.
- X<sub>11</sub> Manufacturing establishments with less than nine workers (plus units with workers unspecified) per thousand manufacturing establishments 1971.
- X<sub>12</sub> Manufacturing establishments using electricity per thousand manufacturing establishments 1971.

APPENDIX VI-B

MATRIX OF CORRELATIONS AMONG THE SELECT INDICATORS  
OF DEVELOPMENT IN ANDHRA PRADESH (1971)

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>	X <sub>12</sub>
X <sub>1</sub>	1.00											
X <sub>2</sub>	.67	1.00										
X <sub>3</sub>	-.54	.01	1.00									
X <sub>4</sub>	-.38	-.17	.20	1.00								
X <sub>5</sub>	-.45	-.15	.21	.82	1.00							
X <sub>6</sub>	-.48	-.16	.28	.71	.87	1.00						
X <sub>7</sub>	-.55	-.44	.74	-.02	-.03	-.07	1.00					
X <sub>8</sub>	-.46	-.41	.66	.14	.02	-.00	.89	1.00				
X <sub>9</sub>	-.53	-.29	.61	-.11	.08	.08	.63	.32	1.00			
X <sub>10</sub>	.49	.29	-.43	-.09	-.22	-.21	-.38	-.09	-.60	1.00		
X <sub>11</sub>	.30	.03	-.39	-.21	-.22	-.43	-.22	-.32	.00	-.17	1.00	
X <sub>12</sub>	-.59	-.42	.78	.02	.06	.07	.094	.79	.72	-.53	-.13	1.00

- Notes: 1. Number of observations = 21  
 2. The critical value of r is 0.4329 at 5 per cent level of significance for 19 degrees of freedom.

## APPENDIX VI-C

SELECT INDICATORS OF DEVELOPMENT AND MATRIX OF  
CORRELATIONS AMONG THEM IN ANDHRA PRADESH:1981

- $X_1$  Percentage of Household to total male workers 1981.  
 $X_2$  Percentage of Household to total male workers in urban areas 1981.  
 $X_3$  Percentage of Household male workers in urban areas to total of the same 1981.  
 $X_4$  Percentage of gross irrigated area to gross cropped area 1981-82.  
 $X_5$  The value of agricultural productivity per hectare of gross cropped area 1980-83.  
 $X_6$  The value of agricultural productivity per male agricultural worker 1980-83.  
 $X_7$  Percentage of urban to total population 1981.  
 $X_8$  Growth rate of urban population 1971-81.

	$X_1$	$X_2$	$X_3$	$X_4$	$X_5$	$X_6$	$X_7$	$X_8$
$X_1$	1.00							
$X_2$	.41	1.00						
$X_3$	-.46	-.00	1.00					
$X_4$	-.15	-.26	.41	1.00				
$X_5$	-.09	.03	-.06	.57	1.00			
$X_6$	-.13	.01	-.05	.44	.91	1.00		
$X_7$	-.42	-.31	.93	.50	-.11	-.12	1.00	
$X_8$	.31	-.08	-.33	-.36	-.33	-.24	-.24	1.00

- Notes : 1. Number of observations = 23  
 2. The critical value of r is 0.4133 at 5 per cent level of significance for 22 degrees of freedom.

BIBLIOGRAPHY

- Alam, S.M. and Khan, W. et al.(1970): "Metropolitan Hyderabad and its Region - A Strategy for Development", Asia Pub. House, New York.
- Alam, S.M. et al.(1975): "Planning Atlas of Andhra Pradesh", Pub. by The Govt. of Andhra Pradesh, Hyderabad.
- Alam, S.M. and Pokshishevsky, V.V.(Eds) (1976): "Urbanization in Developing Countries", Indo-Soviet Collaborative Volume, Osmania University, Hyderabad.
- Alam, S.M.(1980): "Distortions in Settlement System of India", Geographical Review of India, Vol. 42, No.4.
- Bawa, K.S. and Kainth, G.S.(1985): "Why this Rush Towards Cities", Yojana, Vol. 29, No. 13, July 16-31.
- Berry, B.J.L.(1961): "City-Size Distribution and Economic Development", Economic Development and Cultural Change, Vol. 9, July.
- Berry, B.J.L.(1973): "The Human Consequences of Urbanization", Macmillan, Great Britain.
- Bhalla, G.S.(1978): "Spatial Patterns of Labour Productivity in Indian Agriculture", Yojana, February, New Delhi.
- Bhalla, G.S. and Alag, Y.K.(1979): "Indian Agriculture: Changes in Cropping Pattern 1962-65 to 1970-73 - A District-wise Data Profile", JNU-PC Project, CSRD/JNU, New Delhi.
- Bhalla, G.S. and Alag, Y.K.(1979): "Performance of Indian Agriculture - A District-wise Study", JNU/PC Project, Sterling, New Delhi.

- Bose, Ashish (1973): "Studies in India's Urbanization - 1901-1971", Tata McGraw Hill, Bombay.
- Buch, M.N.(1983): "Emerging Regional Patterns", Urban India, Vol. 3, No.1.
- Census of India (1971): "Socio-Cultural Dimentions of Regionalisation", An Indo-USSR Collaborative Study, Centenary Monograph No. 7.
- Chattopadhyay, B. and Moonis Raza(1975): "Regional Development: Analytical Framework and Indicators", Indian Journal of Regional Science, Vol. 7, No. 1.
- Crook, N. and Dyson, T.(1982): "Urbanization in India: Results of the 1981 Census", Population and Development Review, Vol. 8, No. 1.
- Data Andhra Pradesh (1984): "Economic Development of Andhra Pradesh under Five Year Plans -I", Pub. by Data News Features, Hyderabad, Vol. 7, No. 10, May 15-31.
- Data Andhra Pradesh (1985): "Agricultural Situation in Andhra Pradesh: 1983-84", Pub. by Data News Features, Hyderabad, Vol. 8, No.10-11, May 16 to June 15.
- Davis, Kingsly and Golden, H.H.(1954): "Urbanization and the Development of Pre-Industrial Areas", Economic Development and Cultural Change, Vol. 3, No. 1, 1954-55.
- Dutt, R.P.(1947): "India Today", Manisha Pub., Calcutta.
- Frank, A.G.(1975): "On Capitalist Underdevelopment", Oxford Uni. Press, Delhi.
- Haque, T.(1985): "Regional Disparities in Economic Growth", Mainstream, Vol. 24, No. 9-10.

- HOSELITZ, Bert.F.,(1954): "Generative and Parasitic Cities", Economic Development and Cultural Change, Vol. 3, No.1, 1954-55.
- Jones,R.(Ed) (1975): "Essays on World Urbanization", John Phillip & Son Ltd., London.
- Khan,W. and Wanmali, S.(1971): "Impact of Linguistic Reorganisation of States on City-Size Distribution in Peninsulas India", in Census of India, 1971, 'Socio-Cultural Dimensions of Regionalisation', An Indo-USSR Collaborative Study, Centenary Monograph No. 7.
- Khan,W.(1976): "Growth and Stagnation of Small and Medium Sized Towns in Telangana - An Exploratory Enquiry", in Alam, S.M. and Pokshishevsky, V.V.(Eds): Urbanization in Developing Countries, Indo-Soviet Collaborative Volume, O.V.,Hyderabad.
- Khan,W.(1984): "Large and Medium Scale Industries in Andhra Pradesh - Some Reflections on their Structure and Development Process", 'Data Andhra Pradesh', Vol. 7, No. 15, Aug. 1-15.
- Kondaveeti (Rajababu) (1977): "Spatial Variations in Levels of Development and Variations in Agricultural Production in Andhra Pradesh", Unpub. Mphil dissertation, CSRD/JNU, New Delhi.
- Krishna Rao, Y.V. and Parthasarathy, G. et al (Eds)(1984): "Peasant Farming and Growth of Capitalism in Indian Agriculture", Visalandhra Pub., Vijayawada.
- Kundu, A. and Moonis, Raza (1975): "Urbanization and Regional Development in India", in 'India and The Soviet Union', Allied Pub., New Delhi.
- Kundu, A(1980): "Measurement of Urban Processes - A Study in Regionalisation", Popular Prakasan, Bombay.

- Kundu, A and Moonis, Raza (1982): "Indian Economy - The Regional Dimension", CSRD/JNU, New Delhi.
- Kundu, A.(1983): "Theories of City-Size Distribution and Indian Urban Structure - A Reappraisal", Economic and Political Weekly, Vol. 18, No. 31.
- Kundu, A. and Sharma, R.K.(1983): "Industrialisation, Urbanization and Economic Development", Urban India, Vol. 3, No. 1.
- Kundu, A.(1984): Urbanization and the Organisation of Space: The Trends in the Indian Economy and Their implications for Planning", Paper submitted to Bi-National Indo-Soviet Seminar on Problems of Migration in the Process of Urbanization, Sept.18-23, Centre for Area Studies, Osmania University, Hyderabad.
- Kundu, A.(1986): "Analysing the Structural Changes in the Indian Economy - Certain Avoidable Anomalies in the usage of Population Census Data", Working Papers, CSRD/JNU, New Delhi.
- Lakshman Rao.(1985): "Economic Development of Andhra Pradesh", B.R.Pub., Delhi.
- Mathur, Ashok.(1980): "Sectoral Income Disparities in India (1950-1975): An Inter-regional Analysis", Occasional Papers No. 27, CSRD/JNU, New Delhi.
- Mc Gee, T.G.(1967): "The South-east Asian City", G.Bell, London.
- Mc.Gee, T.G.(1971): "The Urbanization Process in the Third World - Explorations in Search of a Theory", Bell & Sons Ltd., London.
- Mishra, G.P. and Joshi, A.(Eds) (1985): "Regional Structure of Development and Growth in India", Vol. I & II, Ashish Pub., New Delhi.

- Mitra, A.(1983): "Urbanization, City Structure and Urban Land Policy", Urban India, Vol. 3, No. 1.
- Mohan, R. and Pant, C.(1982): "Morphology of Urbanization in India - Some Results from 1981 Census", Economic and Political Weekly, Vol. 17, No.38 & 39, Sept. 18 & 25.
- Moonis Raza (1975): "Measurement of Regional Disparities in Developing Countries with Special Reference to India", in Khan, Rasheeduddin et al.(Eds), India and the Soviet Union, Allied Pub. New Delhi.
- Moonis Raza, Kundu, A and Nangia, S.(1975): "Urban-Rural Continuum in India", Indian and Foreign Review, Vol. 12, No. 15 & 16.
- Moonis Raza, Habib, A. and Aggarwal, Y.P.(1983): "Urbanization in a Fragmented World - Some Aspects of International Inequities", Urban India, Vol. 3, No. 2.
- Nagaraj, K.(1983): "Urbanization in Andhra Pradesh and Tamilnadu - A Comparative Picture for 1961-81", Madras Institute of Development Studies, Madras.
- Narula, A.L.(1981): "Declining, Slow Growing Urban Settlements: 1961-71", in Bhargava, G. (Ed): 'Urban Problems and Policy Perspectives', Abhinay Pub., New Delhi.
- Pal, M.N.(1975): "Regional Disparities in the Levels of Development in India", Indian Journal of Regional Science, Vol. 7, No. 1.
- Petrov, Victor (1985): "India: Spotlight on Population - A Demographic Outline", Progress Pub., Moscow.
- Premi, M.K., Gupta, D.B. and Kundu, A.(1977): "The Concept of Urban Areas in 1961-71 Census", in Bose, A. et al (Eds): Population Statistics in India, Vikas Pub., New Delhi.



- Reissman, Leonard (1964): "The Urban Process, Cities in Industrial Societies", Glenco, Illinois.
- Roy, M.N.(1971): "India in Transition", Nachiketa Pub., Bombay.
- Sastry, G.B.(1983): "Industrial Development in Andhra Pradesh: Retrospect and Prospect", Data Andhra Pradesh, Vol.6, No. 7& 8, April 1-30.
- Sdosyuk, G.V.(1972): "Urbanization and Spatial Structure of Indian Economy", in Census of India, 1971, 'Economic and Socio-Cultural Dimensions of Regionalisation', Centenary Monograph No. 7.
- Someswaraiyah, K.(1982): "Large and Medium Industries in Andhra Pradesh", Data Andhra Pradesh, Vol. 5, No. 16, Aug. 16-31.
- Someswaraiyah, K.(1982): "Trends in Agricultural Sector in Andhra Pradesh 1956-81", Data Andhra Pradesh, Vol. 5, No. 5, March 1-15.
- Sundaram, K.V.(1977): "Urban and Regional Planning in India", Vikas, New Delhi.
- Sunil Munshi (1975): "The Nature of Indian Urbanization - A Review", 'Geographical Review of India', Vol. 37, No. 4.
- Sunil Munshi (1984): "India: Resource, Regional and Regional Disparity", Peoples Pub. House, New Delhi.
- Suri, K.B.(1968): "Towns: Size, Economic Structure and Growth", 'Economic and Political Weekly', Vol.3, Aug.10.
- Thorner, Daniel (1967): "Coastal Andhra: Towards an Affluent Society", Economic and Political Weekly, Vol. 2, Annual Number, February.